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2		ACI CT-XX	
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Л	ACI Concrete	e Terminology	
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6	Approved by ACI Techn	ical Activities Committee	
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13	FORE	WORD	
14	The ACI Concrete Terminology is an online dic	tionary containing terms common to the concrete	
15	industry and can be accessed by visiting http://www.terminology.concrete.org. A term may have		
16	more than one definition.		
17			
18	The ACI Technical Activities Committee (7	ΓAC) believes this dictionary will be useful,	
19	comprehensive, and up-to-date. It recognizes, h	owever, that the listing may not be complete and	
20	that some definitions may be at variance with so	me commonly accepted meanings.	
21			
22	These terms and definitions are approved by TA	AC as of June 11, 2010. Suggestions for changes	
23	and additions may be submitted to ACI Headqua	arters for consideration in future editions.	
24			

ACI CT For Public Discussion

1	— A —
2	absolute specific gravity — see specific gravity,
3	absolute.
4	absolute volume — see volume, absolute.
5	absorbed moisture — see moisture, absorbed.
6	absorbed water — see moisture, absorbed.
7	absorption — the process by which a liquid is
8	drawn into and tends to fill permeable
9	voids in a porous solid body; also, the
10	increase in mass of a porous solid body
11	resulting from the penetration of a liquid
12	into its permeable voids.
13	abutment — in bridges, the end structure (usually
14	of concrete) that supports the beams,
15	girders, and deck of the bridge, or
16	combinations thereof, and sometimes
17	retains the earthen bank or supports the end
18	of the approach pavement slab; in
19	prestressing, the structure against which the
20	tendons are stressed in producing
21	pretensioned precast members or post-
22	tensioned pavement; in dams, the side of
23	the gorge or bank of the stream against
24	which a dam abuts.
25	accelerating admixture — see admixture,
26	accelerating.

27	acceleration — increase in velocity or in rate of
28	change, especially the quickening of the
29	natural progress of a process such as setting
30	or strength development (hardening) of
31	concrete. (See also admixture,
32	accelerating.)
33	accelerator — see admixture, accelerating.
34	accidental air — see air, entrapped.
35	acid etching — the removal of a cementitious
36	surface through controlled dissolution to
37	expose sand or aggregates, roughen a
38	smooth cementitious surface in preparation
39	for cementitious coating material
40	application, or create art, design, or an
41	architectural finish.
42	acrylic resin — see resin, acrylic.
43	addition — a material that is interground or
44	blended in limited amounts into a hydraulic
45	cement during manufacture either as a
46	processing addition to aid in manufacturing
47	and handling the cement or as a functional
48	addition to modify the use properties of the
49	finished product.
50	additive — a substance added to another in
51	relatively small amounts to impart or
50	
52	improve desirable properties or suppress
52 53	improve desirable properties or suppress undesirable properties.
52 53 54	improve desirable properties or suppressundesirable properties.adhesion — the state in which two surfaces are
52 53 54 55	 improve desirable properties or suppress undesirable properties. adhesion — the state in which two surfaces are held together by interfacial effects that may
52 53 54 55 56	 improve desirable properties or suppress undesirable properties. adhesion — the state in which two surfaces are held together by interfacial effects that may consist of molecular forces, interlocking

1	adhesives — the group of materials used to join or	31	admixture, anti-washout — a concrete
2	bond similar or dissimilar materials; for	32	admixture reduces that loss of fine
3	example, in concrete work, the epoxy	33	material from concrete when placed
4	resins.	34	in water.
5	adiabatic — a condition in which heat neither	35	admixture, retarding — an admixture that
6	enters nor leaves a system.	36	causes a decrease in the rate of
7	adiabatic curing — see curing, adiabatic.	37	hydration of the hydraulic cement
8	adjustment screw — see screw, adjustment.	38	and lengthens the time of setting.
9	admixture — a material other than water,	39	admixture, water-reducing — an
10	aggregates, cementitious materials, and	40	admixture that either increases
11	fiber reinforcement used as an ingredient	41	slump of freshly mixed mortar or
12	of a cementitious mixture to modify its	42	concrete without increasing water
12	freshly mixed setting or hardened	43	content or maintains slump with a
14	properties and that is added to the batch	44	reduced amount of water, the effect
14	before or during its mixing	45	being due to factors other than air
15	before of during its mixing.	46	entrainment.
16	admixture, accelerating — an admixture	47	admixture, water-reducing (high-range)
17	that causes an increase in the rate of	48	— a water-reducing admixture
18	hydration of the hydraulic cement	40	canable of producing large water
19	and thus shortens the time of	49	raduation or great flowability
20	setting, increases the rate of strength	50	reduction of great howability
21	development, or both.	51	without causing undue set
22	admixture, air-entraining — an	52	retardation or entrainment of air in
23	admixture that causes the	53	mortar or concrete.
24	development of a system of	54	adsorbed water — see water, adsorbed.
25	microscopic air bubbles in concrete,		
26	mortar, or cement paste during		
27	mixing, usually to increase its		
28	workability and resistance to		
29	freezing and thawing. (See also air,		
30	entrained.)		

1	adsorption — development (at the surface of	31
2	either a liquid or solid) of a higher	32
3	concentration of a substance than exists in	33
4	the bulk of the medium; especially	34
5	formation of one or more layers of	35
6	molecules of gases, of dissolved	36
7	substances, or of liquids at the surface of a	37
8	solid (such as cement, cement paste, or	38
9	aggregates), or of air-entraining agents at	39
10	the air-water interfaces; also the process by	40
11	which a substance is adsorbed. (See also	40
12	water, adsorbed.)	41
13	advancing-slope grouting — see grouting,	42
14	advancing-slope.	43
15	advancing-slope method — see method,	44
16	advancing-slope.	45
17	aerated concrete — see concrete cellular and	46
18	concrete, foamed	47
10		48
19	A/F ratio — see ratio, A/F.	49
20	afwillite — a mineral with composition 3CaO	50
21	•2SiO ₂ •3H ₂ O occurring naturally in South	51
22	Africa, Northern Ireland, and California,	52
23	and artificially in some hydrated portland	53
24	cement mixtures.	54
25	agent — a general term for a material that may be	55
26	used either as an addition to cement or an	56
27	admixture in concrete, for example, an air-	57
28	entraining agent.	58
29	agent, air-entraining — see admixture,	59
30	air-entraining.	60
		61

agent, bonding — a substan	ce applied to a		
suitable substrate to c	create a bond		
between it and a succ	eeding layer.		
agent, curing — a catalytic	or reactive		
agent that induces cro	oss-linking in a		
thermosetting resin (a	also <i>hardener</i>		
or initiator).			
agent, parting — see agent	, release		
(preferred term).			
agent, release — material us	sed to prevent		
bonding of concrete t	o a surface.		
(See also bond brea l	ker and oil,		
form.)			
agent, surface-active — a s	ubstance that		
affects markedly the	interfacial or		
surface tension of sol	utions when		
present even in low c	oncentrations.		
agent, wetting — a substance	e capable of		
lowering the surface	tension of		
liquids, facilitating th	e wetting of		
solid surfaces, and pe	ermitting the		
penetration of liquid	into the		
capillaries.			
agglomeration — a gathering into a	a ball or mass.		
aggregate — granular material, such	h as sand,		
gravel, crushed stone, crushe	d hydraulic-		
cement concrete, or iron blast-furnace slag,			
used with a hydraulic cemen	ting medium to		
produce either concrete or mortar. (See also			
aggregate, heavyweight and	l aggregate,		
lightweight.)			

1	aggregate, angular — aggregate particles	32	aggregate, heavyweight — aggregate of
2	that possess well-defined edges	33	high density, such as barite,
3	formed at the intersection of	34	magnetite, hematite, limonite,
4	roughly planar faces.	35	ilmenite, iron, or steel, used in
5	aggregate, coarse — aggregate	36	heavyweight concrete.
6	predominantly retained on the 4.75	37	aggregate, lightweight — aggregate of
7	mm (No. 4) sieve or that portion	38	low density, such as: (a) expanded
8	retained on the 4.75 mm (No. 4)	39	or sintered clay, shale, slate,
9	sieve. (See also aggregate .)	40	diatomaceous shale, perlite,
10	aggregate, crusher-run — aggregate that	41	vermiculite, or slag; (b) natural
11	has been mechanically broken and	42	pumice, scoria, volcanic cinders,
12	has not been subjected to	43	tuff, and diatomite; or (c) sintered
13	subsequent screening.	44	fly ash or industrial cinders used in
14	aggregate, dense-graded — aggregates	45	lightweight concrete.
15	graded to produce low void content	46	aggregate, mineral — aggregate
16	and maximum density when	47	consisting essentially of inorganic
17	compacted. (See also aggregate,	48	nonmetallic rock materials, either
18	well-graded.)	49	natural or crushed and graded.
19	aggregate, fine — aggregate passing the	50	aggregate, normalweight — aggregate
20	9.5 mm (3/8 in.) sieve almost	51	that is neither heavyweight nor
21	entirely passing the 4.75 mm (No.	52	lightweight.
22	4) sieve and predominantly retained	53	aggregate, open-graded — aggregate in
23	on the 75 mm (No. 200) sieve; or	54	which the voids are relatively large
24	that portion passing the 4.75 mm	55	when the aggregate is compacted.
25	(No. 4) sieve and predominantly		
26	retained on the 75 mm (No. 200)		
27	sieve. (See also aggregate and		
28	sand.)		
29	aggregate, gap-graded — aggregate		
30	graded so that certain intermediate		
31	sizes are substantially absent.		

1	aggregate, reactive — aggregate	30	aggregate interlock — the effect of portions of
2	containing substances capable of	31	aggregate particles from one side of a joint
3	reacting chemically with the	32	or crack in concrete protruding into
4	products of solution or hydration of	33	recesses in the other side of the joint or
5	the portland cement in concrete or	34	crack so as to transfer load in shear and
6	mortar under ordinary conditions of	35	maintain alignment.
7	exposure, resulting in some cases in	36	aggregate transparency — discoloration of a
8	harmful expansion, cracking, or	37	concrete surface consisting of darkened
9	staining.	38	areas over coarse aggregate particles
10	aggregate, refractory — aggregate having	39	immediately below the concrete surface.
11	refractory properties that, when	40	agitating speed — see speed, agitating.
12	bound together into a conglomerate	41	agitating truck — see truck, agitating.
13	mass by a matrix, forms a refractory	10	agitation
14	body.	42	
15	aggregate, single-sized — aggregate in	43	(1) the process of providing motion in
16	which a major portion of the	44	mixed concrete just sufficient to prevent
17	particles is in a narrow size range.	45	segregation or loss of plasticity; and
18	aggregate, well-graded — aggregate	46	(2) the mixing and homogenization of
19	having a particle-size distribution	47	slurries or finely ground powders by either
20	that produces maximum density.	48	mechanical means or injection of air. (See
21	that is, minimum void space.	49	also agitator .)
22	aggregate blanding the process of intermining	50	agitator — a device for maintaining plasticity and
22	two or more aggregates to produce a	51	preventing segregation of mixed concrete
23	different set of properties: generally, but	52	by agitation. (See also agitation .)
24 25	not exclusively to improve grading	53	aids, grinding — materials used to expedite the
20	not exclusively, to improve grading.	54	process of grinding by eliminating ball
26	aggregate-cement ratio — see ratio, aggregate-	55	coating, dispersing the finely ground
27	cement.	56	product, or both.
28	aggregate gradation — see grading (preferred	57	air —
29	term).	с, го	ain agaidantal and air antrannad
		58	air, accidentai — see air, entrapped
		59	(preferred term).

1	air, entrained — microscopic air bubbles	32	air-entraining agent — see admixture, air-
2	intentionally incorporated in mortar	33	entraining.
3	or concrete during mixing, usually	34	air-entraining hydraulic cement — see cement,
4	by use of a surface-active agent;	35	air-entraining hydraulic.
5	typically between 10 and 1000 m	36	air entrainment — the incorporation of air in the
6	(1 mm) in diameter and spherical or	37	form of microscopic bubbles (typically
7	nearly so. (See also air	38	smaller than 1 mm) during the mixing of
8	entrainment.)	39	either concrete or mortar. (See also air
9	air, entrapped — air voids in concrete that	40	entraining and air, entrained.)
10	are not purposely entrained and that	41	air lift — equipment whereby slurry or dry powder
11	are larger, mainly irregular in shape,	42	is lifted through pipes by means of
12	and less useful than those of	43	compressed air.
13	entrained air; and 1 mm or larger in	44	air meter — see meter air
14	size.		air namachilitr test and test air
15	air blow pipe — air jet used in shotcrete gunning	45	air-permeability test — see test, air-
16	to remove rebound or other loose material	40	permeability and test, blame.
17	from the work area.	47	air ring — see ring, air.
18	air-blown mortar — see shotcrete (preferred	48	air separator — see separator, air.
19	term).	49	air void — see void, air.
20	air content — the volume of air voids in cement	50	air-water jet — see jet, air-water.
21	paste, mortar, or concrete, exclusive of pore	51	akermanite — a mineral of the melilite group,
22	space in aggregate particles, usually	52	Ca ₂ MgSi ₂ O ₇ . (See also gehlenite, melilite,
23	expressed as a percentage of total volume	53	and merwinite .)
24	of the paste, mortar, or concrete.	54	alabaster — a compact crystalline, weakly
25	air-cooled blast-furnace slag — see blast-	55	textured form of practically pure gypsum.
26	furnace slag.	56	alignment wire — see wire ground (preferred
27	air entraining — the capability of a material or	57	term)
28	process to develop a system of microscopic	50	alite a name used to identify triadaium ciliante
29	bubbles of air in cement paste, mortar, or	58	including small amounts of McO ALO
30	concrete during mixing. (See also air	59	Eq. Ω_{12} and other evides: a principal
31	entrainment.)	0U 41	constituent of nortland computations (See
		01 60	also helite celite and felite)
		_02	aiso benie, cenie, and renie.)

1 alkali — salts of alkali metals, principally	sodium
2 and potassium; specifically sodium	and
3 potassium occurring in constituent	s of
4 concrete and mortar, usually expre	ssed in
5 chemical analyses as the oxides Na	a_2O and
$K_2O.$ (See also cement , low-alkali	.)
7 alkali-aggregate reaction — see reaction	ı, alkali-
8 aggregate .	
9 alkali-carbonate rock reaction — see re	action,
10 alkali-carbonate rock .	
11 alkali reactivity (of aggregate) — see rea	activity
12 (of aggregate), alkali .	
13 alkali-silica reaction — see reaction, alk	ali-
14 silica.	
15 alkyl aryl sulfonate — synthetic detergen	t used to
16 entrain air in hydraulic-cement mix	ctures.
17 allowable bearing capacity — the maxim	num
18 pressure to which a soil or other m	aterial
should be subjected to guard again	st shear
20 failure or excessive settlement.	
21 allowable load — see load, service dead	and
22 load, service live.	
23 allowable stress — see stress, allowable.	
24 alternate-lane construction — see const	ruction,
25 alternate-lane .	
26 alumina — aluminum oxide (Al_2O_3).	
27 aluminate cement — see cement, calcium	n-
28 aluminate .	
29 aluminate concrete — see concrete, alum	ninate.
30 aluminous cement — see cement, calciu	m-

32	amount of mixing — the extent of mixer action
33	employed in combining the ingredients for
34	either concrete or mortar; in the case of
35	stationary mixers, the mixing time; in the
36	case of truck mixers, the number of
37	revolutions of the drum at mixing speed
38	after the intermingling of the cement with
39	water and aggregates. (See also mixing
40	time.)
41	amplitude — the maximum displacement from the
42	mean position in connection with vibration.
43	analysis, dynamic — analysis of stresses in
43 44	analysis, dynamic — analysis of stresses in framing as functions of displacement under
43 44 45	analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading.
43 44 45 46	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of
43 44 45 46 47	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of determining particle-size distribution of an
43 44 45 46 47 48	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of determining particle-size distribution of an aggregate. (See also analysis, sieve.)
43 44 45 46 47 48 49	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of determining particle-size distribution of an aggregate. (See also analysis, sieve.) analysis, sieve — particle-size distribution; usually
43 44 45 46 47 48 49 50	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of determining particle-size distribution of an aggregate. (See also analysis, sieve.) analysis, sieve — particle-size distribution; usually expressed as the mass percentage retained
43 44 45 46 47 48 49 50 51	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of determining particle-size distribution of an aggregate. (See also analysis, sieve.) analysis, sieve — particle-size distribution; usually expressed as the mass percentage retained upon each of a series of standard sieves of
 43 44 45 46 47 48 49 50 51 52 	 analysis, dynamic — analysis of stresses in framing as functions of displacement under transient loading. analysis, mechanical — the process of determining particle-size distribution of an aggregate. (See also analysis, sieve.) analysis, sieve — particle-size distribution; usually expressed as the mass percentage retained upon each of a series of standard sieves of decreasing size and the percentage passed

grading.)

1	anchor — in prestressed concrete, to lock the	29	(1) length of reinforcement, mechanical
2	stressed tendon in position so that it will	30	anchor, hook, or combination thereof,
3	retain its stressed condition; in precast-	31	beyond the point of nominal zero stress in
4	concrete construction, to attach the precast	32	the reinforcement of cast-in-place concrete;
5	units to the building frame; in slabs on	33	and
6	grade or walls, to fasten to rock or adjacent	34	(2) mechanical device to transmit
7	structures to prevent movement of the slab	35	prestressing force to the concrete in a post-
8	or wall with respect to the foundation,	36	tensioned member. (See also anchorage.)
9	adjacent structure, or rock. (See also	37	anchorage, mechanical — any mechanical device
10	anchor, form.)	38	capable of developing the strength of the
11	anchor, form — device used to secure formwork	39	reinforcement without damage to the
12	to previously placed concrete of adequate	40	concrete.
13	strength; the device is normally embedded	41	anchorage, threaded — an anchorage device that
14	in the concrete during placement.	42	is provided with threads to facilitate
15	anchor bolt — see bolt, anchor.	43	attaching the jacking device and to effect
16	anchorage — in post-tensioning, a device used to	44	the anchorage.
17	anchor the tendon to the concrete member;	45	anchorage, wedge — a device for anchoring a
18	in pretensioning, a device used to maintain	46	tendon by wedging
19	the elongation of a tendon during the time	47	anahoraga hand strong soo strong anahoraga
20	interval between stressing and release; in	47	bond
21	precast-concrete construction, the devices	40	bond.
22	for attaching precast units to the building	49	anchorage deformation — see deformation,
23	frame; in slab or wall construction, the	50	anchorage or slip.
24	device used to anchor the slab or wall to the	51	anchorage device — see anchorage (preferred
25	foundation, rock, or adjacent structure.	52	term).
26	anchorage, dead-end — the anchorage at that end	53	anchorage loss — see deformation, anchorage.
27	of a tendon that is opposite the jacking end.	54	anchorage slip — see deformation, anchorage or
28	anchorage, end —	55	slip.
		56	anchorage zone — see zone, anchorage.
		57	angle float — see float, angle.

1	angle of repose — the angle between the	31 area of steel — the cross-sectional area of the ste
2	horizontal and the natural slope of loose	32 reinforcement. (See also effective area of
3	material below which the material will not	33 reinforcement.)
4	slide.	34 arenaceous — composed primarily of sand; sand
5	angular aggregate — see aggregate, angular.	35 argillaceous — composed primarily of clay or
6	anhydrite — a mineral, anhydrous calcium sulfate	36 shale; clayey.
7	(CaSO ₄); gypsum from which the water of	37 arris — the sharp external corner edge that is
8	crystallization has been removed, usually	38 formed at the junction of two planes or
9	by heating above 325 °F (160 °C); natural	39 surfaces.
10	anhydrite is less reactive than that obtained	40 arrissing tool — see tool, arrissing
11	by calcination of gypsum.	
12	anhydrous calcium chloride — see calcium	41 artificial pozzolan — see pozzolan, artificial.
13	chloride, anhydrous.	42 asbestos-cement products — products
14	anti-washout, admixture — see admixture, anti-	43 manufactured from rigid material
15	washout	44 composed essentially of asbestos fiber and
15		45 portland cement.
16	apparent specific gravity — see specific gravity,	46 ashlar — see masonry, ashlar.
17	absolute	
17	absolute.	47 ashlar, patterned — see masonry, ashlar.
18	architect-engineer or engineer-architect — the	47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry ashlar
17 18 19	architect-engineer or engineer-architect — the architect, engineer, architectural firm,	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar.
17 18 19 20	architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar.
17 18 19 20 21	architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to
17 18 19 20 21 22	architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter
17 18 19 20 21 22 23	architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings,	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also
17 18 19 20 21 22 23 24	architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings, or both.	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also 53 fiber, equivalent diameter.)
17 18 19 20 21 22 23 24 25	 architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings, or both. architectural concrete — see concrete, 	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also 53 fiber, equivalent diameter.) 54 asphalt — a dark brown to black cementitious
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17 18 19 20 21 22 23 24 25 26 27	 architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings, or both. architectural concrete — see concrete, architectural. arc spectrography — spectrographic 	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also 53 fiber, equivalent diameter.) 54 asphalt — a dark brown to black cementitious 55 material in which the predominating 56 constituents are bitumens that occur in
17 18 19 20 21 22 23 24 25 26 27 28	 architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings, or both. architectural concrete — see concrete, architectural. arc spectrography — spectrographic identification of elements in a sample of 	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also 53 fiber, equivalent diameter.) 54 asphalt — a dark brown to black cementitious 55 material in which the predominating 56 constituents are bitumens that occur in 57 nature or are obtained in petroleum
17 18 19 20 21 22 23 24 25 26 27 28 29	 architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings, or both. architectural concrete — see concrete, architectural. arc spectrography — spectrographic identification of elements in a sample of material heated to volatilization in an 	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also 53 fiber, equivalent diameter.) 54 asphalt — a dark brown to black cementitious 55 material in which the predominating 56 constituents are bitumens that occur in 57 nature or are obtained in petroleum 58 processing.
17 18 19 20 21 22 23 24 25 26 27 28 29 30	 architect-engineer or engineer-architect — the architect, engineer, architectural firm, engineering firm, or architectural and engineering firm issuing project drawings and specifications, administering the work under contract specifications and drawings, or both. architectural concrete — see concrete, architectural. arc spectrography — spectrographic identification of elements in a sample of material heated to volatilization in an electric arc or spark. 	 47 ashlar, patterned — see masonry, ashlar. 48 ashlar masonry — see masonry, ashlar. 49 ashlar, random — see masonry, ashlar. 50 aspect ratio, fiber — the ratio of length to 51 diameter of a fiber in which the diameter 52 may be an equivalent diameter. (See also 53 fiber, equivalent diameter.) 54 asphalt — a dark brown to black cementitious 55 material in which the predominating 56 constituents are bitumens that occur in 57 nature or are obtained in petroleum 58 processing. 59 asphalt cement — see cement, asphalt.

1	atmospheric-pressure steam curing — see	30	axle-steel reinforcement — see reinforcement,
2	curing, atmospheric-pressure steam.	31	axle-steel.
3	autoclave — a pressure vessel in which an	32	
4	environment of steam at high pressure may	33	— B —
5	be produced; used in the curing of concrete	34	b/bo — see factor, coarse-aggregate (preferred
6	products and in the testing of hydraulic	35	term).
7	cement.	36	bacillus. cement — see ettringite (preferred
8	autoclave curing — see curing, autoclave.	37	term).
9	autoclave cycle — see cycle, autoclave.	38	backfill concrete — see concrete, backfill.
10	autoclaved — see curing, autoclave.	39	back form — see form, top (preferred term).
11	autoclaving — see curing, autoclave.	40	back plastering — plaster applied to one face of a
12	autogenous healing — see healing, autogenous.	41	lath system following application and
13	autogenous length change — see length change,	42	subsequent hardening of plaster applied to
14	autogenous.	43	the opposite face. (See also parge.)
15	autogenous shrinkage — see volume change,	44	back stay — see brace (preferred term).
16	autogenous.	45	backshores — shores placed snugly under a
17	autogenous volume change — see volume	46	concrete slab or structural member after the
18	change, autogenous.	47	original formwork and shores have been
19			
	automatic batcher — see batcher.	48	removed from a small area without
20	automatic batcher — see batcher. auxiliary reinforcement — see reinforcement,	48 49	removed from a small area without allowing the entire slab or member to
20 21	automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary.	48 49 50	removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing
20 21 22	automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average.	48 49 50 51	removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads.
20 21 22 23	automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see	48 49 50 51 52	removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial.
20 21 22 23 24	automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average	48 49 50 51 52 53	removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of
 20 21 22 23 24 25 	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. 	48 49 50 51 52 53 54	 removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the
 20 21 22 23 24 25 26 	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. axis, neutral — a line in the plane of a structural member subject to bending where the 	48 49 50 51 52 53 54 55	removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion , bacterial . bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the United States; for other kinds of cement, a
 20 21 22 23 24 25 26 27 	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. axis, neutral — a line in the plane of a structural member subject to bending where the longitudinal stress is zero 	48 49 50 51 52 53 54 55 56	 removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the United States; for other kinds of cement, a quantity indicated on the bag.
 20 21 22 23 24 25 26 27 20 	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. axis, neutral — a line in the plane of a structural member subject to bending where the longitudinal stress is zero. 	48 49 50 51 52 53 54 55 56 57	 removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the United States; for other kinds of cement, a quantity indicated on the bag. balanced load — see load, balanced.
20 21 22 23 24 25 26 27 28	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. axis, neutral — a line in the plane of a structural member subject to bending where the longitudinal stress is zero. axle load — see load, axle. 	48 49 50 51 52 53 54 55 56 57 58	 removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the United States; for other kinds of cement, a quantity indicated on the bag. balanced load — see load, balanced. balanced moment — moment capacity at
20 21 22 23 24 25 26 27 28 29	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. axis, neutral — a line in the plane of a structural member subject to bending where the longitudinal stress is zero. axle load — see load, axle. axle steel — see steel, axle. 	48 49 50 51 52 53 54 55 56 57 58 59	 removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the United States; for other kinds of cement, a quantity indicated on the bag. balanced load — see load, balanced. balanced moment — moment capacity at simultaneous crushing of concrete and
20 21 22 23 24 25 26 27 28 29	 automatic batcher — see batcher. auxiliary reinforcement — see reinforcement, auxiliary. average bond stress — see bond stress, average. average compressive strength — see compressive strength, average. axis, neutral — a line in the plane of a structural member subject to bending where the longitudinal stress is zero. axle load — see load, axle. axle steel — see steel, axle. 	48 49 50 51 52 53 54 55 56 57 58 59 60	 removed from a small area without allowing the entire slab or member to deflect or support its own mass or existing construction loads. bacterial corrosion — see corrosion, bacterial. bag (of cement; also sack) — a quantity of portland cement: 94 lb (43 kg) in the United States; for other kinds of cement, a quantity indicated on the bag. balanced load — see load, balanced. balanced moment — moment capacity at simultaneous crushing of concrete and yielding of tension steel.

1	balanced reinforcement — an amount and	31	bar, high-bond — see bar, deformed
2	distribution of reinforcement in a flexural	32	(preferred term).
3	member such that in working-stress design	33	bar, hooked — a reinforcing bar with the
4	the allowable tensile stress in the steel and	34	end bent into a hook to provide
5	the allowable compressive stress in the	35	anchorage.
6	concrete are attained simultaneously; or	36	bar. standard hooked — a reinforcing bar
7	such that in strength design, the tensile	37	with the end bent into a hook to
8	reinforcement reaches its specified yield	38	provide anchorage.
9	strength simultaneously with the concrete	20	har plain a rainforging har without
10	in compression reaching its assumed	39	bar, plan — a removeing bar without
11	ultimate strain of 0.003.	40	deformations, or one naving
12	ball mill — see mill, ball.	41	the explicitly explicitly explicitly the
13	hall test — see test, hall	42	the applicable requirements.
		43	bar, reinforcement — see reinforcement.
14	band iron — thin metal strap used as form the,	44	bar, tie — bar at right angles to and tied to
15	nanger, etc.	45	reinforcement to keep it in place.
16	bar — an element, normally composed of steel,	46 ba ı	bender — a tradesman who cuts and bends
17	with a nominally uniform cross-sectional	47	steel reinforcement; or a machine for
18	area used to reinforce concrete.	48	bending steel reinforcement.
19	bar, coated — a bar on which a coating	49 ba r	r-end check — a check of the ends of
20	has been applied, usually to increase	50	reinforcing bars to determine whether they
21	resistance to corrosion.	51	fit the devices intended for connecting the
22	bar, deformed — a reinforcing bar with a	52	bars. (See also mechanical connection .)
23	manufactured pattern of surface	52 hav	a mat _ soo mat (1)
24	ridges intended to reduce slip and	53 Dai	$1 \max - \sec \max(1).$
25	increase pullout resistance of bars	54 ba ı	r schedule — a list of the reinforcement,
26	embedded in concrete.	55	showing the shape, number, size, and
27	bar. enoxy-coated —a reinforcing bar	56	dimensions of every different element
28	coated by an enoxy-resin system	57	required for a structure or a portion of a
20	usually to increase resistance to	58	structure.
27 30	corrosion		
50	••••••••••		

1	bar spacing — the distance between parallel	27	bars, stem — bars used in the wall section of a
2	reinforcing bars, measured center to center	28	cantilevered retaining wall or in the webs
3	of the bars perpendicular to their	29	of a box; when a cantilevered retaining wall
4	longitudinal axes.	30	and its footing are considered as an integral
5	bar support — hardware used to support or hold	31	unit, the wall is often referred to as the stem
6	reinforcing bars in proper position to	32	of the unit.
7	prevent displacement before and during	33	base — a subfloor slab or "working mat," either
8	concreting. (See also bat ; bolster, slab .)	34	previously placed and hardened or freshly
9	barite — a mineral, barium sulfate (BaSO ₄), used	35	placed, on which floor topping is placed in
10	in either pure or impure form as concrete	36	a later operation; also the underlying
11	aggregate primarily for the construction of	37	stratum on which a concrete slab, such as a
12	high-density radiation shielding concrete;	38	pavement, is placed. (See also mud slab
13	designated "barytes" in United Kingdom.	39	and subbase.)
14	barrel (of cement) — a quantity of portland	40	base bead — see base screed (preferred term).
15	cement: 376 lb (4 bags) in the United States	41	base coat — any plaster coat or coats applied
16	(obsolete); also wood or metal container	42	before application of the finish coat.
17	formerly used for shipping cement.	43	base course — a layer of specified select material
18	barrel-vault roof — see roof, barrel-vault.	44	of planned thickness constructed on the
10	harrier moisture — a vanot harrier	45	subgrade or subbase of a pavement to serve
		46	one or more functions, such as distributing
20	barrier, vapor — membranes located under	47	loads, providing drainage, or minimizing
21	concrete floor slabs that are placed on	48	frost action; also the lowest course of
22	grade to retard transmission of water vapor	49	masonry in a wall or pier.
23	from the subgrade.	50	base plate — a plate of metal or other material
24	bars, bundled — a group of not more than four	51	formerly placed under payement joints and
25	parallel reinforcing bars in contact with	52	the adjacent slab ends to prevent the
26	each other, usually tied together.	53	infiltration of soil and moisture from the
		54	sides or bottom of the joint opening: also a
		55	steel plate used to distribute vertical loads
		56	as for bridge beams, building columns or
		57	machinery.

1	base screed — a preformed metal screed with	32	batched water — the mixing water added by a
2	perforated or expanded flanges to provide a	33	batcher to a cementitious mixture either
3	guide for thickness and planeness of plaster	34	before or during the initial stages of mixing
4	and to provide a separation between plaster	35	(also called batch water).
5	and other materials.	36	batcher — a device for measuring ingredients for
6	basic creep — see creep, basic.	37	a batch of concrete.
7	basket — see load-transfer assembly (preferred	38	(1) manual batcher — a batcher equipped
8	term).	39	with gates or valves that are operated
9	bassanite — calcium sulfate hemihydrate,	40	manually, with or without supplementary
10	$2CaSO_4$ H ₂ O. (See also hemihydrate and	41	power (pneumatic, hydraulic, or electrical),
11	plaster of paris.)	42	the accuracy of the weighing operation
12	bat — a broken brick sometimes used to support	43	being dependent on the operator's
13	reinforcement. (See also bar support .)	44	observation of the scale.
14	batch — 1 quantity of material mixed at one time	45	(2) semiautomatic batcher — a batcher
15	or in one continuous process: or 2. to weigh	46	equipped with gates or valves that are
16	or volumetrically measure and introduce	47	separately opened manually to allow the
17	into the mixer the ingredients for a quantity	48	material to be weighed but that are closed
18	of material.	49	automatically when the designated quantity
19	batch . trial — a batch of concrete prepared to	50	of each material has been reached.
20	establish or check proportions of the		
20	constituents		
	hatah hay container of known volume used for		
22	measuring constituents of a batch of either		
23	concrete or mortar in proper proportions		
24			
25	batch mixer — see mixer, batch.		
26	batch plant — an installation for batching or for		
27	batching and mixing concrete materials.		
28	batch weights — the quantities of the various		
29	ingredients (cement, water, the several		
30	sizes of aggregate, and admixtures if used)		
31	that compose a batch of concrete.		

1	(3) automatic batcher — a batcher equipped
2	with gates or valves that, when actuated by
3	a single starter switch, will open
4	automatically at the start of the weighing
5	operation of each material and close
6	automatically when the designated quantity
7	of each material has been reached,
8	interlocked in such a manner that: (a) the
9	charging mechanism cannot be opened
10	until the scale has returned to zero; (b) the
11	charging mechanism cannot be opened if
12	the discharge mechanism is open; (c) the
13	discharge mechanism cannot be opened if
14	the charging mechanism is open; (d) the
15	discharge mechanism cannot be opened
16	until the designated quantity has been
17	reached within the allowable tolerance; and
18	(e) if different kinds of aggregates or
19	different kinds of cements are measured
20	cumulatively in a single batcher,
21	interlocked sequential controls are
22	provided.
23	batching, cumulative — measuring more than one
24	ingredient of a batch in the same container
25	by bringing the batcher scale into balance
26	at successive total weights as each
27	ingredient is accumulated in the container.
28	batten (also batten strip) — a narrow strip of
29	wood placed over the vertical joint of
30	sheathing or paneling; also used to hold
31	several boards together. (See also cleat.)

32	batter boards — pairs of horizontal boards nailed
33	to wooden stakes adjoining an excavation;
34	used as a guide to elevations and to outline
35	the building.
36	batter pile — see pile, batter.
37	bauxite — a rock composed principally of hydrous
38	aluminum oxides; the principal ore of
39	aluminum and a raw material for
40	manufacture of calcium-aluminate cement.
41	bay — the space, in plan, between the centerlines
42	of adjacent piers, mullions, or columns; a
43	small, well-defined area of concrete placed
44	at one time in the course of placing large
45	areas, such as floors, pavements, or
46	runways.
47	beam — a structural member subjected to axial
48	load and flexure but primarily to flexure;
49	also the graduated horizontal bar of a
50	weighing scale on which the balancing
51	poises ride. (See also beam, spandrel;
52	girder; girt; joist; ledger; purlin; and
53	stringer.)
54	beam, double-tee — a precast-concrete
55	member composed of two stems
56	and a combined top flange,
57	commonly used as a beam but also
58	used vertically in exterior walls.
59	beam, drop-in — a precast element simply
60	supported on adjacent cantilevered
61	elements.
62	beam, edge — a stiffening beam at the
63	edge of a slab.

1	beam, grade — a reinforced-concrete	32 beam hanger — a wire, strap, or other hardware
2	beam, usually at ground level, that	33 device that supports formwork from
3	strengthens or stiffens the	34 structural members.
4	foundation or supports overlying	35 beam pocket — opening left in a vertical member
5	construction.	in which a beam is to rest; also an opening
6	beam, simple — a beam without rotational	in the column or girder form where forms
7	restraint or continuity at its	for an intersecting beam will be framed.
8	supports; also known as a simply	39 beam saddle — see beam hanger (preferred
9	supported beam.	40 term).
10	beam, slender — a beam that, if loaded to	41 beam side — vertical or sloping side of a beam.
11	failure without lateral bracing of the	42 beam test — a method of measuring the flexural
12	compression flange, would fail by	43 strength (modulus of rupture) of concrete
13	buckling rather than in flexure.	44 by testing a standard unreinforced beam.
14	beam, spandrel — a beam in the perimeter	45 bearing capacity — see allowable bearing
15	of a building, spanning between	46 capacity.
16	columns and usually supporting a	47 bearing stratum — the soil or rock stratum on
17	floor or roof.	47 bearing stratum the son of fock stratum on 48 which a concrete footing or mat bears or
18	beam-and-slab floor (roof) — a reinforced-	40 which a concrete rooting of that ocars of 49 that carries the load transferred to it by a
19	concrete system in which a slab is	50 concrete pile caisson or similar deep
20	supported by and is often monolithic with	51 foundation unit.
21	reinforced-concrete beams.	E2 balita a name used to identify one form of the
22	beam bottom — soffit or bottom form for a beam.	52 Dente — a name used to identify one form of the
23	beam-column — a structural member subjected to	54 known when pure as dicalcium silicate
24	axial load and flexure forces but primarily	55 (2CaO SiO ₂) (See also alite : celite : and
25	axial load.	56 felite .)
26	beam form — a retainer or mold so erected as to	57 belled nier — see nier. belled .
27	give the necessary shape, support, and	50 honch see protonsioning had
28	finish to a concrete beam.	56 bench — see pretensioning beu.
29	beam form-clamp — any of various types of tying	59 bending moment — see moment, bending.
30	or fastening units used to hold the sides of	
31	beam forms.	

1	bending-moment diagram — a graphical	31	(2) chemical treatment applied to fibers to
2	representation of the variation of bending	32	give integrity to mats, roving, and
3	moment along the length of the member for	33	fabric.
4	a given stationary system of loads.	34 bio	logical shielding — shielding provided to
5	beneficiation — improvement of the chemical or	35	attenuate or absorb nuclear radiation, such
6	physical properties of a raw material or	36	as neutron, proton, alpha and beta particles,
7	intermediate product by the removal or	37	and gamma radiation; the shielding is
8	modification of undesirable components or	38	provided mainly by the density of the
9	impurities.	39	concrete, except that in the case of neutrons
10	bent, pile — two or more piles driven in a row	40	the attenuation is achieved by compounds
11	transverse to the long dimension of the	41	of some of the lighter elements (for
12	structure and fastened together by capping	42	example, hydrogen and boron). (See also
13	and (sometimes) bracing.	43	concrete, shielding.)
14	bent bar — a reinforcing bar bent to a prescribed	44 bitu	uminous cement — see cement, bituminous.
15	shape. (See also hook; bar, hooked;	45 Bla	ine apparatus — air-permeability apparatus
1/	stirrun: and tie)		for measuring the surface area of a finely
16	surrup, and uc.)	40	for measuring the surface area of a finery
16	bentonite — a clay composed principally of	46 47	ground cement, raw material, or other
16 17 18	bentonite — a clay composed principally of minerals of the montmorillonoid group,	46 47 48	ground cement, raw material, or other product. See ASTM C 204.
16 17 18 19	bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very	46 47 48 49 Bla	ground cement, raw material, or other product. See ASTM C 204. ine fineness — the fineness of powdered
16 17 18 19 20	bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or	46 47 48 49 Bla 50	 ground cement, raw material, or other product. See ASTM C 204. ine fineness — the fineness of powdered materials such as cement and pozzolans,
16 17 18 19 20 21	bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying.	46 47 48 49 Bla 50 51	ground cement, raw material, or other product. See ASTM C 204. ine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass
18 17 18 19 20 21 22	 bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying. Berliner — a type of terrazzo topping using small 	 46 47 48 49 Bla 50 51 52 	ground cement, raw material, or other product. See ASTM C 204. ine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass usually in square meters per kilogram,
18 17 18 19 20 21 22 23	 bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying. Berliner — a type of terrazzo topping using small and large pieces of marble paving, usually 	 46 47 48 49 Bla 50 51 52 53 	 a for measuring the surface area of a finery ground cement, raw material, or other product. See ASTM C 204. a fine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass usually in square meters per kilogram, determined by the Blaine apparatus. (See
18 17 18 19 20 21 22 23 24	 bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying. Berliner — a type of terrazzo topping using small and large pieces of marble paving, usually with a standard terrazzo matrix between 	 46 47 48 49 Bla 50 51 52 53 54 	 a for measuring the surface area of a finery ground cement, raw material, or other product. See ASTM C 204. a fine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass usually in square meters per kilogram, determined by the Blaine apparatus. (See also surface, specific.)
16 17 18 19 20 21 22 23 24 25	 bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying. Berliner — a type of terrazzo topping using small and large pieces of marble paving, usually with a standard terrazzo matrix between pieces, also called Palladiana. 	 46 47 48 49 Bla 50 51 52 53 54 55 Bla 	 a for measuring the surface area of a finery ground cement, raw material, or other product. See ASTM C 204. a fine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass usually in square meters per kilogram, determined by the Blaine apparatus. (See also surface, specific.) a test — see test, Blaine.
18 17 18 19 20 21 22 23 24 25 26	 bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying. Berliner — a type of terrazzo topping using small and large pieces of marble paving, usually with a standard terrazzo matrix between pieces, also called Palladiana. billet steel — see steel, billet. 	 46 47 48 49 Bla 50 51 52 53 54 55 Bla 56 bla 	 a fine assuming the surface area of a finery ground cement, raw material, or other product. See ASTM C 204. a fine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass usually in square meters per kilogram, determined by the Blaine apparatus. (See also surface, specific.) a test — see test, Blaine. a covering of sacks, matting,
16 17 18 19 20 21 22 23 24 25 26 27	 bentonite — a clay composed principally of minerals of the montmorillonoid group, characterized by high adsorption and very large volume change with wetting or drying. Berliner — a type of terrazzo topping using small and large pieces of marble paving, usually with a standard terrazzo matrix between pieces, also called Palladiana. billet steel — see steel, billet. binary mixture — see mixture, binary. 	 46 47 48 49 Bla 50 51 52 53 54 55 Bla 56 bla 57 	 for measuring the surface area of a finery ground cement, raw material, or other product. See ASTM C 204. ine fineness — the fineness of powdered materials such as cement and pozzolans, expressed as surface area per unit mass usually in square meters per kilogram, determined by the Blaine apparatus. (See also surface, specific.) ine test — see test, Blaine. nket, curing — a covering of sacks, matting, burlap, straw, waterproof paper, or other
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1	blast-furnace slag — the nonmetallic product	33	bleeding capacity — the ratio of volume of water
2	consisting essentially of silicates and	34	released by bleeding to the volume of paste
3	aluminosilicates of calcium and other bases	35	or mortar.
4	that develops in a molten condition	36	bleeding rate — the rate at which water is
5	simultaneously with iron in a blast furnace.	37	released from a paste or mortar by
6	(1) blast-furnace slag, air-cooled — the	38	bleeding.
7	material resulting from	39	blemish — any superficial defect that causes
8	solidification of molten blast-	40	visible variation from a consistently smooth
9	furnace slag under atmospheric	41	and uniformly colored surface of hardened
10	conditions; subsequent cooling may	42	concrete. (See also bug holes ;
11	be accelerated by application of	43	efflorescence; honeycomb; joint, lift;
12	water to the solidified surface;	44	laitance; popout; rock pocket; sand
13	(2) blast-furnace slag, expanded — the	45	streak.)
14	low density, cellular material	46	blended cement — see cement, blended.
15	obtained by controlled processing of	47	blinding — the application of a layer of lean
16	molten blast-furnace slag with	48	concrete or other suitable material to reduce
17	water, or water and other agents,	49	surface voids or to provide a clean, dry
18	such as steam, compressed air, or	50	working surface; also the filling or
19	both;	51	plugging of the openings in a screen or
20	(3) blast-furnace slag, granulated — the	52	sieve by the material being separated. (See
21	glassy, granular material formed	53	concrete, lean.)
22	when molten blast-furnace slag is	54	blistering — the irregular raising of a thin layer at
23	rapidly chilled, as by immersion in	55	the surface of a placed cementitious
24	water; and	56	mixture during or soon after completion of
25	(4) blast-furnace slag, ground-granulated	57	the finishing operation, or, in the case of
26	— obsolete term; see cement, slag.	58	pipe, after spinning; also bulging of a finish
27	bleed — to undergo bleeding. (See bleeding .)	59	coat as it separates and draws away from a
28	bleeding — the autogenous flow of mixing water	60	base coat.
29	within, or its emergence from, a newly	61	bloated — swollen, as in certain lightweight
30	placed cementitious mixture caused by the	62	aggregates as a result of processing.
31	settlement of solid materials within the	60	black concrete — a concrete masonry unit
32	mass.	61	usually containing hollow cores
		18	usuary containing nonow cores.

1	block, end — an enlarged end section of a member	33 b	olster, slab — continuous wire bar support used
2	intended to reduce anchorage stresses to	34	to support bars in the bottom of slabs; top
3	allowable values and provide space needed	35	wire is corrugated at 1 in. centers to hold
4	for post-tensioning anchorages.	36	bars in position. (See also bar support .)
5	block, wood — a solid piece of wood used in	37 b	olt, anchor — a metal bolt or stud, headed or
6	concrete formwork to fill space or prevent	38	threaded, either cast in place, grouted in
7	movement of the formwork.	39	place, or drilled into finished concrete, used
8	block beam — a flexural member composed of	40	to hold various structural members or
9	individual blocks that are joined together	41	embedments in the concrete, and to resist
10	by prestressing. (See also member,	42	shear, tension, and vibration loadings from
11	segmental.)	43	various sources, such as wind and machine
12	blockout — a space within a concrete structure	44	vibration; known also as a hold-down bolt
13	under construction in which fresh concrete	45	or a foundation bolt.
14	is not to be placed, called core in United	46 b	olt, foundation — see bolt, anchor.
15	Kingdom.	47 b	olt, hold-down — anchor bolt provided near the
16	blowholes — see surface air voids (preferred	48	ends of shear walls for transferring
17	term).	49	boundary-member loads from the shear
18	blownine — a long nine used to direct a	50	wall to the foundation. (See also bolt,
10	compressed air stream that cleans a rock	51	anchor.)
20	face or removes possible entrapped	52 b	olt, she — a type of form tie and spreader bolt in
21	shotcrete rebound while placing shotcrete.	53	which the end fastenings are threaded into
22	blowup the raising of two concrete slabs off the	54	the end of the bolt, thus eliminating cones
22	subgrade where they meet as a result of	55	and reducing the size of holes left in the
23	greater expansion than the joint between	56	concrete surface.
24	them will accommodate: typically occurs	57 b	olt sleeve — a tube surrounding a bolt in a
26	only in unusually hot weather where joints	58	concrete wall to prevent concrete from
27	have become filled with incompressible	59	adhering to the bolt and acting as a spreader
28	material; often results in cracks on both	60	for the formwork.
29	sides of the joint and parallel to it.		
30	board butt joint — construction joint in shotcrete		
31	formed by sloping the spraved surface to a		
32	1 in. (25 mm) board laid flat.		

1	bond — (1) adhesion of concrete or mortar to	33	bond, mechanical —physical interlock
2	reinforcement or other surfaces against	34	created when a plastic cementitious
3	which it is placed, including friction due to	35	mixture is placed and hardens to
4	shrinkage and longitudinal shear in the	36	conform with the surface texture of
5	concrete engaged by the bar deformations;	37	the existing solid material.
6	(2) adhesion of cement paste to aggregate;	38	bond, transfer — in pretensioning, the
7	(3) adhesion or cohesion between plaster	39	bond stress resulting from the
8	coats or between plaster and a substrate	40	transfer of stress from the tendon to
9	produced by adhesive or cohesive	41	the concrete.
10	properties of plaster or supplemental	42	bond area — the nominal area of interface
11	materials; (4) patterns formed by the	43	between two elements across which
12	exposed faces of masonry units, for	44	adhesion develops or may develop, as
13	example, running bond or flemish bond.	45	between cement paste and aggregate.
14	bond, ceramic — the development of fired		hand breaker a material used to prevent
15	strength as a result of thermo-	40	adhesion of newly placed concrete to the
16	chemical reactions between	47	substrate (See also oil form and agent
17	materials exposed to temperatures	40	release)
18	approaching the fusion point of the	47	
19	mixture such as that which may	50	bond length — see length, development
20	occur, under these conditions,	51	(preferred term).
21	between calcium-aluminate cement	52	bond plaster — a specially formulated gypsum
22	and a refractory aggregate.	53	plaster designed as first-coat application
23	bond, chemical — bond between materials	54	over monolithic concrete.
24	that is the result of cohesion and	55	bond prevention — measures taken to prevent
25	adhesion developed by chemical	56	adhesion of concrete or mortar to surfaces
26	reaction.	57	against which it is placed.
27	bond, flexural stress — in structural-	58	bond strength — see strength, bond.
28	concrete members, the stress	59	bond stress — see stress, bond.
29	between the concrete and the	60	bond stress, average — the force in a bar
30	reinforcing element that results	61	divided by the product of the
31	from the application of external	62	perimeter and the development
32	load.	63	length of the bar.
		-	

1	bond stress, development — see stress,	29 brace — a structural member used to provide
2	anchorage bond (preferred term).	30 lateral support for another member,
3	bonded hollow-wall masonry — see masonry,	31 generally for the purpose of ensuring
4	bonded hollow-wall.	32 stability or resisting lateral loads.
5	bonded member — a prestressed-concrete	33 bracing — see brace (preferred term).
6	member in which the tendons are bonded to	34 bracket —
7	the concrete either directly or through	35 (1) an overhanging member projecting
8	grouting.	from a wall or other body to support weight
9	bonded post-tensioning — see post-tensioning,	acting outside the wall or a similar piece to
10	bonded.	38 strengthen an angle; and
11	bonded tendon — see tendon, bonded.	39 (2) formed shapes of channel or pencil rod
12	bonder — a masonry unit that ties two or more	40 used as structural reinforcement in erecting
13	wythes (leaves) of a wall together by	41 furred assemblies. (See also corbel .)
14	overlapping. (See also header and wythe	42 bredigite — a mineral, alpha prime dicalcium
15	(leaf).)	43 silicate (2CaO SiO ₂), occurring naturally
16	bonding agent — see agent, bonding.	44 at Scawt Hill, northern Ireland; and at the
17	honding laver — see laver honding	45 Isle of Muck, Scotland; also in slags and
	bonding layer see layer, bonding.	46 portland cement.
18	bored pile — see pier, drilled.	47 breeze — usually clinker; also fine divided
19	boring — the removal by drilling of rock; a	48 material from coke production.
20	sample of soil or concrete for tests.	49 brick. calcium-silicate — a concrete product
21	boron frits — clear, colorless, synthetic glass	50 made principally from sand and lime that is
22	produced by fusion and quenching,	51 hardened by autoclave curing.
23	containing boron. (See also concrete,	52 brick concrete — solid concrete masonry units of
24	boron-loaded.)	52 relatively small prescribed dimensions
25	boron-loaded concrete — see concrete, boron-	55 relatively small presented dimensions.
26	loaded.	54 brick, rubbing — a silicon-carbide brick used to
27	box out — to form an opening in concrete by a	55 smooth and remove irregularities from
28	box-like form.	56 surfaces of hardened concrete.
		57 brick, sand-lime — see brick, calcium-silicate
		58 (preferred term).

	brick seat — ledge on wall or footing to support a		
2	course of masonry.		
3	bridge deck — see deck, bridge.		
4	briquette (also briquet) — a molded specimen of		
5	mortar with enlarged extremities and		
6	reduced center having a cross section of		
7	definite area, used for measurement of		
8	tensile strength.		
9	broadcast — to toss granular material, such as		
10	sand, over a horizontal surface so that a		
11	thin, uniform layer is obtained.		
12	broom finish — see finish, broom.		
13	brown coat — see coat, brown.		
14	brown out — to complete application of base coat		
15	plaster.		
16	brown oxide — see oxide, brown.		
16 17	brown oxide — see oxide, brown.brownmillerite — a ternary compound originally		
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31	buckling — failure by lateral or torsional
32	instability of a structural member,
33	occurring with stresses below the yield or
34	ultimate values.
35	bug holes — see surface air voids (preferred
36	term).
37	buggy — a two-wheeled hand or motor-driven cart
38	usually rubber-tired, for transporting small
39	quantities of concrete from hoppers or
40	mixers to forms; sometimes called a
41	concrete cart.
42	building official — the official charged with
43	administration and enforcement of the
44	applicable building code, the duly
45	authorized representative of the official.
46	build-up — spraying of shotcrete in successive
47	layers to form a thicker mass; also the
48	accumulation of residual hardened concrete
49	in a mixer.
50	bulk cement — see cement, bulk.
51	bulk density — see density, bulk.
52	bulk loading — see loading, bulk.
53	bulk modulus — see modulus, bulk.
54	bulk specific gravity — see specific gravity,
55	absolute and density, bulk.
56	bulk specific gravity (saturated-surface dry) —
57	see specific gravity, absolute.
58	bulkhead —

1	(1) a partition in formwork blocking fresh	32 bush-hammer finish — see finish, bush-
2	concrete from a section of the form, or a	33 hammer.
3	partition closing a section of the form, such	34 butt joint — see joint, butt.
4	as at a construction joint; or	35 butter — to spread mortar on a masonry unit with
5	(2) a partition in a storage tank or bin, as	36 a trowel; also the process by which the
6	for cement or aggregate.	37 interior of a concrete mixer, transportation
7	bulking — increase in the volume occupied by a	³⁸ unit, or other item coming in contact with
8	quantity of sand in a moist condition over	39 fresh concrete is provided with a mortar
9	the volume of the same quantity dry or	40 coating so that fresh concrete coming in
10	completely inundated.	41 contact with it will not be depleted of
11	bulking curve — graph of change in volume of a	42 mortar.
12	quantity of sand due to change in moisture	43 buttress — a projecting structure to support either
13	content.	44 a wall or a building.
14	bulking factor — see factor, bulking.	45 butyl stearate — a colorless, oily, and practically
15	bull float — see float, bull.	46 odorless material (C_{17} H ₃₅ COOC ₄ H ₉) used
16	bundled bars — see bars, bundled	47 as an admixture for concrete to provide
17	hurlen a coarse febrie of jute home or less	48 dampproofing.
17	commonly flay, for use as a water-retaining	49
10	covering in curing concrete surfaces: also	50 — C —
20	called Hessian	51 cabinet moist — an unright and compartmented
20	canca messian.	52 case having doors and shelves of moderate
21		53 dimensions for storing and curing small test
22	burnishing—	54 specimens of cement paste mortar and
23	(1) to hard trowel the surface of concrete or	55 concrete in an atmosphere of about 73 F
24	plaster up to final set; and	56 (23 C) temperature and at least 95 %
25	(2) to otherwise produce a very smooth	57 relative humidity. (See also moist room .)
26	surface.	58 cable — see tendon (preferred term)
27	bush-hammer — a hammer having a serrated	
28	face, as rows of pyramidal points used to	59 cage — a rigid assembly of reinforcement ready
29	roughen or dress a surface; to finish a	60 Ior placing in position.
30	concrete surface by application of a bush-	

1	caisson — part of a foundation, a watertight
2	chamber used in construction underwater,
3	or a hollow floating box used as a floodgate
4	for a dock or basin.
5	caisson pile — see pile, caisson.
6	calcareous — containing calcium carbonate or,
7	less generally, containing the element
8	calcium.
9	calcine — to alter composition or physical state by
10	heating below the temperature of fusion.
11	calcite — a mineral having the composition
12	calcium carbonate (CaCO ₃) and a specific
13	crystal structure; the principal constituent
14	of limestone, chalk, and marble; a major
15	constituent in the manufacture of portland
16	cement.
17	calcium — a silver-white metallic element of the
18	alkaline-earth group occurring naturally
19	only in combination with other elements.
20	calcium-aluminate cement — see cement,
21	calcium-aluminate.
22	calcium chloride — a crystalline solid, CaCl ₂ ; in
23	various technical grades, used as a drying
24	agent, as an accelerator of concrete, as a
25	deicing chemical, and for other purposes.
26	(See also admixture, accelerating.)
27	calcium chloride, anhydrous (CaCl ₂) — a solid,
28	usually 94 % calcium chloride, typically in
29	pellet form.

30	calcium chloride, hydrous (CaCl ₂ ·2H ₂ O) — a
31	solid, usually 77 % calcium chloride, in

flake form.

33	calcium chloride solution — an aqueous solution
34	of calcium chloride (usually at a specified
35	concentration so that a given amount can be
36	gauged to provide a specific concentration)
37	usually expressed as a percent calcium
38	chloride by mass of portland cement.
39	calcium hydroxide — see lime, hydrated.
40	calcium stearate — $Ca(C_{18}H_{35}O_2)_2$, commonly
41	marketed in powder form, insoluble in
42	water, used as a water repellent admixture
43	in concrete.
44	calcium-silicate brick — see brick, calcium-
45	silicate.
46	calcium-silicate hydrate — see hydrate,
46 47	calcium-silicate hydrate — see hydrate, calcium-silicate.
46 47 48	 calcium-silicate hydrate — see hydrate, calcium-silicate. caliche — gravel, sand, and desert debris
46 47 48 49	 calcium-silicate hydrate — see hydrate, calcium-silicate. caliche — gravel, sand, and desert debris cemented by calcium carbonate or other
46 47 48 49 50	 calcium-silicate hydrate — see hydrate, calcium-silicate. calcium-silicate. caliche — gravel, sand, and desert debris cemented by calcium carbonate or other salts.
46 47 48 49 50 51	 calcium-silicate hydrate — see hydrate, calcium-silicate. calcium - gravel, sand, and desert debris cemented by calcium carbonate or other salts. California bearing ratio (CBR) — the ratio of the
46 47 48 49 50 51 52	 calcium-silicate hydrate — see hydrate, calcium-silicate. calcium-silicate. caliche — gravel, sand, and desert debris cemented by calcium carbonate or other salts. California bearing ratio (CBR) — the ratio of the force per unit area required to penetrate a
46 47 48 49 50 51 52 53	 calcium-silicate hydrate — see hydrate, calcium-silicate. calcium-silicate. caliche — gravel, sand, and desert debris cemented by calcium carbonate or other salts. California bearing ratio (CBR) — the ratio of the force per unit area required to penetrate a soil mass with a 3 in.² (1940 mm²) circular
 46 47 48 49 50 51 52 53 54 	 calcium-silicate hydrate — see hydrate, calcium-silicate. calcium-silicate. caliche — gravel, sand, and desert debris cemented by calcium carbonate or other salts. California bearing ratio (CBR) — the ratio of the force per unit area required to penetrate a soil mass with a 3 in.² (1940 mm²) circular piston at the rate of 0.05 in. (1.3 mm) per
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 46 47 48 49 50 51 52 53 54 55 56 57 	 calcium-silicate hydrate — see hydrate, calcium-silicate. calcium — gravel, sand, and desert debris cemented by calcium carbonate or other salts. California bearing ratio (CBR) — the ratio of the force per unit area required to penetrate a soil mass with a 3 in.² (1940 mm²) circular piston at the rate of 0.05 in. (1.3 mm) per min to the force required for corresponding penetration of a standard material; the ratio is usually determined at 0.1 in. (2.5 mm)

1	calorimeter — an instrument for measuring heat	33	capillarity — the movement of a liquid in the
2	exchange during a chemical reaction, such	34	interstices of concrete, soil, or other finely
3	as the quantity of heat liberated by the	35	porous material due to surface tension. (See
4	combustion of a fuel or hydration of a	36	also flow, capillary .)
5	cement.	37	capillary flow — see flow, capillary.
6	camber — a deflection that is intentionally built	38	capillary space — see space, capillary.
7	into a structural element or form to improve	30	can, nile —
8	appearance or to nullify the deflection of	40	(1) a structural member that is alread on
9	the element under the effects of loads,	40	(1) a structural member that is placed on
10	shrinkage, and creep.	41	loads from the structure through the pile
11	canister-type anchor bolt — anchorage assembly	42	group into the soil: the piles may be
12	that includes a sleeve, a threaded rod, and	43	group into the son, the pres may be
13	means of removing the rod and adjusting	44	resist unlift or with reinforcement to resist
14	rod location, projection, and tension.	45	moment so as to form a bent: also known as
15	cant strip — see strip, chamfer (preferred term).	40	a rider can or girder: also a masonry
16	can — a smooth plane surface of suitable material	47	timber or concrete footing resting on a
17	bonded to the bearing surfaces of test	49	group of piles: and
18	specimens to distribute the load during	50	(2) a matal can ar halmat temporarily fitted
19	strength testing.	50	(2) a metal cap of nemiet temporarry fitted
20	can cables	51	during driving: some form of shock
20	prestress the zone of negative moment	52	absorbing material is often incorporated
21 22	only	03	
22		54	cap, rider — see cap, pile (preferred term).
23	capacity — a measure of the rated volume of a	55	carbon black — a finely divided form of carbon
24	particular concrete mixer or agitator,	56	produced by the combustion or partial
25	usually limited by specifications to a	57	decomposition of hydrocarbon, used as an
26	maximum percentage of total gross	58	admixture to color concrete.
27	volume, also the output of concrete,		
28	aggregate, or other product per unit of time		
29	(as plant capacity of screen capacity), also		
30	ioau-carrying minit of a structure.		
31	capacity-reduction factor — see strength-		
32	reduction factor (preferred term).		

1	carbonation — reaction between carbon dioxide	29 cathodic protection — the form of corrosion
2	and a hydroxide or oxide to form a	30 protection wherein one metal is caused to
3	carbonate, especially in cement paste,	31 corrode in preference to another, thereby
4	mortar, or concrete; the reaction with	32 protecting the latter from corrosion.
5	calcium compounds to produce calcium	33 caulk — to place a material in a crack or joint with
6	carbonate.	the intent of retarding entry of dirt or water.
7	carbonation shrinkage — see shrinkage,	35 (See also filler, joint or sealant, joint.)
8	carbonation.	36 cavitation damage — see damage, cavitation.
9	cast-in-place — referring to a cementitious	37 celite — a name used to identify the calcium
10	mixture that is deposited in the place where	38 aluminoferrite constituent of portland
11	it is required to harden as part of the	39 cement. (See also alite , belite , felite , and
12	structure, as opposed to precast concrete.	40 brownmillerite.)
13	cast-in-place concrete — see concrete, cast-in-	41 cellular concrete — see concrete, cellular .
14	place.	42 cellular construction — see construction.
15	cast-in-place pile — see pile, cast-in-place.	43 cellular.
16	cast-in-situ — see cast-in-place (preferred term).	44 cement — any of a number of materials that are
17	cast stone — see stone, cast.	45 capable of binding aggregate particles
18	castable refractory — see refractory, castable.	46 together. (See also cement , hydraulic .)
19	catalyst, negative — a substance that slows a	47 cement, air-entraining hydraulic —
20	chemical reaction and which, itself, does	48 hydraulic cement containing
21	not enter into the reaction; inhibitor.	49 sufficient amounts of air-entraining
22	catface — blemish or rough depression in the	⁵⁰ agent to produce a cementitious
23	finish plaster coat caused by variations in	51 mixture containing entrained air
24	the base coat thickness.	52 within specified limits.
25	cathead — a notched wedge placed between two	53 cement, aluminous — see cement,
26	formwork members meeting at an oblique	54 calcium-aluminate (preferred
27	angle; a spindle on a hoist: the large. round	55 term).
28	retention nut used on she bolts.	56 cement, asphalt — asphalt that is refined
		57 to meet specifications for use in the
		58 manufacture of bituminous

59

pavements.

1	cement, bituminous — a black solid,	32	cement, chemically prestressing — a type
2	semisolid, or liquid substance at	33	of expansive cement containing a
3	natural air temperatures and	34	higher percentage of expansive
4	appreciably soluble only in carbon	35	component than a shrinkage-
5	disulfide or some volatile liquid	36	compensating cement, when used in
6	hydrocarbon, being composed of	37	concretes with adequate internal or
7	mixed indeterminate hydrocarbons	38	external restraint, that will expand
8	mined from natural deposits,	39	sufficiently, due to chemical
9	produced as a residue in the	40	reactions within the matrix, to
10	distillation of petroleum, or	41	develop the stresses necessary for
11	obtained by the destructive	42	prestressing the concrete. (See also
12	distillation of coal or wood.	43	cement, expansive.)
13	cement, blended — a hydraulic cement	44	cement, expanding — see cement,
14	essentially consisting of portland	45	expansive (preferred term).
15	cement, slag cement, or both,	46	cement, expansive — a cement that, when
16	uniformly mixed with each other or	47	mixed with water, produces a paste
17	a pozzolan through intergrinding or	48	that, after setting, increases in
18	blending.	49	volume to a significantly greater
19	cement, bulk — cement that is transported	50	degree than does portland-cement
20	and delivered in bulk (usually in	51	paste; used to compensate for
21	specially constructed vehicles)	52	volume decrease due to shrinkage
22	instead of in bags.	53	or to induce tensile stress in
23	cement, calcium-aluminate — the product	54	reinforcement (post-tensioning).
24	obtained by pulverizing clinker		
25	consisting essentially of hydraulic		
26	calcium aluminates resulting from		
27	fusing or sintering a suitably		
28	proportioned mixture of aluminous		
29	and calcareous materials; called		
30	high-alumina cement in the United		
31	Kingdom.		

1	1. cement, expansive, Type K — a	33	cement, high-fineness — a hydraulic
2	mixture of portland cement,	34	cement of substantially higher
3	anhydrous tetracalcium trialuminate	35	specific surface and substantially
4	sulfate (C ₄ A ₃ S), calcium sulfate	36	smaller mean particle diameter than
5	(CaSO ₄), and lime (CaO); the	37	typical for products of similar
6	C_4A_3S is a constituent of a	38	composition, produced by
7	separately burned clinker that is	39	additional grinding or by separation
8	interground with portland cement or	40	by particle size.
9	alternately, it may be formed	41	cement, hot — newly manufactured
10	simultaneously with the portland-	42	cement that has not had an
11	cement clinker compounds during	43	opportunity to cool after burning
12	the burning process;	44	and grinding of the component
13	2. cement, expansive, Type M —	45	materials.
14	interground or blended mixtures of	46	cement hydraulic — a binding material
15	portland cement, calcium-aluminate	40	that sets and hardens by chemical
16	cement, and calcium sulfate suitably	48	reaction with water and is canable
17	proportioned; and	49	of doing so underwater. For
18	3 cement, expansive, Type $S - a$	50	example portland cement and slag
19	portland cement containing a high	51	cement are hydraulic cements
20	computed tricalcium aluminate	50	compatible hydrophabic surply drated
21	$(C_{3}A)$ content and an amount of	52	cement, nyarophobic — unitydrated
22	calcium sulfate above the usual	53	reduced tendency to take up
23	amount found in portland cement	54	maisture
24	compart high alumina soc compart	55	moisture.
24	cement, ingi-atumna — see cement,	56	cement, Keene's — a cement composed of
25	torm)	57	finely ground, anhydrous, calcined
26	term).	58	gypsum, the set of which is
27	cement, high-early-strength — portland	59	accelerated by the addition of other
28	cement characterized by attaining a	60	materials.
29	given level of strength in mortar or		
30	concrete earlier than does normal		
31	portland cement; referred to in the		
32	United States as Type III.		

1	cement, low-alkali — a portland cement	31	cement, modified — a portland cement for
2	that contains a relatively small	32	use when either moderate heat of
3	amount of sodium or potassium or	33	hydration, moderate sulfate
4	both; in the United States a portland	34	resistance, or both, is desired, now
5	cement containing not more than	35	referred to as Type II (an obsolete
6	0.60 % Na ₂ O equivalent, that is,	36	term).
7	percent $Na_2O + 0.658 x$ percent	37	cement, natural — a hydraulic cement
8	$K_2O.$	38	produced by calcining an
9	cement, low-heat — a portland cement for	39	argillaceous limestone at a
10	use when a low heat of hydration is	40	temperature below the sintering
11	desired, referred to in United States	41	point and then grinding to a fine
12	as Type IV.	42	powder.
13	cement, masonry — a hydraulic cement	43	cement, nonstaining — a masonry cement
14	used for masonry and plastering	44	that contains not more than a
15	construction, containing one or	45	stipulated amount of water-soluble
16	more of the following materials:	46	alkali as measured by a stipulated
17	portland cement, slag cement,	47	test method.
18	portland-pozzolan cement, natural	48	cement, normal — general purpose
19	cement, slag cement, or hydraulic	49	portland cement, referred to in the
20	lime; and, in addition, usually	50	United States as Type I.
21	containing one or more materials	51	cement, oil-well — hydraulic cement
22	such as hydrated lime, limestone,	52	suitable for use under high pressure
23	chalk, calcareous shell, talc, slag, or	53	and temperature in sealing water
24	clay as prepared for this purpose.	54	and gas pockets and setting casing
25	cement, moderate sulfate-resisting — a	55	during the drilling and repair of
26	portland cement for use when either	56	wells; often contains retarders to
27	moderate sulfate resistance or	57	meet the requirements of use.
28	moderate heat of hydration or both		
29	is desired, now referred to as Type		
30	II.		

1	cement, ordinary portland — the term	32	cement, portland-pozzolan — a hydraulic		
2	used in the United Kingdom and	33	cement consisting of an intimate		
3	elsewhere to designate the	34	34and uniform blend of portland		
4	equivalent of American normal	35	35 cement or portland blast-furnace		
5	portland cement or Type I cement;	36	slag cement and fine pozzolan		
6	commonly abbreviated OPC.	37	produced by intergrinding portland-		
7	cement, plastic — a cement manufactured	38	cement clinker and pozzolan, by		
8	for plaster and stucco applications	39	blending portland cement or		
9	consisting of a blend of cement and	40	portland blast-furnace slag cement		
10	lime that may include pozzolans,	41	and finely divided pozzolan, or a		
11	fillers, or additives to increase	42	combination of intergrinding and		
12	plasticity, workability, and crack	43	blending, in which the pozzolan		
13	resistance of the cement and the	44	constituent is within specified		
14	plaster.	45	limits.		
15	cement, portland — a hydraulic cement	46	cement, regulated-set — a hydraulic		
16	produced by pulverizing clinker	47	cement containing fluorine-		
17	formed by heating a mixture,	48	substituted calcium aluminate,		
18	usually of limestone and clay, to	49	capable of very rapid setting.		
19	1400 to 1600 °C (2550 to 2900 °F).	50	cement, Roman — a misnomer for a		
20	Calcium sulfate is usually ground	51	hydraulic cement made by calcining		
21	with the clinker to control set.	52	52 a natural mixture of calcium		
22	cement, portland blast-furnace slag — a	53	carbonate and clay, such as		
23	hydraulic cement consisting of an	54	argillaceous limestone, to a		
24	intimately interground mixture of	55	temperature below that required to		
25	portland-cement clinker and	56	sinter the material but high enough		
26	granulated blast-furnace slag or an	57	to decompose the calcium		
27	intimate and uniform blend of	58	carbonate, followed by grinding; so		
28	portland cement and fine granulated	59	named because its brownish color		
29	blast-furnace slag in which the	60	resembles ancient Roman cements		
30	amount of the slag constituent is	61	produced by use of lime-pozzolan		
31	within specified limits.	62	mixtures.		

1	cement, self-stressing — see cement,	26	cement, supersulfated — a hydraulic		
2	expansive.	27	cement made by intimately		
3	cement, shrinkage-compensating — see	28	intergrinding a mixture of		
4	cement, expansive.	29	granulated blast-furnace slag,		
5	cement. slag — granulated blast-furnace	30	calcium sulfate, and a small amount		
6	slag that has been finely ground and	31	of lime, portland cement, or		
7	that is hydraulic cement	32	portland cement clinker; so named		
	and sticked compatible	33	because the equivalent content of		
8	develope low or zero flowshility	34	sulfate exceeds that for portland		
9	develops low of zero flowability	35	blast-furnace slag cement.		
10	during of after storage in shos, of	36	cement, white — portland cement that		
11	after transportation in bulk	37	hydrates to a white paste; made		
12	containers, nopper-bottom cars, etc.;	38	from raw materials of low iron		
13	may be caused by: (a) Interfocking	39	content, the clinker for which is		
14	of particles, (b) mechanical	40	fired by a reducing flame.		
15	ettraction between particles (See	41	cement-aggregate ratio — see ratio, aggregate-		
10	attraction between particles. (See	42	cement.		
17	aiso set, warenouse.)	40	arment headling and attaing its (areformed torm)		
18	cement, sulfate-resistant — portland	43	cement bacinus — see ettringite (preferred term).		
19	cement, low in tricalcium	44	cement-bound macadam — see macadam,		
20	aluminate, to reduce susceptibility	45	cement-bound.		
21	of concrete to attack by dissolved	46	cement content — quantity of cement contained		
22	sulfates in water or soils, designated	47	in a concrete, mortar, or grout preferably		
23	Type V in the United States.	48	expressed as mass per unit volume of		
24	cement, sulfoaluminate — see cement,	49	concrete, mortar, or grout.		
25	expansive, Type K.	50	cement factor — see cement content (preferred		
		51	term).		
		52	cement gel — see gel, cement.		
		53	cement gun — see gun, cement.		
		54	cement kiln — see kiln. cement		
		55	cement paint — see paint, cement.		

1	cement paste — binder of concrete and mortar	31	central-mixed concrete — see concrete, central-
2	consisting essentially of cement, water,	32	mixed.
3	hydration products, and any admixtures	33	central mixer — see mixer, central.
4	together with very finely divided materials	34	centrifugally cast concrete — see concrete,
5	included in the aggregates. (See also	35	centrifugally cast.
6	cement paste, neat).	36	centrifugal process — see process, centrifugal.
7	cement paste, neat — a plastic mixture of	27	coramic hand see hand coramic
8	hydraulic cement and water both before and	57	
9	after setting and hardening.	38	chair — see bar support (preferred term), bat.
10	cement plaster — see plaster and stucco.	39	chalk — a soft limestone composed chiefly of the
11	cement rock — natural impure limestone that	40	calcareous remains of marine organisms.
12	contains the ingredients for production of	41	chalking — formation of a loose powder resulting
13	portland cement in approximately the	42	from the disintegration of the surface of
14	required proportions.	43	concrete or of applied coating, such as
15	cementation process — the process of injecting	44	cement paint.
16	cement grout under pressure into certain	45	chamfer — either a beveled edge or corner formed
17	types of ground (for example, gravel,	46	in concrete work by means of a chamfer
18	fractured rock) to solidify it.	47	strip.
19	cementitious — having cementing properties.	48	chamfer strip — see strip, chamfer.
20	cementitious material — see material,	49	charge — to introduce, feed, or load materials into
21	cementitious.	50	a concrete or mortar mixer, furnace, or
22	cementitious mixture — a mixture (mortar.	51	other container or receptacle where they
23	concrete, or grout) containing hydraulic	52	will be further treated or processed.
24	cement.	53	checking — development of shallow cracks at
25	centering — falsework used in the construction of	54	closely spaced but irregular intervals on the
20	arches shells space structures or any	55	surface of plaster, cement paste, mortar, or
27	continuous structure where the entire	56	concrete. (See also cracks and crazing.)
_ <i>.</i> 28	falsework is lowered (struck or decentered)	57	chemical bond — see bond, chemical.
29	as a unit. (See also falsework and	58	chemically prestressing cement — see cement,
30	formwork.)	59	chemically prestressing.
	·		

1	chemically prestressing concrete — see	26	clay — natural mineral material having plastic
2	concrete, chemically prestressing.	27	properties and composed of very fine
3	chert — a very fine-grained siliceous rock	28	particles; the clay mineral fraction of a soil
4	characterized by hardness and conchoidal	29	is usually considered to be the portion
5	fracture in dense varieties, the fracture	30	consisting of particles finer than 2 m;
6	becoming splintery and the hardness	31	clay minerals are essentially hydrous
7	decreasing in porous varieties, and in a	32	aluminum silicates or occasionally hydrous
8	variety of colors; it is composed of silica in	33	magnesium silicates.
9	the form of chalcedony, cryptocrystalline or	34	clay, fire — an earthy or stony mineral aggregate
10	microcrystalline quartz, or opal, or	35	that has as the essential constituent hydrous
11	combinations of any of these minerals.	36	silicates of aluminum with or without free
12	chipping — treatment of a hardened concrete	37	silica, plastic when sufficiently pulverized
13	surface by chiseling.	38	and wetted, rigid when subsequently dried,
14	chips — broken fragments of marble or other	39	and of suitable refractoriness for use in
15	mineral aggregate screened to specified	40	commercial refractory products.
16	sizes.	41	clay content — mass fraction of clay of a
17	chord modulus — see modulus of elasticity	42	heterogeneous material, such as a soil or a
	chord modulus see modulus of clasticity.	43	natural concrete aggregate or crushed stone.
18	chute — a sloping trough of tube for conducting	44	cleanout — an opening in the forms for removal
19	concrete, cement, aggregate, or other free	45	of refuse, to be closed before the concrete
20	nowing materials from a higher to a lower	46	is placed; a port in tanks, bins, or other
21	point.	47	receptacles for inspection and cleaning.
22	clamp — see coupler (preferred term).	48	cleanup — treatment of horizontal construction
23	class (of concrete) — an arbitrary characterization	49	joints to remove surface material and
24	of concrete of various qualities or usages,	50	contamination down to a condition of
25	usually by compressive strength.	51	soundness corresponding to that of a
		52	freshly broken surface of hardened
		53	concrete.
		54	cleat — small board used to connect formwork
		55	members or used as a brace. (See also
		56	batten.)
		57	climbing form — see form, climbing.

1	clinker — a partially fused product of a kiln,	32	coat, finish —
2	which is ground to make cement; also other	33	(1) final thin coat of shotcrete in
3	vitrified or burnt material. (See also	34	preparation for hand finishing; and
4	clinker, portand-cement.)	35	(2) final exposed coat of plaster or
5	clinker, portland-cement — a partially fused	36	stucco.
6	ceramic material consisting primarily of	37	coat flash — a light coat of shotcrete used
7	hydraulic calcium silicates and calcium	20	to cover minor blemishes on a
8	aluminates. (See also clinker.)	30	concrete surface
9	clip — wire or sheet-metal device used to attach	57	the first sector of all stores and
10	various types of lath to supports or to	40	coat, scratch — the first coat of plaster or
11	secure adjacent lath sheets.	41	stucco applied to a surface in three-
12	closed-circuit grouting — see grouting, closed-	42	coat work, usually cross-raked of
13	circuit.	43	with the brown cost
11	coarso aggragata see aggragata coarso	44	with the brown coat.
14	toarse aggregate — see aggregate, toarse.	45 CO 3	ated bar — see bar, coated.
15	coarse-aggregate factor — see factor, coarse-	46 CO	ating —
	aggragata		
16	aggregate.	47	(a) (on concrete) — material applied to a
16	coarse-grained soil — see soil, coarse-grained.	47 48	(a) (on concrete) — material applied to a surface by brushing, dipping, mopping,
16 17 18	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied 	47 48 49	(a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve,
16 17 18 19	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. 	47 48 49 50	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the
16 17 18 19 20	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, 	47 48 49 50 51	(a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate;
16 17 18 19 20 21	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a 	47 48 49 50 51 52	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or
16 17 18 19 20 21 22	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire 	47 48 49 50 51 52 53	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to
16 17 18 19 20 21 22 23	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat 	47 48 49 50 51 52 53 54	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or
16 17 18 19 20 21 22 23 23 24	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. 	47 48 49 50 51 52 53 54 55	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material
16 17 18 19 20 21 22 23 24 25	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. coat, dash-bond — a thick slurry of 	47 48 49 50 51 52 53 54 55 55 56	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material used to protect a concrete surface from
16 17 18 19 20 21 22 23 24 25 26	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. coat, dash-bond — a thick slurry of portland cement, sand, and water 	47 48 49 50 51 52 53 54 55 56 56 57	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material used to protect a concrete surface from atmospheric contaminants and those that
 16 17 18 19 20 21 22 23 24 25 26 27 	 coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. coat, dash-bond — a thick slurry of portland cement, sand, and water flicked on surfaces with a paddle or 	47 48 49 50 51 52 53 54 55 56 57 58	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material used to protect a concrete surface from atmospheric contaminants and those that penetrate slightly and leave a visible clear
 16 17 18 19 20 21 22 23 24 25 26 27 28 	 aggregate. coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. coat, dash-bond — a thick slurry of portland cement, sand, and water flicked on surfaces with a paddle or brush to provide a base for 	47 48 49 50 51 52 53 54 55 56 57 58 59	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material used to protect a concrete surface from atmospheric contaminants and those that penetrate slightly and leave a visible clear or pigmented film on the surface. (See also
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 	 aggregate. coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. coat, dash-bond — a thick slurry of portland cement, sand, and water flicked on surfaces with a paddle or brush to provide a base for subsequent portland cement plaster 	47 48 49 50 51 52 53 54 55 56 57 58 59 60	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material used to protect a concrete surface from atmospheric contaminants and those that penetrate slightly and leave a visible clear or pigmented film on the surface. (See also sealer.)
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	 aggregate. coarse-grained soil — see soil, coarse-grained. coat — a film or layer as of paint or plaster applied in a single operation. coat, brown — the leveling coat of plaster, either the second coat of plaster in a three-coat application or the entire base coat of plaster in a two-coat application. coat, dash-bond — a thick slurry of portland cement, sand, and water flicked on surfaces with a paddle or brush to provide a base for subsequent portland cement plaster coats; sometimes used as a final 	47 48 49 50 51 52 53 54 55 56 57 58 59 60	 (a) (on concrete) — material applied to a surface by brushing, dipping, mopping, spraying, troweling, etc., to preserve, protect, decorate, seal, or smooth the substrate; (b) (on aggregate particles) — foreign or deleterious substances found adhering to the aggregate particles; or (c) (on architectural concrete) — material used to protect a concrete surface from atmospheric contaminants and those that penetrate slightly and leave a visible clear or pigmented film on the surface. (See also sealer.)

1	coating, polysulfide — a protective-	25	coefficient of subgrade reaction — ratio of: (1)
2	coating system prepared by polymerizing a	26	load per unit area of horizontal surface of a
3	chlorinated alkyl polyether with an	27	mass of soil, to (2) corresponding
4	inorganic polysulfide.	28	settlement of the surface; determined as the
5	coating, form — a liquid applied to	29	slope of the secant, drawn between the
6	formwork surfaces for a specific purpose;	30	point corresponding to zero settlement and
7	to promote easy release from the concrete,	31	the point of 0.05 in. (1.3 mm) settlement, of
8	to preserve the form material, or to retard	32	a load-settlement curve obtained from a
9	setting of the near-surface matrix for	33	plate load test on a soil using a 30 in. (762
10	preparation of exposed-aggregate finishes.	34	mm) or greater diameter loading plate; used
11	cobble — in geology, a rock fragment between 2-	35	in the design of concrete pavements by the
12	1/2 and 10 in. (64 and 256 mm) in	36	Westergaard method; also called subgrade
13	diameter; as applied to coarse aggregate for	37	modulus. (See also modulus of subgrade
14	concrete, the material in the nominal size	38	reaction.)
15	range 3 to 6 in. (75 to 150 mm).	39	coefficient of thermal expansion — change in
16	cobblestone — a rock fragment usually rounded	40	linear dimension per unit length or change
17	or semirounded with an average dimension	41	in volume per unit volume per degree of
18	between 3 and 12 in (75 and 300 mm)	42	temperature change.
10		43	coefficient of variation (V) — the standard
19	of friction between a slob and its subgrade	44	deviation expressed as a percentage of the
20	or method between a stab and its subgrade,	45	average. (See also standard deviation.)
21	to astimate the force induced in the slab due	46	cold-drawn wire reinforcement — see
22	to volume changes and elastic shortening if	47	reinforcement, cold-drawn wire.
23	prestressed	10	cold face the surface of a refractory section not
24	prestressed.	48	exposed to the source of heat: surface of
		49 50	concrete or masonry exposed to low
		50	ambient temperatures
		10	
		52	cold joint — see joint, cold.

1	cold-joint lines — visible lines on the surfaces of	32	coll
2	formed concrete indicating the presence of	33	colo
3	discontinuities where one layer of concrete	34	
4	had hardened before subsequent concrete	35	
5	was placed. (See also joint, cold.)	36	colu
6	cold strength — see strength, cold.	37	
7	cold-water paint — see paint, cold-water.	38	
8	cold weather — a period when the average daily	39	
9	ambient temperature is below 40 °F (5 °C)	40	
10	for more than three successive days. Note:	41	
11	The average daily temperature is the	42	
12	average of the highest and lowest	43	
13	temperature during the period from	44	
14	midnight to midnight. When temperatures	45	
15	above 50 °F (10 °C) occur during more	46	
16	than half of any 24-hour duration, the	47	
17	period shall no longer be regarded as cold	10	
18	weather.	40	
19	cold-worked steel reinforcement — see	47	
20	reinforcement, cold-worked steel.	50	
21	colemanite — a mineral, hydrated calcium borate	51	×
22	(Ca ₂ B ₆ O ₁₁ 5H ₂ O). (See also concrete ,	52	
23	boron-loaded.)	53	
24	colloid — a substance that is in a state of division	54	
25	preventing passage through a	55	
26	semipermeable membrane, consisting of	56	
27	particles ranging from 0.1 to 0.001 m in	57	
28	diameter.	58	
20	colloidal concreta see concreta colloidal	59	
27			
30	colloidal mixer — see mixer, colloidal.		
31	colloidal grout — see grout, colloidal.		

32	colloidal particle — see particle, colloidal.
33	colorimetric value — an indication of the amount
34	of organic impurities present in fine
35	aggregate.
36	column — member with a ratio of height-to-least
37	lateral dimension exceeding 3 used
38	primarily to support
39	axial compressive load.
40	column, composite — a concrete
41	compression member reinforced
42	longitudinally with structural steel shapes,
43	pipe, or tubing with or without longitudinal
44	reinforcing bars.
45	column, long — a column whose load
46	capacity is limited by buckling rather than
47	strength. (See also column, slender.)
48	column, pipe — column made of steel
49	pipe; often filled with concrete.
50	column, short — a column whose load
51	capacity is limited by strength rather than
52	buckling; a column that is customarily so
53	stocky and sufficiently restrained that at
54	least 95% of the cross-sectional strength
55	can be developed.
56	column, slender — a column whose load
57	capacity is reduced by the increased
58	eccentricity caused by secondary deflection

moments.
1	column, spirally reinforced — a column	31	compacting factor — the ratio obtained by
2	in which the vertical bars are enveloped by	32	dividing the observed mass of concrete that
3	spiral reinforcement, that is, closely spaced	33	fills a container of standard size and shape
4	continuous hooping.	34	when allowed to fall into it under standard
5	column, tied — a column laterally	35	conditions of test, by the mass of fully
6	reinforced with ties.	36	compacted concrete which fills the same
7	column capital — an enlargement of a column	37	container.
8	below a slab intended to increase the	38	compaction — the process of reducing the volume
9	shearing resistance.	39	of voids in a material such as soil by input
10	column clamp — any of various types of tying or	40	of mechanical energy (see also
11	fastening units to hold column form sides	41	consolidation).
12	together.	42	component, expansive — the portion of an
13	column side — one of the vertical panel	43	expansive cement that is responsible for the
14	components of a column form.	44	expansion, generally one of several
15	column strin the portion of a flat slab over the	45	anhydrous calcium aluminate or
15	column strip — the portion of a hat stab over the	46	sulfoaluminate compounds and a source of
16	columns and consisting of the two adjacent	47	sulfate, with or without free lime, (CaO);
17	quarter panels on each side of the column	48	the expansive component may be produced
18	center line.	49	separately and later ground or blended with
19	combined-aggregate grading — see grading,	50	a normal portland-cement clinker, in other
20	combined-aggregate.	51	instances, produced by firing in a kiln with
21	combined footing — see footing, combined.	52	the constituents of portland cement.
22	come-along —	53	composite — engineering materials—for example,
23	(1) a hoe-like tool with a blade	54	concrete or fiber reinforced polymer-
24	approximately 4 in. (100 mm) high and 20	55	made from two or more constituent
25	in. (500 mm) wide and curved from top to	56	materials that remain distinct, but combine
26	bottom, used for spreading concrete; or	57	to form materials with properties not
27	(2) a colloquial name for a device (load	58	possessed by any of the constituent
28	binder) used to tighten chains holding loads	59	materials individually; the constituent
29	in place on a truck bed.	60	materials are generally characterized as
30	compacted strand — see strand, compacted.	61	matrix and reinforcement or matrix and
30		62	aggregate.

1	composite column — see column, composite.	32 compression test — see test, compression.
2	composite concrete flexural members —	33 compressive strength — see strength, concrete
3	concrete flexural members consisting of	34 compressive .
4	concrete elements constructed in separate	35 compressive strength, average — the average
5	placements but so interconnected that the	36 compressive strength of a given class or
6	elements respond to loads as a unit.	37 strength level of concrete; in ACI 214,
7	composite construction — see construction,	defined as average compressive strength
8	composite.	required to statistically meet a designated
9	composite pile — see pile, composite.	40 specific strength.
10	composite sample — see sample, composite.	41 compressive stress — see stress.
11	compound, curing — a liquid that can be applied	42 concentric tendons — see tendons, concentric.
12	as a coating to the surface of newly placed	43 concordant tendon — see tendon, concordant.
13	concrete to retard the loss of water and, in	44 concrete — mixture of hydraulic cement,
14	the case of pigmented compounds, to	45 aggregates, and water, with or without
15	reflect heat so as to provide an opportunity	46 admixtures, fibers, or other cementitious
16	for the concrete to develop its properties in	47 materials.
17	a favorable temperature and moisture	48 concrete , aerated — see concrete ,
18	environment. (See also curing and curing,	49 foamed and concrete , cellular .
19	membrane.)	50 concrete. aluminate — concrete made
20	compound, joint-sealing — an impervious	51 with calcium-aluminate cement;
21	material used to fill joints in pavements or	52 used primarily where high-early-
22	structures.	53 strength and refractory or acid-
23	compound, sealing — see sealer.	54 resistant concrete is required.
24	compound, waterproofing — material used to	55 concrete, architectural — concrete that
25	impart water repellency to a structure or a	56 will be permanently exposed to
26	constructional unit.	57 view and therefore requires special
27	compression flange — see flange, compression.	58 care in selection of the concrete
28	compression member — see member,	59 materials, forming, placing, and
29	- compression.	60 finishing to obtain the desired
30	compression reinforcement — see	61 architectural appearance.
31	reinforcement, compression.	

1	concrete, asphaltic — a mixture of asphalt	21
2	cement and aggregate.	22
3	concrete, backfill — nonstructural	23
4	concrete used to correct over-	24
5	excavation, fill excavated pockets in	25
6	rock, or prepare a surface to receive	26
7	structural concrete.	27
8	concrete, boron-loaded — high density	28
9	concrete including a boron-	29
10	containing admixture or aggregate,	30
11	such as the mineral colemanite,	31
12	boron frits, or boron metal alloys, to	32
13	act as a neutron attenuator. (See	33
14	also biological shielding and	34
15	concrete, shielding.)	35
16	concrete, cast-in-place — concrete that is	36
17	deposited and allowed to harden in	37
18	the place where it is required to be	38
19	in the completed structure, as	39
20	opposed to precast concrete.	40
		41

concrete, cellular — a low-density product
consisting of portland cement,
cement-silica, cement-pozzolan,
lime-pozzolan, or lime-silica pastes,
or pastes containing blends of these
ingredients and having a
homogeneous void or cell structure,
attained with gas-forming chemicals
or foaming agents (for cellular
concretes containing binder
ingredients other than, or in addition
to, portland cement, autoclave
curing is usually employed).
concrete, central-mixed — concrete that is
completely mixed in a stationary
mixer from which it is transported
to the delivery point.
concrete, centrifugally cast — concrete
compacted by centrifugal action, for
example, in the manufacture of pipe
and poles. (See also process,
centrifugal.)
concrete, chemically prestressing —
concrete made with expansive
cement and reinforcement under
conditions such that the expansion
of the cement induces tensile stress
in the reinforcement so as to
produce prestressed concrete.
concrete, colloidal — concrete in which
the aggregate is bound by colloidal
grout.

2	concrete, commed — concrete containing	32	concrete, exposed — concrete surfaces
	closely spaced special transverse	33	formed so as to yield an acceptable
3	reinforcement that is provided to	34	texture and finish for permanent
4	restrain the concrete in directions	35	exposure to view. (See also
5	perpendicular to the applied stress.	36	concrete, architectural.)
6	concrete, cyclopean — mass concrete in	37	concrete, fair-face — a concrete surface
7	which large stones, each of 100 lb	38	that, on completion of the forming
8	(50 kg) or more, are placed and	39	process, requires no further
9	embedded in the concrete as it is	40	(concrete) treatment other than
10	deposited. (See also concrete,	41	curing. (See also concrete,
11	rubble.)	42	architectural.)
12	concrete, decorative — concrete that has	43	concrete, fiber-reinforced — concrete
13	received treatments to create	44	containing dispersed, randomly
14	aesthetic effects. These treatments	45	oriented fibers.
15	may include coloring, polishing,	46	concrete, fibrous — see concrete, fiber-
16	texturing, embossing, molding,	47	reinforced.
17	etching, applying cementitious	48	concrete, field — concrete delivered or
18	toppings, embedding items, or a	49	mixed, placed, and cured on the job
19	combination of these.	50	site.
20	concrete. dense — concrete containing a		
20		51	concrete, flowing — a cohesive concrete
20	minimum of voids.	51 52	concrete, flowing — a cohesive concrete mixture with a slump greater than 7-
20 21 22	minimum of voids. concrete, dry-packed — concrete placed	51 52 53	concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm).
20 21 22 23	minimum of voids. concrete, dry-packed — concrete placed by dry packing.	51 52 53	concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm).
20 21 22 23 24	minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy	51 52 53 54	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared
20 21 22 23 24 25	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder). fine 	51 52 53 54 55	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7-1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by concretion of any within
20 21 22 23 24 25 26	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder), fine aggregate and coarse aggregate 	51 52 53 54 55 56	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by generation of gas within the unhardened mixture
20 21 22 23 24 25 26 27	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder), fine aggregate, and coarse aggregate. (See also concrete polymer) 	51 52 53 54 55 56 57	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by generation of gas within the unhardened mixture.
20 21 22 23 24 25 26 27 28	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder), fine aggregate, and coarse aggregate. (See also concrete, polymer, mortar, epoxy and resins, epoxy) 	51 52 53 54 55 56 57 58	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by generation of gas within the unhardened mixture. concrete, fresh — concrete that posses
20 21 22 23 24 25 26 27 28	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder), fine aggregate, and coarse aggregate. (See also concrete, polymer, mortar, epoxy, and resins, epoxy.) 	51 52 53 54 55 56 57 58 59	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by generation of gas within the unhardened mixture. concrete, fresh — concrete that posses enough of its original workability so
20 21 22 23 24 25 26 27 28 29	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder), fine aggregate, and coarse aggregate. (See also concrete, polymer, mortar, epoxy, and resins, epoxy.) concrete (mortar or grout), expansive- 	51 52 53 54 55 56 57 58 59 60	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by generation of gas within the unhardened mixture. concrete, fresh — concrete that posses enough of its original workability so that it can be placed and
20 21 22 23 24 25 26 27 28 29 30	 minimum of voids. concrete, dry-packed — concrete placed by dry packing. concrete, epoxy — a mixture of epoxy resin and catalyst (binder), fine aggregate, and coarse aggregate. (See also concrete, polymer, mortar, epoxy, and resins, epoxy.) concrete (mortar or grout), expansive- cement — a concrete (mortar or 	51 52 53 54 55 56 57 58 59 60 61	 concrete, flowing — a cohesive concrete mixture with a slump greater than 7- 1/2 in. (190 mm). concrete, foamed — low-density concrete made by the addition of a prepared foam or by generation of gas within the unhardened mixture. concrete, fresh — concrete that posses enough of its original workability so that it can be placed and consolidated by the intended

1	concrete, gap-graded — concrete	33
2	containing a gap-graded aggregate.	34
3	concrete, gas — lightweight concrete	35
4	produced by developing voids with	36
5	gas generated within the fresh	37
6	mixture (usually from the action of	38
7	cement alkalies on aluminum	39
8	powder used as an admixture). (See	40
9	also concrete, foamed.)	41
10	concrete, granolithic — concrete suitable	42
11	for use as a wearing surface finish	43
12	to floors, made with specially	44
13	selected aggregate of suitable	45
14	hardness, surface texture, and	46
15	particle shape.	47
16	concrete, green — concrete that has set but	48
17	not hardened appreciably.	49
18	concrete, grouted-aggregate — see	50
19	concrete, preplaced-aggregate.	51
20	concrete, gypsum — concrete in which the	52
21	cementitious constituent is partially	53
22	dehydrated calcium sulfate (plaster).	54
23	concrete, hardened — concrete that has	55
24	developed sufficient strength to	56
25	serve some purpose or resist	57
26	breaking under stipulated loading.	58
27	concrete, heat-resistant — any concrete	59
28	that will not disintegrate when	60
29	exposed to constant or cyclic	61
30	heating at any temperature below	62
31	that at which a ceramic bond is	
32	formed.	

concrete, heavy — see concrete, high-
density (preferred term).
concrete, heavyweight — see concrete,
high-density (preferred term).
concrete, high-density — concrete of
substantially higher density than
that made using normal-density
aggregates, usually obtained by use
of high-density aggregates and used
especially for radiation shielding.
concrete, high-early-strength — concrete
which, through the use of high-
early-strength cement or
admixtures, attains a given level of
strength earlier than normal
concrete does.
concrete, high-strength — concrete that
has a specified compressive strength
for design of 8000 psi (55 MPa) or
greater.
concrete, high-performance — concrete
meeting special combinations of
performance and uniformity
requirements that cannot always be
achieved routinely using
conventional constituents and
normal mixing, placing, and curing
practices.
concrete, in-situ — see concrete, cast-in-
place (preferred term).

1	concrete, insulating — concrete having	29
2	low thermal conductivity; used as	30
3	thermal insulation. (See also	31
4	concrete, lightweight and	32
5	concrete, low-density.)	33
6	concrete, lean — concrete of low	34
7	cementitious material content.	35
8	concrete, lightweight — concrete of	36
9	substantially lower density than that	37
10	made using aggregates of normal	38
11	density. (See also concrete,	39
12	insulating and concrete, low-	40
13	density.)	41
14	concrete, low-density — concrete having	42
15	an oven-dry density of less than 50	43
16	lb/ft^3 (800 kg/m ³). (See also	44
17	concrete, insulating and concrete,	45
18	lightweight.)	46
19	concrete, mass — any volume of concrete	47
20	with dimensions large enough to	48
21	require that measures be taken to	49
22	cope with generation of heat from	50
23	hydration of the cement and	51
24	attendant volume change to	52
25	minimize cracking.	53
26	concrete, monolithic — concrete cast with	54
27	no joints other than construction	55
28	joints.	56
		57

concrete, negative-slump — concrete of a
consistency such that it not only has
zero slump but still has zero slump
after adding additional water. (See
also concrete, zero-slump and
concrete, no-slump.)
concrete, no-fines — a concrete mixture
containing little or no fine
aggregate.
concrete, nonair-entrained — concrete in
which neither an air-entraining
admixture nor air-entraining cement
has been used.
concrete, nonslip —
(1) a floor, pavement, or walkway
of concrete the surface of which has
been roughened, before final set,
either by sprinkling fine particles of
abrasive material thereon and then
troweling or by swirling with either
a coarse-bristled brush or a trowel;
or
(2) after final set, by acid etching,
mechanically abrading, or grooving.
concrete, normalweight — concrete
having a density of approximately
150 lb/ft ³ (2400 kg/m ³) made with
normal-density aggregates.
concrete, normalweight refractory —
refractory concrete having a bulk
density greater than 100 lb/ft ³ (1600
kg/m^3).

1	concrete, no-slump — freshly mixed	31	cono
2	concrete exhibiting a slump of less	32	
3	than 1/4 in. (6 mm). (See also	33	
4	concrete, zero-slump and	34	
5	concrete, negative-slump.)	35	
6	concrete, pervious – concrete containing	36	
7	little, if any fine aggregate that	37	conc
8	results in a sufficient voids to allow	38	
9	air and water to easily pass from the	39	conc
10	surface to underlying layers.	40	
11	concrete, plain — structural concrete with	41	conc
12	no reinforcement or with less	42	
13	reinforcement than the minimum	43	
14	amount specified in the applicable	44	
15	building code for reinforced	45	
16	concrete.	46	
17	concrete. polymer — concrete in which an		cond
17		47	COIR
18	organic polymer serves as the	47 48	cont
18 19	organic polymer serves as the binder.	47 48 49	CON
18 19 20	organic polymer serves as the binder. concrete, polymer-cement — a mixture	47 48 49 50	CON
18 19 20 21	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and	47 48 49 50 51	CON
18 19 20 21 22	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of	47 48 49 50 51 52	COIR
18 19 20 21 22 23	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or	47 48 49 50 51 52 53	COIR
18 19 20 21 22 23 24	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or polymers that are dispersed in	47 48 49 50 51 52 53 54	CON
18 19 20 21 22 23 24 25	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or polymers that are dispersed in water.	47 48 49 50 51 52 53 54 55	CON
 18 19 20 21 22 23 24 25 26 	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or polymers that are dispersed in water. concrete, polymer-impregnated — a	47 48 49 50 51 52 53 54 55 54	con
 18 19 20 21 22 23 24 25 26 27 	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or polymers that are dispersed in water. concrete, polymer-impregnated — a hydrated portland-cement concrete	47 48 49 50 51 52 53 54 55 56 57	cond
 18 19 20 21 22 23 24 25 26 27 28 	organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or polymers that are dispersed in water. concrete, polymer-impregnated — a hydrated portland-cement concrete that has been impregnated with a	47 48 49 50 51 52 53 54 55 56 57 58	cond
 18 19 20 21 22 23 24 25 26 27 28 29 	 organic polymer serves as the binder. concrete, polymer-cement — a mixture comprising hydraulic cement and aggregate combined at the time of mixing with organic monomers or polymers that are dispersed in water. concrete, polymer-impregnated — a hydrated portland-cement concrete that has been impregnated with a monomer that is subsequently 	47 48 49 50 51 52 53 54 55 56 57 58 59	cond
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concrete, popcorn — no-fines concrete
containing insufficient cement paste
to fill voids among the coarse
aggregate so that the particles are
bound only at points of contact.
(See also concrete, no-fines.)
concrete, precast — concrete cast
elsewhere than its final position.
concrete, prepacked — see concrete,
preplaced-aggregate.
concrete, preplaced-aggregate —
concrete produced by placing coarse
aggregate in a form and later
injecting a portland cement-sand
grout, usually with admixtures, to
fill the voids.
concrete (mortar, grout), preshrunk —
(1) concrete that has been mixed for
a short period in a stationary mixer
before being transferred to a transit
mixer, or
(2) grout, mortar, or concrete that
has been mixed one to three hours
before placing to reduce shrinkage
during hardening.
concrete, prestressed — Structural
concrete in which internal stresses
have been introduced to reduce
potential tensile stresses in concrete
resulting from loads.

1	concrete, pumped — concrete which is	32	concrete, roller-compacted —
2	transported through hose or pipe by	33	compacted by roller com
3	means of a pump.	34	concrete that, in its unhan
4	concrete, ready mixed — concrete	35	state, will support a roller
5	manufactured for delivery to a	36	being compacted.
6	purchaser in a fresh state. (See also	37	concrete, rubble —
7	concrete, central-mixed; concrete,	38	1. concrete similar to cyc
8	shrink-mixed; and concrete,	39	concrete except that small
9	transit-mixed.)	40	(such as one person can h
10	concrete, recycled — hardened concrete	41	used.
11	that has been processed for reuse,	42	2. concrete made with rul
12	usually as aggregate.	43	demolished structures. (S
13	concrete, refractory — hardened	44	concrete, cyclopean.)
14	hydraulic-cement concrete that has	45	concrete, sand-lightweight — c
15	refractory properties and that is	46	made with a combination
16	suitable for use at temperatures	47	expanded clay, shale, sla
17	between 600 and 2400 °F (315 to	48	or sintered fly ash and na
18	1315 °C).	49	its density is generally be
19	concrete, refractory-insulating —	50	and 120 lb/ft ³ (1680 and
20	refractory concrete having low	51	kg/m^3).
21	thermal conductivity.	52	concrete, sawdust — concrete i
22	concrete, reinforced — structural concrete	53	the aggregate consists ma
23	reinforced with no less than the	54	sawdust from wood.
24	minimum amount of prestressing	55	concrete. self-consolidating —
25	steel or nonprestressed	56	concrete that can flow are
26	reinforcement as specified in the	57	reinforcement and consol
27	applicable building code.	58	within formwork under it
28	concrete, resin — see concrete, polymer	59	weight without vibration
29	(preferred term).	60	exhibits no defect due to
30	concrete, rich — concrete of high cement	61	segregation or bleeding.
31	content. (See also concrete, lean.)		

concrete, roller-compacted — concrete
compacted by roller compaction;
concrete that, in its unhardened
state, will support a roller while
being compacted.
concrete, rubble —
1. concrete similar to cyclopean
concrete except that small stones
(such as one person can handle) are
used.
2. concrete made with rubble from
demolished structures. (See also
concrete, cyclopean.)
concrete, sand-lightweight — concrete
made with a combination of
expanded clay, shale, slag, or slate
or sintered fly ash and natural sand;
its density is generally between 105
and 120 lb/ft ³ (1680 and 1920
kg/m^3).
concrete, sawdust — concrete in which
the aggregate consists mainly of
sawdust from wood.
concrete, self-consolidating — fresh
concrete that can flow around
reinforcement and consolidate
within formwork under its own
weight without vibration and that

1	concrete (mortar or grout), self-stressing	30	concrete, siliceous-aggregate — concrete
2	- expansive-cement concrete	31	made with normal-density
3	(mortar or grout) in which	32	aggregates having constituents
4	expansion, if restrained, induces	33	composed mainly of silica or
5	persistent compressive stresses in	34	silicates.
6	the concrete (mortar or grout); also	35	concrete, sprayed — see shotcrete
7	known as chemically prestressed	36	(preferred term).
8	concrete.	37	concrete. spun — see concrete.
9	concrete, shielding — concrete, employed	38	centrifugally cast (preferred term).
10	as a biological shield to attenuate or	20	concrete structural — plain or reinforced
11	absorb nuclear radiation, usually	40	concrete in a member that is part of
12	characterized by high density or	40	a structural system required to
13	high hydrogen (water) content or	42	transfer gravity and/or lateral loads
14	boron content, having specific	43	along a load path to the ground
15	radiation attenuation effects. (See		accorde at water val light weight
16	also biological shielding .)	44	concrete, structural agnetic made with low
17	concrete, shrink-mixed — ready mixed	45	density aggregate: having on sir dry
18	concrete mixed partially in a	40	density of not more than 115 lb/ft^3
19	stationary mixer and then mixed in	47	(1850 kg/m^3) and a 28 day
20	a truck mixer. (See also concrete,	40	compressive strength of more than
21	preshrunk.)	49 50	$2500 \text{ psi} (17.2 \text{ MP}_2)$
22	concrete, shrinkage-compensating —	50	2300 psi (17.2 ivii a).
23	concrete containing expansive	51	concrete, subaqueous — see concrete,
24	components usually based on	52	underwater.
25	formation of calcium	53	concrete, terrazzo — marble-aggregate
26	sulfoaluminate (ettringite) in a	54	concrete that is cast-in-place or
27	mixture of calcium aluminate and	55	precast and ground smooth for
28	gypsum. (See also cement,	56	decorative surfacing purposes on
29	expansive.)	57	floors and walls.
		58	concrete, transit-mixed — concrete, the
		59	mixing of which is wholly or
		60	principally accomplished in a truck

61

mixer.

1	concrete, translucent — a combination of	32	concrete breaker — a compressed-air tool
2	glass and concrete used together in	33	specially designed and constructed to break
3	precast and prestressed panels.	34	up concrete.
4	concrete, truck-mixed — see concrete,	35	concrete brick — see brick, concrete.
5	transit-mixed.	36	concrete cart — see buggy.
6	concrete, underwater — concrete placed	37	concrete containment structure — a composite
7	underwater by tremie or other	38	concrete and steel assembly that is designed
8	means.	39	as an integral part of a pressure retaining
9	concrete, unhardened — see concrete,	40	barrier, which in an emergency prevents the
10	fresh (preferred term).	41	release of radioactive or hazardous
11	concrete, unreinforced — see concrete,	42	effluents from nuclear power plant
12	plain.	43	equipment enclosed therein.
13	concrete, vacuum — concrete from which	44	concrete finishing machine — a machine
14	excess water and entrapped air are	45	mounted on flanged wheels that ride on the
15	extracted by a vacuum process	46	forms or on specially set tracks, used to
16	before hardening occurs.	47	finish surfaces such as those of pavements;
17	concrete , vermiculite — concrete in which	48	or a portable power-driven machine for
18	the aggregate consists of exfoliated	49	floating and finishing of floors and other
19	vermiculite.	50	slabs.
20	concrete, vibrated — concrete	51	concrete flatwork — see flatwork, concrete.
21	consolidated by vibration during	52	concrete masonry unit — see masonry unit,
22	and after placing.	53	concrete.
23	concrete, visual — see concrete, exposed	54	concrete paver — see paver, concrete.
24	and concrete, architectural.	55	concrete pile — see pile, cast-in-place and pile,
25	concrete, zero-slump — concrete of stiff	56	precast.
26	or extremely dry consistency	57	concrete pump — see pump, concrete.
27	showing no measurable slump after		
28	removal of the slump cone. (See		
29	also slump; concrete, no-slump;		
30	and concrete , negative-slump .)		
31	concrete block — see block, concrete.		

1	concrete reactor vessel — a composite concrete
2	and steel assembly that functions as a
3	component of the principal pressure-
4	containing barrier for the nuclear fuel's
5	primary heat extraction fluid (primary
6	coolant).
7	concrete, specified compressive strength of (f_c')
8	- compressive strength of concrete used in
9	design.
10	concrete spreader — see spreader, concrete.
11	concrete strength — see strength, concrete
12	compressive; strength, fatigue; strength,
13	flexural; strength, shear; strength,
14	splitting tensile; strength, tensile; and
15	strength, ultimate.
16	concrete vibrating machine — a machine that
17	consolidates a layer of freshly mixed
	concrete by vibration
18	concrete by vibration.
18 19	condensed silica fume — see silica fume
18 19 20	condensed silica fume — see silica fume (preferred term).
18 19 20 21	<pre>condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow</pre>
 18 19 20 21 22 	condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a
 18 19 20 21 22 23 	condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the
 18 19 20 21 22 23 24 	 condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the body surfaces; the thermal conductance is
 18 19 20 21 22 23 24 25 	 condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the body surfaces; the thermal conductance is the reciprocal of the thermal resistance.
 18 19 20 21 22 23 24 25 26 	 condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the body surfaces; the thermal conductance is the reciprocal of the thermal resistance. conductivity, thermal — the property (of a
 18 19 20 21 22 23 24 25 26 27 	 condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the body surfaces; the thermal conductance is the reciprocal of the thermal resistance. conductivity, thermal — the property (of a homogeneous body) measured by the ratio
 18 19 20 21 22 23 24 25 26 27 28 	 condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the body surfaces; the thermal conductance is the reciprocal of the thermal resistance. conductivity, thermal — the property (of a homogeneous body) measured by the ratio of the steady-state heat flux (time-rate of
 18 19 20 21 22 23 24 25 26 27 28 29 	 condensed silica fume — see silica fume (preferred term). conductance, thermal — time rate of heat flow through a unit area of body induced by a unit temperature difference between the body surfaces; the thermal conductance is the reciprocal of the thermal resistance. conductivity, thermal — the property (of a homogeneous body) measured by the ratio of the steady-state heat flux (time-rate of heat flow per unit area) to the temperature.

cone, flow — a device for measurement of grout consistency in which a predetermined volume of grout is permitted to escape through a precisely sized orifice, the time of efflux (flow factor) being used as the indication of consistency; also the mold used to prepare a specimen for the flow test.

cone, pyrometric — a small, slender,
three-sided oblique pyramid made of
ceramic or refractory material for use in
determining the time-temperature effect of
heating and in obtaining the pyrometric
cone equivalent (PCE) of refractory
material.

cone, slump — a mold in the form of the lateral surface of the frustum of a cone with a base diameter of 8 in. (203 mm), top diameter 4 in. (102 mm), and height 12 in. (305 mm), used to fabricate a specimen of freshly mixed concrete for the slump test; a cone 6 in. (152 mm) high is used for tests of freshly mixed mortar and stucco.

cone bolt — a type of tie rod for wall forms with cones at each end inside the forms so that a bolt can act as a spreader as well as a tie.

confined concrete — see **concrete, confined**.

- **confined region** region with transverse
- 59 reinforcement within beam-column joints.

1	connection, scarf — a connection made by	31	(2) the consistency of cement paste
2	precasting, beveling, halving, or notching	32	satisfying appropriate limits defined
3	two pieces to fit together; after overlapping,	33	in a standard test method (for
4	the pieces are secured by bolts or other	34	example, ASTM C 187).
5	means.	35	consistency, plastic —
6	consistency — the degree to which a freshly	36	(1) the consistency at which a
7	mixed concrete, mortar, grout, or cement	37	mixture subjected to a constant
8	paste resists deformation. (See also	38	stress undergoes increasing
9	consistency, normal; consistency, plastic;	39	deformation without rupture; or
10	and consistency, wettest stable.)	40	(2) the consistency at which mixture
11	consistency, flowable — the consistency at	41	properties satisfy appropriate limits
12	which a grout will form a nearly	42	defined in a standard test method.
13	level surface when lightly rodded;	43	consistency, wettest stable — the
14	the consistency of a grout with at	44	condition of maximum water
15	least 125% at five drops on the	45	content at which cement grout and
16	ASTM C 230 flow table and an	46	mortar will adhere to a vertical
17	efflux time through the ASTM C	47	surface without sloughing.
18	939 flow cone of more than 30	19	consistency factor — a measure of grout fluidity
19	seconds.	40	roughly analogous to viscosity, which
20	consistency, fluid — the consistency at	50	describes the ease with which grout may be
21	which a grout will form a nearly	51	numped into voids or fissures: usually a
22	level surface without vibration or	52	laboratory measurement in which
23	rodding; the consistency of a grout	52	consistency is reported in degrees of
24	that has an efflux time of less than	54	rotation of a torque viscosimeter in a
25	30 seconds from the ASTM C 939	55	specimen of grout
26	flow cone.	55	specificition of grout.
27	consistency, normal —	56 57	consistemeter — an apparatus for measuring the consistency of cement pastes, mortars,
28	1) the consistency exhibited when a	58	grouts or concretes
29	mixture is considered acceptable for	00	
30	the purpose at hand; or		

1	consolidation — the process of reducing the	33	
2	volume of entrapped air in a fresh	34	construction, structural sandwich — a
3	cementitious mixture, usually accomplished	35	laminar construction comprising a
4	by inputting mechanical energy. (See also	36	combination of alternating
5	compaction, vibration, rodding, and	37	dissimilar simple or composite
6	tamping.)	38	materials assembled and intimately
7	construction —	39	fixed in relation to each other so as
8	construction, alternate-lane — a method	40	to use the properties of each to
9	of constructing soil-supported	41	attain specific structural and thermal
10	concrete roads, runways, building	42	advantages for the whole assembly.
11	floors, or other paved areas, in	43	construction joint — see joint, construction.
12	which alternate lanes are placed and	44	construction loads — the loads to which a
13	allowed to harden before the	45	permanent or temporary structure is
14	remaining intermediate lanes are	46	subjected during construction.
15	placed.	47	contact ceiling — a ceiling that is secured in direct
16	construction, cellular — a method of	48	contact with the construction above without
17	constructing concrete elements in	49	use of furring.
18	which part of the interior concrete is	50	contact pressure — pressure acting at and
19	replaced by voids.	51	nernendicular to the contact area between
20	construction, composite — a type of	52	soil and a concrete element
21	construction using members	52	aantaat anliga aaa anliga aantaat
22	produced by combining different	53	contact space — see space, contact.
23	materials (for example, concrete	54	containment grouting — see grouting,
24	and structural steel), members	55	perimeter.
25	produced by combining cast-in-	56	continuous beam — see continuous slab or
26	place and precast concrete, or cast-	57	beam.
27	in-place concrete elements	58	continuous footing — see footing, continuous.
28	constructed in separate placements	59	continuous grading — see grading, continuous.
29	but so interconnected that the	60	continuous mixer — see mixer, continuous
30	combined components act together	/ 1	aontinuous mixing soo mixing continuous
31	as a single member and respond to	01	continuous mixing — see mixing, continuous.
32	loads as a unit.	62	continuous sampling — see sampling,
		63	continuous.

1	continuous slab or beam — a slab or beam that	30 conv	eyor — a device for moving materials;
2	extends as a unit over three or more	31	usually a continuous belt, an articulated
3	supports in a given direction.	32	system of buckets, a confined screw, or a
4	continuously reinforced pavement — a	33	pipe through which material is moved by
5	pavement with uninterrupted longitudinal	34	air or water.
6	steel reinforcement and no intermediate	35 copi i	ng — the material or units used to form a cap
7	transverse expansion or contraction joints.	36	or finish on top of a wall, pier, pilaster, or
8	contract documents — see documents, contract.	37	chimney.
9	contraction — decrease in either length or	38 coqu	ina — a type of limestone formed of sea
10	volume. (See also expansion; shrinkage;	39	shells in loose or weakly cemented
11	swelling; volume change; and volume	40	condition, found along present or former
12	change, autogenous.)	41	shorelines; used as a calcareous raw
13	contraction, thermal — see thermal contraction.	42	material in cement manufacture and other
14	contraction joint — see joint contraction	43	industrial operations.
. –		44 corb	el - a projection from the face of a beam,
15	contraction-joint grouting — see grouting,	45	girder, column, or wall used as a beam seat
16	contraction-joint.	46	or a decoration.
17	contractor — the person, firm, or corporation with	47 core	(<i>n</i> .) —
18	whom the owner enters into an agreement	48	(1) the soil material enclosed within a
19	for construction of the work.	10	(1) the soft indecide criteriosed within a
20	control joint — see joint, contraction (preferred	50	replaced with concrete).
21	term).	50	
22	control-joint grouting — see grouting,	51	(2) the mandrel used for driving casings for
23	contraction-joint.	52	cast-in-place piles;
24	controlled low-strength material (CLSM) —	53	(3) a structural shape used to internally
25	self-consolidating cementitious mixture	54	reinforce a drilled-in-caisson;
26	that is intended to result in a compressive	55	(4) a cylindrical sample of hardened
20	strength of 1200 psi (8.3 MPa) or less	56	concrete or rock obtained by means of a
27		57	core drill;
28	conveying nose — see nose, delivery (preferred	58	(5) the molded open space in a concrete
29	term).	59	masonry unit or precast concrete unit (see
		60	also blockout); or

1	(6) the area enclosed by ties or spiral	32	coupler —
2	reinforcement in a concrete column.	33	(1) a device for connecting reinforcing bars
3	core (v.) — the act of obtaining cores from	34	or prestressing tendons end to end;
4	concrete structures, rock foundations, or	35	(2) a device for locking together the
5	soils.	36	component parts of a tubular metal scaffold
6	core test — compression test on a concrete sample	37	(also known as a clamp); or
7	cut from hardened concrete by means of a	38	(3) internal threaded device for joining
8	core drill.	39	reinforcing bars with matching threaded
9	cored beam — a beam whose cross section is	40	ends for the purpose of providing transfer
10	partially hollow or a beam from which	41	of either axial compression or axial tension
11	cored samples of concrete have been taken.	42	or both from one bar to the other. (See also
12	coring — the act of obtaining cores from hardened	43	coupling sleeve, end-bearing sleeve,
13	concrete or masonry structures, rock, or	44	mechanical connection.)
14	soil.	45	coupling agent — a substance used between the
15	corner reinforcement — see reinforcement,	46	transducer and test surface to permit or
16	corner.	47	improve transmission of ultrasonic energy.
17	corrosion — destruction of metal by chemical,	48	coupling pin — an insert device used to connect
18	electrochemical, or electrolytic reaction	49	lifts or tiers or formwork scaffolding
19	within its environment.	50	vertically.
20	corrosion, bacterial — destruction of a material	51	coupling sleeve — device fitting over the ends of
21	by bacterial processes brought about by the	52	two reinforcing bars for the eventual
22	activity of certain bacteria that consume the	53	purpose of providing transfer of either axial
23	material and produce substances, such as	54	compression or axial tension or both from
24	hydrogen sulfide, ammonia, and sulfuric	55	one bar to the other. (See also coupler,
25	acid.	56	end-bearing sleeve, mechanical
26	corrosion inhibitor — a chemical compound,	57	connection.)
27	either liquid or powder, usually intermixed	58	course — in concrete construction, a horizontal
28	in concrete and sometimes applied to	59	layer of concrete, usually one of several
29	concrete, and that effectively decreases	60	making up a lift; in masonry construction, a
30	corrosion of steel reinforcement.	61	horizontal layer of block or brick. (See also
21	cotton mats — see mats, cotton.	62	lift.)

1	cover — the least distance between the surface of	37
2	embedded reinforcement and the surface of	32
3	the concrete.	33
4	cover block — see spacer and spreader	34
5	(preferred terms).	35
6	crack — a complete or incomplete separation, of	36
7	either concrete or masonry, into two or	37
8	more parts produced by breaking or	38
9	fracturing. (See also fracture.)	39
10	crack, diagonal — in a flexural member,	4(
11	an inclined crack caused by shear	4
12	stress, usually at about 45 degrees	42
13	to the axis; or a crack in a slab, not	43
14	parallel to either the lateral or	44
15	longitudinal directions.	45
16	crack, hairline — a concrete surface crack	46
17	with a width so small as to be barely	47
18	perceptible.	48
19	crack, longitudinal — a crack that	49
20	develops parallel to the length of a	50
21	member.	51
22	crack, plastic-shrinkage — surface crack	52
23	that occurs in concrete prior to	53
24	initial set.	54
25	crack, shrinkage — crack due to restraint	55
26	of shrinkage.	56
27	crack, transverse — a crack that crosses	57
28	the longer dimension of the member.	
	č	

29 crack-control reinforcement — see

30 reinforcement, crack-control.

cracked section — a section designed or analyzed 1 2 on the assumption that concrete has no resistance to tensile stress. 3 4 cracking cracking, diagonal — development of 5 diagonal cracks. (See also tension, 6 diagonal.) 7 cracking, map ---8 (1) intersecting cracks that extend below 9 the surface of hardened concrete; caused by n. shrinkage of the drying surface concrete that is restrained by concrete at greater depths where either little or no shrinkage 3 occurs; vary in width from fine and barely 4 5 visible to open and well-defined; or (2) the chief symptom of chemical reaction 6 between alkalies in cement and mineral constituents in aggregate within hardened concrete: due to differential rate of volume change in different portions of the concrete; cracking is usually random and on a fairly large scale, and in severe instances the 2 cracks may reach a width of 0.50 in. (12.7 3 mm). (See also checking, crazing; also 4 known as pattern cracking.) 5 cracking, pattern — see cracks, and 6 cracking, map. 7

1	cracking, shrinkage — cracking of a	32	craze cracks — see cracks, craze.
2	structure or member due to failure	33	crazing — the development of craze cracks; the
3	in tension caused by external or	34	pattern of craze cracks existing in a surface.
4	internal restraints as reduction in	35	(See also checking and cracks .)
5	moisture content develops,	36	creep — time-dependent deformation due to
6	carbonation occurs, or both.	37	sustained load. (See also deformation ,
7	cracking, stress-corrosion — a cracking	38	inelastic.)
8	process that requires the	39	creen. basic — creep that occurs without
9	simultaneous action of a corrodent	40	migration of moisture to or from the
10	and sustained tensile stress. (This	41	concrete. (See creep; creep, drying.)
11	excludes corrosion-reduced sections	12	croon drying croon caused by drying
12	that fail by fast fracture; also	42	(See also green and green basic)
13	excludes intercrystalline or	43	(See also creep and creep, basic.)
14	transcrystalline corrosion that can	44	creep, nonrecoverable — the residual or
15	disintegrate an alloy without either	45	nonreversible deformation remaining in
16	applied or residual stress).	46	hardened concrete after removal of
17	cracking, temperature — cracking due to	47	sustained load.
18	tensile failure, caused by	48	crimped wire — see wire, crimped.
19	temperature drop in members	49	critical saturation — see saturation, critical.
20	subjected to external restraints or by	50	cross bracing — crossing members usually
21	temperature differential in members	51	designed to act only in tension, often used
22	subjected to internal restraints.	52	in scaffolding systems. (See also sway
23	cracking load — see load, cracking.	53	brace and X-brace.)
24	cracks —	54	cross joint — see joint, cross.
25	cracks, craze — fine random cracks or	55	cross section — a plane through a body
26	fissures in a surface of plaster, cement	56	perpendicular to a given axis of the body; a
27	paste, mortar, or concrete.	57	drawing showing such a plane.
28	cracks, D-line — see D-cracks (preferred	58	cross-tee — a light-gage metal member
29	term.)	59	resembling an upside-down "tee" used to
30	cracks, pattern — see cracks and	60	support the abutting ends of formboards in
31	cracking, map.	61	insulating concrete roof constructions.

1	crush plate — an expendable strip of wood
2	attached to the edge of a form or
3	intersection of fitted forms, to protect the
4	form from damage during prying, pulling,
5	or other stripping operations. (See also
6	strip, wrecking.)
7	crushed gravel — see gravel, crushed.
8	crushed stone — see stone, crushed.
9	crusher —
10	crusher, primary — a heavy crusher
11	suitable for the first stage in a process of
12	size reduction of rock, slag, or the like.
13	crusher, secondary — a crusher used for
14	the second stage in a process of size
15	reduction of aggregate and the like. (See
16	also crusher, primary .)
17	crusher-run aggregate — see aggregate,
18	crusher-run.
19	C/S — the molar or mass ratio, whichever is
20	specified, of calcium oxide (CaO) to silicon
21	dioxide (SiO ₂); usually of binder materials
22	cured in an autoclave.
23	cube strength — see strength, cube.
24	cubical piece (of aggregate) — one in which
25	length, breadth, and thickness are
26	approximately equal.
27	cumulative batching — see batching,
28	cumulative.

29	curb form — a retainer or mold used in
30	conjunction with a curb tool to give the
31	necessary shape and finish to a concrete
32	curb.
33	curb tool — a tool used to give the desired finish
34	and shape to the exposed surfaces of a
35	concrete curb.
36	curing — action taken to maintain moisture and
37	temperature conditions in a freshly placed
38	cementitious mixture to allow hydraulic
39	cement hydration and (if applicable)
40	pozzolanic reactions to occur so that the
41	potential properties of the mixture may
42	develop. (See ACI 308.)
43	curing, adiabatic — the maintenance of
43 44	curing, adiabatic — the maintenance of adiabatic conditions in concrete or
43 44 45	curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period.
43 44 45 46	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam —
43 44 45 46 47	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products
 43 44 45 46 47 48 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure,
 43 44 45 46 47 48 49 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient
 43 44 45 46 47 48 49 50 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F
 43 44 45 46 47 48 49 50 51 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F (40 to 95 °C).
 43 44 45 46 47 48 49 50 51 52 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F (40 to 95 °C). curing, autoclave — curing of concrete
 43 44 45 46 47 48 49 50 51 52 53 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F (40 to 95 °C). curing, autoclave — curing of concrete products in an autoclave at
 43 44 45 46 47 48 49 50 51 52 53 54 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F (40 to 95 °C). curing, autoclave — curing of concrete products in an autoclave at maximum ambient temperature
 43 44 45 46 47 48 49 50 51 52 53 54 55 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F (40 to 95 °C). curing, autoclave — curing of concrete products in an autoclave at maximum ambient temperature generally between 340 to 420 °F
 43 44 45 46 47 48 49 50 51 52 53 54 55 56 	 curing, adiabatic — the maintenance of adiabatic conditions in concrete or mortar during the curing period. curing, atmospheric-pressure steam — steam curing of concrete products or cement at atmospheric pressure, usually at maximum ambient temperature between 100 to 200 °F (40 to 95 °C). curing, autoclave — curing of concrete products in an autoclave at maximum ambient temperature generally between 340 to 420 °F (170 to 215 °C).

1	curing, electrical — a system in which a	30	curing, membrane — a process that
2	favorable temperature is maintained	31	involves either liquid sealing
3	in freshly placed concrete by	32	compound (for example bituminous
4	supplying heat generated by	33	and paraffinic emulsions, coal tar
5	electrical resistance.	34	cut-backs, pigmented and non
6	curing, final — deliberate action taken	35	pigmented resin suspensions, or
7	between the final finishing and	36	suspension of wax and drying oil)
8	termination of curing to reduce the	37	or nonliquid protective coating (for
9	loss of water from the surface of the	38	example, sheet plastics or
10	concrete and control the	39	"waterproof" paper), both of which
11	temperature of the concrete.	40	types function as a film to restrict
12	curing, fog —	41	evaporation of mixing water from
10	(1) storage of concrete in a moist	42	concrete surfaces.
13	room in which the desired high	43	curing, moist-air — curing in air of not
14	humidity is achieved by the	44	less than 95% relative humidity at
15	atomization of water (see also moist	45	atmospheric pressure and normally
10	room): and	46	at a temperature approximating 73
17		47	°F (23 °C).
18	(2) application of atomized water to	48	curing, single-stage — autoclave curing
19	concrete, stucco, mortar, or plaster.	49	process in which precast concrete
20	curing, high-pressure steam — see	50	products are put on metal pallets for
21	curing, autoclave (preferred term).	51	autoclaving and remain there until
22	curing, initial — deliberate action taken	52	stacked for delivery or yard storage.
23	between placement and final finishing of	52	curing standard — exposure of test
24	concrete to reduce the loss of water from	54	specimens to specified conditions of
25	the surface of the concrete.	55	moisture and temperature (See also
26	curing, low-pressure steam — see curing,	56	curing fog)
27	atmospheric-pressure steam.	50	······································
28	curing, mass — adiabatic curing in sealed		
29	containers.		

1	curing, steam — curing of concrete,	32	curvature friction — friction resulting from bends
2	mortar, grout, or neat-cement paste	33	or curves in the specified prestressing cable
3	in water vapor at atmospheric or	34	profile.
4	higher pressures and at temperatures	35	curve, grading — a graphical representation of the
5	between about 100 and 420 °F (40	36	proportions of different particle sizes in a
6	and 215 °C). (See also curing,	37	granular material; obtained by plotting the
7	atmospheric-pressure steam;	38	cumulative or individual percentages of the
8	curing, autoclave; curing, single-	39	material passing through sieves in which
9	stage; and curing, two-stage.)	40	the aperture sizes form a given series.
10	curing, two-stage — a process in which	41	cutting screed — see screed, cutting.
11	concrete products are cured in low-	42	cycle, autoclave — the time interval between the
12	pressure steam, stacked, and then	43	start of the temperature-rise period and the
13	autoclaved.	44	end of the blowdown period; also, a
14	curing agent — see agent, curing.	45	schedule of the time and temperature-
15	curing blanket — see blanket, curing.	46	pressure conditions of periods which make
16	curing compound — see compound, curing.	47	up the cycle.
17	curing cycle — see cycle, autoclave and steam-	48	cyclopean concrete — see concrete, cyclopean.
17 18	curing cycle — see cycle, autoclave and steam- curing cycle.	48 49	cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete
17 18 19	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming 	48 49 50	cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting
17 18 19 20	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). 	48 49 50 51	cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile.
17 18 19 20 21	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. 	48 49 50 51 52	<pre>cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are</pre>
 17 18 19 20 21 22 	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and 	48 49 50 51 52 53	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as
 17 18 19 20 21 22 23 	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. 	48 49 50 51 52 53 54	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the
 17 18 19 20 21 22 23 24 	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. 	48 49 50 51 52 53 54 55	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when
 17 18 19 20 21 22 23 24 25 	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. curling — out-of-plane deformation of the corners_edges_and surface of a payement_slab_or 	48 49 50 51 52 53 54 55 56	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when supporting forms may be removed,
 17 18 19 20 21 22 23 24 25 26 	 curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. curling — out-of-plane deformation of the corners, edges, and surface of a pavement, slab, or wall panel from its original shape. (See also 	48 49 50 51 52 53 54 55 56 57	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when supporting forms may be removed, additional construction loads may be
 17 18 19 20 21 22 23 24 25 26 27 	<pre>curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. curling — out-of-plane deformation of the corners, edges, and surface of a pavement, slab, or wall panel from its original shape. (See also warning)</pre>	48 49 50 51 52 53 54 55 56 57 58	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when supporting forms may be removed, additional construction loads may be imposed, or the structure may be placed in
 17 18 19 20 21 22 23 24 25 26 27 28 	<pre>curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. curing — out-of-plane deformation of the corners, edges, and surface of a pavement, slab, or wall panel from its original shape. (See also warping.)</pre>	48 49 50 51 52 53 54 55 56 57 58 59	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when supporting forms may be removed, additional construction loads may be imposed, or the structure may be placed in service.
 17 18 19 20 21 22 23 24 25 26 27 28 29 	<pre>curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. curing — out-of-plane deformation of the corners, edges, and surface of a pavement, slab, or wall panel from its original shape. (See also warping.) curtain grouting — see grouting, curtain.</pre>	48 49 50 51 52 53 54 55 56 57 58 59 60	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when supporting forms may be removed, additional construction loads may be imposed, or the structure may be placed in service.
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	<pre>curing cycle — see cycle, autoclave and steam- curing cycle. curing delay — see period, presteaming (preferred term). curing kiln — see curing, autoclave. curing membrane — see membrane curing and curing compound. curing compound. curling — out-of-plane deformation of the corners, edges, and surface of a pavement, slab, or wall panel from its original shape. (See also warping.) curtain grouting — see grouting, curtain. curtain reinforcement — see reinforcement,</pre>	48 49 50 51 52 53 54 55 56 57 58 59 60 61	 cyclopean concrete — see concrete, cyclopean. cylinder strength — see strength, concrete compressive and strength, splitting tensile. cylinders, field-cured — test cylinders that are left at the jobsite for curing as nearly as practicable in the same manner as the concrete in the structure to indicate when supporting forms may be removed, additional construction loads may be imposed, or the structure may be placed in service.

1	damage, abrasion — wearing away of a surface b	33	D-cracks — a series of cracks in concrete near and
2	rubbing and friction. (See also damage,	34	roughly parallel to joints, and edges.
3	cavitation and erosion.)	35	dead end — in the stressing of a tendon from one
4	damage, cavitation — pitting of concrete caused	36	end only, the end opposite that to which the
5	by implosion, that is, the collapse of vapor	37	load is applied.
6	bubbles in flowing water which form in	38	dead-end anchorage — see anchorage, dead-
7	areas of low pressure and collapse as they	39	end.
8	enter areas of higher pressure. (See also	40	dead load — see load, dead.
9	damage, abrasion, and erosion.)	11	deadman — an anchor for a guy line usually a
10	damp — either partial saturation or moderate	41	beam block or other heavy item buried in
11	covering of moisture; implies less wetness	42	the ground to which a line is attached
12	than that connoted by "wet" and slightly	+5	
13	wetter than that connoted by "moist." (See	44	debonding — (1) preventing bond of prestressing
14	also moist and wet .)	45	for the set of the set
15	dampproofing — treatment of concrete or mortar	46	interface between a substrate and a
16	to retard the passage or absorption of water,	47	strongthoning or rongir system
17	or water vapor, either by application of a	48	strengthening of repair system.
18	suitable coating to exposed surfaces, or by	49	decenter — to lower or remove centering or
19	use of a suitable admixture or treated	50	shoring.
20	cement, or by use of a pre-formed film such	51	deck — the form on which concrete for a slab is
21	as polyethylene sheets placed on grade	52	placed, also the floor or roof slab itself.
22	before placing a slab. (See also vapor	53	(See also deck, bridge.)
23	barrier.)	54	deck, bridge —the structural concrete slab or
24	darby — a hand-manipulated straightedge, usually	55	other structure that is supported on the
25	3 to 8 ft (1 to 2.5 m) long, used in the early	56	bridge superstructure and serves as the road
26	stage leveling operations of concrete or	57	way or other traveled surface.
27	plaster, preceding supplemental floating	58	decking — sheathing material for a deck or slab
28	and finishing.	59	form.
29	dash-bond coat — see coat, dash-bond.	60	deflected tendons — see tendons, deflected.
30	davit — a device used to support and swing the		
31	access covers away from openings of		
32	vessels and tanks.		

1	deflection — movement of a point on a structure	30	deformation, time-dependent — deformation
2	or structural element, usually measured as a	31	resulting from effects such as autogenous
3	linear displacement or a succession	32	volume change, thermal contraction or
4	displacements transverse to a reference line	33	expansion, creep, shrinkage, and swelling,
5	or axis.	34	each of which is a function of time.
6	deflection, dowel — deflection caused by the	35	deformed bar — see bar, deformed.
7	transverse load imposed on a dowel.	36	deformed plate — see plate, deformed.
8	deformation — a change in dimension or shape.	37	deformed reinforcement — see reinforcement,
9	(See also contraction; expansion; creep;	38	deformed.
10	length change; volume change;	39	deformed tie bar — see bar, tie.
11	shrinkage; deformation, inelastic;	40	degree hour a mangura of strength gain of
12	deformation, time-dependent.)	40	degree-nour — a measure of strength gain of
13	deformation, anchorage — the loss of elongation	41	temperature multiplied by time for a
14	or stress in the tendons of prestressed	42	specific interval (See also factor
15	concrete due to the deformation or seating	43	maturity)
16	of the anchorage when the prestressing	44	
17	force is transferred from the jack to the	45	dehydration — removal of chemically bound,
18	anchorage; known also as anchorage loss.	46	adsorbed, or absorbed water from a
19	deformation, elastic — elastic deformation	47	material.
20	proportional to the applied stress. (See also	48	deicer — a chemical, such as sodium or calcium
21	deformation.)	49	chloride, used to melt ice or snow on slabs
22	deformation inclustic non electic deformation	50	and pavements, such melting being due to
22	not properticul to the applied stress (See	51	depression of the freezing point.
23	also deformation: aroon: deformation	52	delamination — a planar separation in a material
24	also denormation, creep, deformation,	53	that is roughly parallel to the surface of the
25	time-dependent.)	54	material.
26	deformation, nonreversible — see creep,	55	delay — see period, presteaming.
27	nonrecoverable.		
28	deformation, residual — see creep,		
29	nonrecoverable.		

1	delayed ettringite formation — a form of sulfate	32	density control — control of density of
2	attack by which mature hardened concrete	33	concrete in field construction to
3	is damaged by internal expansion during	34	ensure that specified values as
4	exposure to cyclic wetting and drying in	35	determined by standard tests are
5	service and caused by the late formation of	36	obtained.
6	ettringite; not because of excessive sulfate;	37	density, dry-rodded — mass per unit
7	not likely to occur unless the concrete has	38	volume of dry aggregate compacted
8	been exposed to temperatures during curing	39	by rodding under standardized
9	of 160 °F (70 °C) or greater; and less likely	40	conditions; used in measuring
10	to occur in concrete made with pozzolan or	41	density of aggregate.
11	slag cement. (See also ettringite.)	42	density (dry) — the mass per unit volume
12	delivery hose — see hose, delivery.	43	of a dry substance at a stated
13	demold — to remove molds from concrete test	44	temperature. (See also specific
14	specimens or precast products. (See also	45	gravity, absolute.)
15	strip.)	46 (depth, effective — depth of a beam or slab section
	dance concrete and concrete dance	47	measured from the compression face to the
16	dense concrete — see concrete, dense.	47	incasured noin the compression face to the
16 17	dense-graded aggregate — see aggregate, dense-	47	centroid of the tensile reinforcement.
16 17 18	dense-graded aggregate — see aggregate, dense- graded.	47 48 49 (centroid of the tensile reinforcement.
16 17 18 19	<pre>dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense- graded. density — mass per unit volume (preferred over</pre>	47 48 49 50	<pre>centroid of the tensile reinforcement. lesign — design, elastic — a method of analysis in</pre>
 16 17 18 19 20 	<pre>dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense- graded. density — mass per unit volume (preferred over deprecated term unit weight.)</pre>	47 48 49 50 51	design, elastic — a method of analysis in which the design of a member is
 16 17 18 19 20 21 	<pre>dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense- graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material</pre>	47 48 49 50 51 52	design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain
 16 17 18 19 20 21 22 	<pre>dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense- graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any</pre>	47 48 49 50 51 52 53	design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding
 16 17 18 19 20 21 22 23 	 dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense-graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume 	47 48 49 50 51 52 53 54	design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the
 16 17 18 19 20 21 22 23 24 	 dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense-graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and 	47 48 49 50 51 52 53 54 55	 design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material.
 16 17 18 19 20 21 22 23 24 25 	 dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense-graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and permeable voids in the material. 	47 48 49 50 51 52 53 54 55 56	 design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material. design, probabilistic — method of design
 16 17 18 19 20 21 22 23 24 25 26 	 dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense-graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and permeable voids in the material. (See also specific gravity, 	47 48 49 50 51 52 53 54 55 56 56 57	 design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material. design, probabilistic — method of design of structures using the principles of
 16 17 18 19 20 21 22 23 24 25 26 27 	 dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense-graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and permeable voids in the material. (See also specific gravity, absolute.) 	47 48 49 50 51 52 53 54 55 56 57 58	 design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material. design, probabilistic — method of design of structures using the principles of statistics (probability) as a basis for
 16 17 18 19 20 21 22 23 24 25 26 27 28 	<pre>dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense- graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and permeable voids in the material. (See also specific gravity, absolute.) density, fired — the density of refractory</pre>	47 48 49 50 51 52 53 54 55 56 57 58 59	 design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material. design, probabilistic — method of design of structures using the principles of statistics (probability) as a basis for evaluation of structural safety.
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 	<pre>dense concrete — see concrete, dense. dense-graded aggregate — see aggregate, dense- graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and permeable voids in the material. (See also specific gravity, absolute.) density, fired — the density of refractory concrete, upon cooling, after having</pre>	47 48 49 50 51 52 53 54 55 56 57 58 59	 Incastice from the compression face to the centroid of the tensile reinforcement. design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material. design, probabilistic — method of design of structures using the principles of statistics (probability) as a basis for evaluation of structural safety.
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	 dense-graded aggregate — see aggregate, dense-graded. density — mass per unit volume (preferred over deprecated term unit weight.) density, bulk — the mass of a material (including solid particles and any contained water) per unit volume including impermeable and permeable voids in the material. (See also specific gravity, absolute.) density, fired — the density of refractory concrete, upon cooling, after having been exposed to a specified firing 	47 48 49 50 51 52 53 54 55 56 57 58 59	 design — design, elastic — a method of analysis in which the design of a member is based on a linear stress-strain relationship and corresponding limiting elastic properties of the material. design, probabilistic — method of design of structures using the principles of statistics (probability) as a basis for evaluation of structural safety.

1	design, working-stress — a method of	32 development length — see length , development .
2	proportioning either structures or	33 device, anchorage — see anchorage (preferred
3	members for prescribed service	34 term).
4	loads at stresses well below the	35 device, extension — any device, other than an
5	ultimate, and assuming linear	36 adjustment screw, used to obtain vertical
6	distribution of flexural stresses and	adjustment of shoring towers.
7	strains. (See also design, elastic.)	38 devil's float — see float, devil's
8	design load — see load, design.	20 diagonal arealy see arealy diagonal
9	design strength — see strength, design.	39 diagonal crack — see crack, diagonal.
10	detail, emulative — a connection in which the	40 diagonal cracking — see cracking, diagonal.
11	structural performance is equivalent to that	41 diagonal tension — see tension, diagonal.
12	of a continuous member or a monolithic	42 diameter, equivalent fiber — diameter of a circle
13	connection.	43 having an area equal to the average cross-
14	detail. jointed — a connection where the bending	44 sectional area of a fiber.
15	stiffness differs from that of the members	45 diametral compression test — see splitting
16	and requires special design to collect,	46 tensile test .
17	transfer, and redistribute forces from one	47 diamond mesh — see mesh, diamond.
18	member to another through the connection.	48 diatomaceous earth — a friable earthy material
19	deterioration —	49 composed primarily of nearly pure hydrous
20	(1) physical manifestation of failure of a	50 amorphous silica (opal) in the form of
21	material (for example, cracking,	51 frustules of the microscopic plants called
22	delamination, flaking, pitting, scaling,	52 diatoms.
23	spalling, staining) caused by environmental	53 dicalcium silicate — a compound having the
24	or internal autogenous influences on rock	54 composition 2CaQ SiO ₂ , abbreviated C
25	and hardened concrete as well as other	55 S, an impure form of which (belite) occurs
26	materials; or	56 in portland-cement clinker. (See also
27	(2) decomposition of material during either	57 belite .)
28	testing or exposure to service. (See also	
29	disintegration and weathering.)	
30	development bond stress — see stress,	
31	anchorage bond.	

1	differential thermal analysis (DTA) — indication	30	dispersant — a material that deflocculates or
2	of thermal reaction by differential	31	disperses finely ground materials by
3	thermocouple recording of temperature	32	satisfying the surface energy requirements
4	changes in a sample under investigation	33	of the particles; used as a slurry thinner or
5	compared with those of a thermally passive	34	grinding aid.
6	control sample, that are heated uniformly	35	dispersant agent — an agent capable of
7	and simultaneously.	36	increasing the fluidity of pastes, mortars, or
8	diffusivity, thermal — thermal conductivity	37	concretes by reduction of inter-particle
9	divided by the product of specific heat and	38	attraction.
10	density; an index of the facility with which	39	distortion — see deformation.
11	a material undergoes temperature change.	40	distress — physical manifestation of cracking and
12	dilation — an expansion of concrete during	41	distortion in a concrete structure as the
13	cooling or freezing generally calculated as	42	result of stress, chemical action, or both.
14	the maximum deviation from the normal	12	distribution has rainforcomant see
15	thermal contraction predicted from the	43	reinforcement distribution-bar
16	length change-temperature curve or length	44	
17	change-time curve established at	45	divider strips — see strips, divider.
18	temperatures before initial freezing.	46	D-line cracks — see D-cracks (preferred term).
19	diluent — a substance, liquid or solid, mixed with	47	documents, contract — a set of documents
20	the active constituents of a formulation to	48	supplied by the owner to the contractor as
21	increase the bulk or lower the	49	the basis for construction. These documents
22	concentration.	50	contain contract forms, contract conditions,
23	direct dumping — discharge of concrete directly	51	specifications, drawings, addenda, and
24	into place from crane bucket or mixer.	52	contract changes.
25	discoloration — departure of color from that	53	dolomite — a mineral having a specific crystal
26	which is normal or desired	54	structure and consisting of calcium
20	disintegration advetion into anoll frequents	55	carbonate and magnesium carbonate in
27	and subsequently into particles (See class	56	equivalent chemical amounts which are
28	dotorioration and weathering)	57	54.27 and 45.73 % by mass, respectively; a
29	deterioration and weathering.)	58	rock containing dolomite as the principal
		50	agnetityant

1	dolomite, hard-burned — the product of heating	32 d a	owel-bar reinforcement — see dowel.
2	dolomitic rock at temperatures high enough	33 d a	wel deflection — see deflection, dowel.
3	to change the magnesium carbonate to	34 d a	owel lubricant — see lubricant, dowel.
4	magnesium oxide, a constituent that slowly	25 da	vwal rod — see rod dowal
5	expands on reaction with water.	50 u t	Jwei rou — scc rou, uowei.
6	dome — square prefabricated pan form used in	36 d r	ainage fill —
7	two-way (waffle) concrete joist floor	37	(1) base course of granular material placed
8	construction.	38	between floor slab and sub-grade to impede
9	double-headed nail — a nail with two heads at, or	39	capillary rise of moisture; or
10	near, one end to permit easy removal;	40	(2) also, lightweight concrete placed on
11	widely used in concrete formwork.	41	floors or roofs to promote drainage.
12	double-tee beam — see beam, double-tee.	42 dr	raped tendons — see tendons, deflected
13	double-up — a method of plastering characterized	43	(preferred term).
14	by application in successive operations	44 dr	ried strength — see strength, dried.
15	with no setting or drying time between	45 dr	ier — chemical that promotes oxidation or
16	coats.	46	drying of a paint or adhesive.
17	doughnut (donut) — a large washer of any shape	47 dr	rilled pier — see pier, drilled.
18	to increase bearing area of bolts and ties;	48 dr	in - a transverse groove in the underside of a
19	also a round concrete spacer with hole in	49	projecting piece of wood, stone, or concrete
20	the center to hold bars the desired distance	50	to prevent water from flowing back to a
21	from the forms.	51	wall.
22	dowel —	52 dr	onchute — a device used to confine or to direct
23	(1) a steel pin, commonly a plain or coated	53	the flow of a falling stream of fresh
24	round steel bar that extends into adjoining	54	concrete.
25	portions of a concrete construction, as at an	55	(1) dropchute_articulated — a device
26	expansion or contraction joint in a	56	consisting of a succession of tapered metal
27	pavement slab, so as to transfer shear loads;	57	cylinders so designed that the lower end of
28	or	58	each cylinder fits into the upper end of the
29	(2) a deformed reinforcing bar intended to	59	one below; or
30	transmit tension, compression, or shear		
31	through a construction joint.		

1	(2) dropchute, flexible — a device	30	dry-tamp process — see packing, dry (preferred
2	consisting of a heavy rubberized canvas or	31	term).
3	plastic collapsible tube.	32	dry topping — see dry-shake (preferred term).
4	drop-in beam — see beam, drop-in.	33	dry-volume measurement — measurement of the
5	drop panel — see panel, drop.	34	ingredients of grout, mortar, or concrete by
6	drop-panel form — see form, drop-panel.	35	their bulk volume.
7	dry-batch weight — see weight, dry-batch.	36	drying creep — see creep, drying.
8	dry-cast process — see process, dry-cast.	37	drying shrinkage — see shrinkage, drying.
9	dry mix — see mix, dry.	38	duct — a hole formed in a concrete member to
10	dry-mix shotcrete — see shotcrete, dry-mix.	39	accommodate a tendon for post-tensioning;
11	dry mixing — see mixing, dry.	40	a pipe or runway for electric, telephone, or
12	dry nack — see nack. dry	41	other utilities.
12	dry nackad concrata see concrata dry	42	ductility — that property of a material by virtue of
13	ury-packed concrete — see concrete, ury-	43	which it may undergo large permanent
14	раскец.	44	deformation without rupture.
15	dry packing — see packing, dry.	45	dummy joint — see joint, construction and joint,
15 16	dry packing — see packing, dry. dry process — see process, dry.	45 46	dummy joint — see joint, construction and joint, groove.
15 16 17	dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded.	45 46 47	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the
15 16 17 18	dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded.	45 46 47 48	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or
15 16 17 18 19	dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see	45 46 47 48 49	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the
 15 16 17 18 19 20 	dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded.	45 46 47 48 49 50	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture.
 15 16 17 18 19 20 21 	<pre>dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see</pre>	45 46 47 48 49 50 51	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist
 15 16 17 18 19 20 21 22 	<pre>dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see</pre>	45 46 47 48 49 50 51 52	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack,
 15 16 17 18 19 20 21 22 23 	<pre>dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special</pre>	45 46 47 48 49 50 51 52 53	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service.
 15 16 17 18 19 20 21 22 23 24 	<pre>dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special metallic) that is distributed evenly over the</pre>	45 46 47 48 49 50 51 52 53 54	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability.
 15 16 17 18 19 20 21 22 23 24 25 	<pre>dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see</pre>	45 46 47 48 49 50 51 52 53 54 55	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability. dust of fracture (in aggregate) — rock dust
 15 16 17 18 19 20 21 21 22 23 24 25 26 	 dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special metallic) that is distributed evenly over the surface of concrete flatwork and worked into the surface before time of final setting 	45 46 47 48 49 50 51 52 53 54 55 56	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability. dust of fracture (in aggregate) — rock dust created during production processing or
 15 16 17 18 19 20 21 21 22 23 24 25 26 27 	 dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special metallic) that is distributed evenly over the surface of concrete flatwork and worked into the surface before time of final setting and then floated and troweled to desired 	45 46 47 48 49 50 51 52 53 54 55 56 57	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability. dust of fracture (in aggregate) — rock dust created during production processing or handling.
 15 16 17 18 19 20 21 21 22 23 24 25 26 27 28 	 dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special metallic) that is distributed evenly over the surface of concrete flatwork and worked into the surface before time of final setting and then floated and troweled to desired finish; the mixture either may or may not 	45 46 47 48 49 50 51 52 53 54 55 56 57 58	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability. dust of fracture (in aggregate) — rock dust created during production processing or handling. dusting — the development of a powdered
 15 16 17 18 19 20 21 21 22 23 24 25 26 27 28 29 	 dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special metallic) that is distributed evenly over the surface of concrete flatwork and worked into the surface before time of final setting and then floated and troweled to desired finish; the mixture either may or may not contain pigment. 	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability. dust of fracture (in aggregate) — rock dust created during production processing or handling. dusting — the development of a powdered material at the surface of hardened
 15 16 17 18 19 20 21 21 22 23 24 25 26 27 28 29 	 dry packing — see packing, dry. dry process — see process, dry. dry-rodded density — see density, dry-rodded. dry-rodded volume — see volume, dry-rodded. dry-rodded weight — deprecated term; see density, dry-rodded. dry rodding — see rodding, dry. dry-shake — a dry mixture of hydraulic cement and fine aggregate (either natural or special metallic) that is distributed evenly over the surface of concrete flatwork and worked into the surface before time of final setting and then floated and troweled to desired finish; the mixture either may or may not contain pigment. 	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60	 dummy joint — see joint, construction and joint, groove. Dunagan analysis — a method of separating the ingredients of freshly mixed concrete or mortar to determine the proportions of the mixture. durability — the ability of a material to resist weathering action, chemical attack, abrasion, and other conditions of service. durability factor — see factor, durability. dust of fracture (in aggregate) — rock dust created during production processing or handling. dusting — the development of a powdered material at the surface of hardened concrete.

1	dye, fugitive — see fugitive dye.	28	edge, feather — a wood or metal tool
2	dynamic analysis — see analysis, dynamic.	29	having a beveled edge and used to
3	dvnamic load — see load, dvnamic	30	straighten re-entrant angles in finish
4	dynamia loading and loading dynamia	31	plaster coat; also the edge of a
4	dynamic loading — see loading, dynamic.	32	concrete or mortar patch or topping
5	dynamic modulus of elasticity — see modulus of	33	that is beveled at an acute angle.
6	elasticity, dynamic.	34	edge, pressed — edge of a footing along
7		35	which the greatest soil pressure
8	— E —	36	occurs under conditions of
9	early age (of concrete) — the period after final	37	overturning.
10	setting, during which properties are	38	edge-bar reinforcement — see reinforcement,
11	changing rapidly. For a typical Type I	39	edge-bar.
12	portland cement concrete moist cured at	40	edge beam — see beam, edge.
13	room temperature, this period is	41	edge form — see form, edge.
14	approximately 7 days.	12	edger — a finishing tool used on the edges of fresh
15	early-entry dry-cut saw — a tool designed to	42	concrete to provide a rounded edge
16	produce joints in concrete commencing 1 to	+J	
17	4 hours after finishing and without raveling	44	edging — the operation of tooling the edges of a
18	the cut edges.	45	iresh concrete siab to provide a rounded
19	early strength — see strength, early.	46	comer.
20	early stiffening — see stiffening, early.	47	effective area of concrete — area of a concrete
21	earth nigments — the class of nigments that are	48	section assumed to resist shear or flexural
21	produced by physical processing of	49	stresses.
23	materials mined directly from the earth:	50	effective area of reinforcement — the area
24	also frequently termed natural or mineral	51	obtained by multiplying the right cross-
25	pigments or colors.	52	sectional area of the metal reinforcement by
24	agaantria tandan saa tandan agaantria	53	the cosine of the angle between its
26	eccentric tendon — see tendon, eccentric.	54	centroidal axis and the direction for which
27	edge —	55	its effectiveness is considered.
		56	effective depth — see depth, effective.
		57	effective flange width — see width, effective
		58	flange.

1	effective prestress — see prestress, effective.	30
2	effective span — see span, effective.	31
3	effective width of slab — that part of the width of	32
4	a slab taken into account when designing	33
5	T- or L-beams.	34
6	efflorescence — a generally white deposit formed	35
7	when water-soluble compounds emerge in	36
8	solution from concrete, masonry, or plaster	37
9	substrates and precipitate by reaction such	38
10	as carbonation or crystallize by	39
11	evaporation.	40
12	elastic deformation — see deformation, elastic.	41
13	elastic design — see design, elastic.	42
14	elastic limit — see limit, elastic.	43
15	elastic loss — see loss, elastic.	44
16	elastic modulus — see modulus of elasticity	45
17	(preferred term).	40
18	elastic shortening — see shortening, elastic.	47
10	elasticity — that property of a material by virtue	48
20	of which it tends to recover its original size	50
20	and shape after deformation	50
21		51
22	electrical curing — see curing, electrical.	52
23	electrolysis — production of chemical changes by	53
24	the passage of current through an	54
25	electrolyte.	55
26	electrolyte — a conducting medium in which the	56
27	flow of current is accompanied by	57
28	movement of matter; usually an aqueous	58
29	solution.	

0	elephant trunk — an articulated tube or chute
1	used in concrete placement. (See also
2	dropchute and tremie.)
3	elongated piece (of aggregate) — particle of
4	aggregate for which the ratio of the length
5	to the width of its circumscribing
6	rectangular prism is greater than a specified
7	value. [See also flat piece (of aggregate)]
8	elongation — increase in length. (See also
9	expansion; shortening, elastic; and
0	swelling.)
1	embedment length — see length, embedment.
2	embedment-length equivalent — the length of
3	embedded reinforcement which can
4	develop the same stress as that which can
5	be developed by a hook or mechanical
6	anchorage.
7	emery — a rock consisting essentially of an
8	intercrystalline mixture of corundum and
9	either magnetite or hematite; also
0	manufactured aggregate composed of
1	emery used to produce a wear-and slip-
2	resistant concrete floor surface. (See also
3	dry-shake.)
4	emulation — designing precast elements and their
5	structural connections to perform as if the
6	structure was a conventional cast-in-place
7	concrete structure.
8	emulative detail — see detail, emulative.

1	emulsion — a two-phase liquid system in which	30	equivalent fiber diameter — see diameter,
2	small droplets of one liquid (the internal	31	equivalent fiber.
3	phase) are immiscible in, and dispersed	32	equivalent rectangular stress-distribution — an
4	uniformly throughout, a second continuous	33	assumption of uniform stress on the
5	liquid phase (the external phase).	34	compression side of the neutral axis in the
6	encastré — the end fixing of a built-in beam.	35	strength method of design to determine
7	enclosure wall — see wall, enclosure.	36	flexural capacity.
8	encrustation — see incrustation (preferred term).	37	erosion — progressive disintegration of a solid by
9	end anchorage — see anchorage, end.	38	abrasion or cavitation of gases, liquids, or
10	and hearing sleave — device fitting over the	39	solids in motion. (See also damage,
10	abutting ends of two reinforcing bars for	40	abrasion and cavitation damage.)
11	the purpose of assuring transfer of only	41	ettringite — a mineral, high-sulfate calcium
12	axial compression from one har to the	42	sulfoaluminate (3 CaO Al ₂ O ₃ 3
13	other (See also coupler coupling sleeve	43	CaSO ₄ $30-32$ H ₂ O), occurring in nature or
15	and mechanical connection)	44	formed by sulfate attack on mortar and
15		45	concrete; the product of the principal
16	end block — see block, end.	46	expansion-producing reaction in expansive
17	endothermic reaction — see reaction,	47	cements; designated as "cement bacillus" in
18	endothermic.	48	older literature.
19	engineer-architect — see architect-engineer.	49	evaporable water — see water, evaporable.
20	entrained air — see air, entrained.	50	evaporation retardant — a material applied to
21	entrapped air — see air, entrapped.	51	the surface of concrete, before set, to
22	epoxy — a thermosetting polymer that is the	52	reduce the evaporation rate of water
23	reaction product of epoxy resin and an	53	without interfering with finishing
24	amino hardener. (See also resins, epoxy.)	54	operations. (See also monomolecular.)
25	epoxy-coated bar — see bar, epoxy-coated.	55	exfoliation — disintegration occurring by peeling
26	epoxy concrete — see concrete, epoxy.	56	off in successive layers; swelling up and
27	anovy grout soo grout anovy	57	opening into leaves or plates like a partly
21	cpoxy grout — see grout, cpoxy.	58	opened book.
28	epoxy mortar — see mortar, epoxy.	59	exothermic reaction — see reaction, exothermic.

1	expanded blast-furnace slag — see blast-	29	exposure condition, moderate — an
2	furnace slag.	30	environment, normally in temperate climate
3	expanded-metal fabric reinforcement — see	31	regions, in which concrete will only
4	lath, expanded-metal.	32	occasionally be exposed to moisture and
5	expanded-metal lath — see lath, expanded-	33	will not be saturated prior to freezing and
6	metal.	34	where no deicing agents or other aggressive
7	avnandad shala (clav ar slata) see shala	35	chemicals are used.
, Q	expanded	36	exposure condition, severe — an environment,
0		37	normally in cold climate regions, in which
9	expanding cement — see cement, expansive.	38	concrete may be saturated, or in almost
10	expansion — increase in either length or volume.	39	continuous contact with moisture prior to
11	(See also contraction; moisture	40	freezing, and where deicing agents are
12	movement; shrinkage; volume change;	41	used.
13	and volume change, autogenous.)	42	extender — a finely divided inert mineral added to
14	expansion, thermal — see thermal expansion.	43	provide economical bulk in paints,
15	expansion joint — see joint, expansion.	44	synthetic resins and adhesives, or other
16	expansion sleeve — see sleeve, expansion.	45	products.
17	expansive cement — see cement, expansive.	46	extensibility — the maximum tensile strain that
18	expansive-cement concrete (mortar or grout) —	47	hardened cement paste, mortar, or concrete
19	see concrete (mortar or grout),	48	can sustain before cracking occurs.
20	expansive-cement.	49	extension device — see device, extension.
21	expansive-cement mortar — see concrete	50	exterior panel — see panel, exterior.
22	(mortar or grout), expansive-cement.	51	external vibrator — see vibrator.
23	expansive component — see component,	52	extreme compression fiber — see fiber, extreme
24	expansive.	53	compression.
25	exposed-aggregate finish — see finish, exposed-	54	extreme tension fiber — see fiber, extreme
26	aggregate.	55	tension.
27	exposed concrete — see concrete, exposed.	56	exudation — a liquid or viscous gel-like material
28	exposed masonry — see masonry, exposed.	57	discharged through a pore, crack, or
		58	opening in the surface of concrete.
		59	

1	— F —	31	(2) in ASTM C 666, a measure of
2	fabric, welded-wire — a series of longitudinal and	32	the effects of freezing and thawing
3	transverse wires arranged approximately at	33	action on concrete specimens, in
4	right angles to each other and welded	34	which resonant frequency of
5	together at all points of intersection.	35	vibration is used as the property
6	fabric, woven-wire — a prefabricated steel	36	measured.
7	reinforcement composed of cold-drawn	37	factor, flow — see cone, flow.
8	steel wires mechanically twisted together to	38	factor, maturity — a factor that is a
9	form hexagonally shaped openings.	39	function of the age of the concrete
10	face, pilaster — the form for the front surface of a	40	(hours or days) multiplied by the
11	pilaster parallel to the wall.	41	difference between the mean
12	factor	42	temperature of the concrete
12		43	(degrees) during curing and a datum
13	factor, bulking — ratio of the volume of	44	temperature below which hydration
14	moist sand to the volume of the	45	stops. (See also degree-hour .)
15	sand when dry.	46	factor, phi () — see factor, strength-
16	factor, coarse-aggregate — the ratio,	47	reduction (preferred term)
17	expressed as a decimal, of the		forder Diffue of distance and even
18	amount (mass or solid volume) of	48	factor, Philleo — a distance, used as an
19	coarse aggregate in a unit volume of	49	index of the extent to which
20	well-proportioned concrete to the	50	hardened cement paste is protected
21	amount of dry-rodded coarse	51	from the effects of freezing, so
22			
	aggregate compacted into the same	52	selected that only a small portion of
23	aggregate compacted into the same volume (b/b_0) .	52 53	the cement paste (usually 10 %) lies
23 24	aggregate compacted into the same volume (b/b_0) .	52 53 54	the cement paste (usually 10 %) lies farther than that distance from the
23 24 25	aggregate compacted into the same volume (b/b ₀). factor, durability — (1) a measure of the change in a material property over a	52 53 54 55	selected that only a small portion of the cement paste (usually 10 %) lies farther than that distance from the perimeter of the nearest air void .
23 24 25	aggregate compacted into the same volume (b/b ₀). factor, durability — (1) a measure of the change in a material property over a period of time as a response to	52 53 54 55 56	selected that only a small portion of the cement paste (usually 10 %) lies farther than that distance from the perimeter of the nearest air void . (See also protected paste volume .)
23 24 25 26	aggregate compacted into the same volume (b/b ₀). factor, durability — (1) a measure of the change in a material property over a period of time as a response to exposure to a treatment that can	52 53 54 55 56 57	selected that only a small portion of the cement paste (usually 10 %) lies farther than that distance from the perimeter of the nearest air void . (See also protected paste volume .) factor, Powers' spacing — see factor,
23 24 25 26 27 28	aggregate compacted into the same volume (b/b ₀). factor, durability — (1) a measure of the change in a material property over a period of time as a response to exposure to a treatment that can cause deterioration usually	52 53 54 55 56 57 58	selected that only a small portion of the cement paste (usually 10 %) lies farther than that distance from the perimeter of the nearest air void . (See also protected paste volume .) factor, Powers' spacing — see factor, spacing (preferred term.)
 23 24 25 26 27 28 20 	aggregate compacted into the same volume (b/b ₀). factor, durability — (1) a measure of the change in a material property over a period of time as a response to exposure to a treatment that can cause deterioration, usually	52 53 54 55 56 57 58	selected that only a small portion of the cement paste (usually 10 %) lies farther than that distance from the perimeter of the nearest air void . (See also protected paste volume .) factor, Powers' spacing — see factor, spacing (preferred term.)
 23 24 25 26 27 28 29 	aggregate compacted into the same volume (b/b ₀). factor, durability — (1) a measure of the change in a material property over a period of time as a response to exposure to a treatment that can cause deterioration, usually expressed as percentage of the value	52 53 54 55 56 57 58	selected that only a small portion of the cement paste (usually 10 %) lies farther than that distance from the perimeter of the nearest air void . (See also protected paste volume .) factor, Powers' spacing — see factor, spacing (preferred term.)

1	factor, spacing — an index related to the	33	failure, fatigue — the phenomenon of rupture of a
2	maximum distance of any point in a	34	material, when subjected to repeated
3	cement paste or in the cement paste	35	loadings, at a stress substantially less than
4	fraction of mortar or concrete from	36	the static strength.
5	the periphery of an air void; also	37	fair-face concrete — see concrete, fair-face.
6	known as Powers' spacing factor.	38	false header — see header.
7	(See also factor, Philleo.)	20	false set gas set false
8	factor, stiffness — a measure of the	39	laise set — see set, laise.
9	stiffness of a structural member; for	40	falsework — the temporary structure erected to
10	a prismatic member, it is equal to	41	support work in the process of construction;
11	the ratio of the product of the	42	composed of shoring or vertical posting,
12	moment of inertia of the cross	43	formwork for beams and slabs, and lateral
13	section and the modulus of	44	bracing. (See also centering.)
14	elasticity for the material to the	45	fascia — a flat member or band at the surface of a
15	length of the member.	46	building or the edge beam of a bridge; also
16	factor, strength reduction — capacity-	47	exposed eave of a building.
17	reduction factor (in structural	48	fastener — a device designed to attach, join, or
18	design); a number less than 1.0	49	hold two or more objects one to another in
19	(usually 0.65 to 0.90) by which the	50	juxtaposition; commonly readily removed.
20	strength of a structural member or	51	fatigue — the weakening of a material by repeated
21	element (in terms of load, moment,	52	or alternating loads.
22	shear, or stress) is required to be	53	fatigue failure — see failure, fatigue.
23	multiplied to determine design	E /	fatigue strongth see strongth fatigue
24	strength or capacity; the magnitude	54	Taugue su engen — see su engen, taugue.
25	of the factor is stipulated in	55	faulting — differential displacement of a slab or
26	applicable codes and construction	56	wall along a joint or crack.
27	specifications for respective types	57	feather edge — see edge, feather.
28	of members and cross sections.	58	feed wheel — see wheel, feed.
29	factor of safety — the ratio of load, moment, or	59	felite — a name used to identify one form of the
30	shear of a structural member at the ultimate	60	constituent of portland-cement clinker now
31	to that at the service level.	61	know when pure as dicalcium silicate
32	factored load — see load. factored.	62	(2CaO SiO_2). (See also alite , belite , and
	,	63	celite.)

1	ferrocement — a composite structural material	32	fibrous concrete — see concrete, fiber-
2	comprising thin sections consisting of	33	reinforced.
3	cement mortar reinforced by a number of	34	field bending — bending of reinforcing bars on
4	very closely spaced layers of steel wire	35	the job rather than in a fabricating shop.
5	mesh.	36	field concrete — see concrete, field.
6	fiber — a slender and greatly elongated solid	37	field-cured cylinders — see cylinders, field-
7	material, generally with a length at least	38	cured.
8	100 times its diameter, that has properties	20	field propertioned grout see grout field
9	making it desirable for use as	39	neid-proportioned grout — see grout, neid-
10	reinforcement.	40	proportioned.
11	fiber, equivalent diameter — diameter of	41	fill, porous — see drainage fill.
12	a circle having an area equal to the	42	filler —
13	average cross-sectional area of a	43	(1) a finely divided, relatively inert
14	fiber.	44	material, such as pulverized limestone,
15	fiber, extreme compression — farthest	45	silica, or colloidal substances, added to
16	fiber from the neutral axis on the	46	portland-cement, paint, resin, or other
17	compression side of a member	47	materials to reduce shrinkage, improve
18	subjected to bending.	48	workability, reduce cost, or reduce density;
19	fiber, extreme tension — farthest fiber	49	or
20	from the neutral axis on the tension	50	(2) material used to fill an opening in a
21	side of a member subjected to	51	form.
22	bending	52	filler, joint — compressible material used
23	fiber count — the number of fibers in a unit	53	to fill a joint to prevent the infiltration of
24	volume of fiber-reinforced concrete.	54	debris and provide support for sealants
25	fiber-reinforced concrete — see concrete, fiber-	55	applied to the exposed surface.
26	reinforced.	56	fillet — see strip, chamfer.
27	fiber-reinforced polymer (FRP) — a general	57	fin — a narrow linear projection on a formed
28	term for a composite material comprising a	58	concrete surface, resulting from mortar
29	polymer matrix reinforced with fibers in the	5 9	flowing into spaces in the formwork; also a
30	form of fabric, mat, strands, or any other	60	type of blade in a concrete mixer drum.
31	fiber form. (See composite.)	61	final curing — see curing, final.
		62	final prestress — see stress, final.

1	final set — see set final	21	finish gun — undisturbed final layer of
•		22	shotcrete as applied from nozzle
2	final setting time — see time, final setting.	32	without hand finishing
3	final stress — see stress, final.	33	without nano missing.
4	fine aggregate — see aggregate, fine.	34	finish, rubbed — a finish obtained by
5	fine-grained soil — see soil fine-grained	35	using an abrasive to remove surface
5	inte-granted son see son, inte-granted.	36	irregularities from concrete. (See
6	fineness — a measure of particle size.	37	also sack rub.)
7	fineness modulus — see modulus, fineness.	38	finish, rustic or washed — a type of
8	finish — the texture of a surface after	39	terrazzo topping in which the matrix
9	consolidating and finishing operations have	40	is recessed by washing before
10	been performed.	41	setting so as to expose the chips
11	finish, bush-hammer — the finish on	42	without destroying the bond
12	concrete surface obtained by means	43	between chip and matrix; a retarder
13	of a bush-hammer.	44	is sometimes applied to the surface
14	finish broom — the surface texture	45	to facilitate this operation. (See also
15	obtained by stroking a broom over	46	finish, exposed-aggregate.)
16	freshly placed concrete. (See also	47	finish, swirl — a nonskid texture imparted
17	surface, brushed.)	48	to a concrete surface during final
10	finish exposed aggregate a descriptive	49	troweling by keeping the trowel flat
18	finish, exposed-aggregate — a decorative	50	and using a rotary motion.
19	hins for concrete work achieved	51	finish trowel — the smooth or textured
20	by removing, generally before the	52	finish of an unformed concrete
21	concrete has fully hardened, the	52	surface obtained by troweling
22	outer skin of mortar and exposing	55	surface obtained by trowening.
23	the coarse aggregate.	54	finish coat — see coat, finish.
24	finish, float — a rather rough, granular	55	finish grinding — see grinding, finish.
25	concrete surface texture obtained by	56	finish screens — see screens, finish.
26	finishing with a float.	57	finishing — leveling, smoothing, consolidating,
27	finish, granolithic — a surface layer of	58	and otherwise treating surfaces of fresh or
28	granolithic concrete which may be	59	recently placed concrete or mortar to
29	laid on a base of either fresh or	60	produce desired appearance and service.
30	hardened concrete.	61	(See also float and trowel .)

11

1	finishing machine — see machine, finishing.	31 f	latwork, concrete — a general term applicable to				
2	fire clay — see clay, fire.	32	concrete floors and slabs that require				
3	fire resistance — see resistance, fire.	33	finishing operations.				
4	fired strength — see strength, fired	34 f	lexible joint — see joint; hinge, Mesnager, and				
	fined density and density fined	35	joint, semiflexible.				
5	nreu density — see density, nreu.	36 f	lexible pavement — see pavement, flexible.				
6	fishtail — a wedge-shaped piece of wood used as	37 f	lexural bond stress — see bond, flexural stress.				
7	part of the support form between tapered	38 f	lexural rigidity — see rigidity, flexural				
8	pans in concrete joist construction.	00 f	lexural righting see strongth flowing				
9	flange, compression — the widened portion of an	39 I.	iexural strength — see strength, hexural.				
10	I, T, or similar cross-section beam that is	40 f	lint — a variety of chert. (See also chert.)				
11	shortened or compressed by bending under	41 f	loat — (1) a circular shallow-pan attachment,				
12	normal loads, such as the horizontal portion	42	often of 48 in. (1.2 m) diameter with a 3/4				
13	of the cross section of a simple span T-	43	in. (19 mm) high rim, for powered finishing				
14	beam.	44	equipment, typically used to impart a				
15	flame photometer — see photometer, flame.	45	relatively smooth final finish to floors; (2) a				
16	flash coat — see coat, flash.	46	shallow horizontal tray suspended behind				
17	flash set — see set flash	47	paving equipment, dragged across the				
17		48	freshly placed concrete surface to improve				
18	flashing — a thin impermeable sheet, narrow in	49	closure, or smoothness, or both.				
19	comparison with its length installed as a						
		50	float, angle — a finishing tool having a				
20	cover to exclude water from exposed joints,	50 51	float, angle — a finishing tool having a surface bent to form a right angle:				
20 21	cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or	50 51 52	float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles				
20 21 22	cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney.	50 51 52	float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles.				
20 21 22 23	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. 	50 51 52 53	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, 				
 20 21 22 23 24 	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio 	50 51 52 53 54	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, 				
 20 21 22 23 24 25 	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio of the width to thickness of its 	50 51 52 53 54 55	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 				
 20 21 22 23 24 25 26 	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio of the width to thickness of its circumscribing rectangular prism is greater 	50 51 52 53 54 55 56	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 in. (200 mm) wide and 42 to 60 in. 				
 20 21 22 23 24 25 26 27 	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio of the width to thickness of its circumscribing rectangular prism is greater than a specified value. [See also elongated] 	50 51 52 53 54 55 56 57	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 in. (200 mm) wide and 42 to 60 in. (1 to 1.50 m) long, and a handle 4 to 				
 20 21 22 23 24 25 26 27 28 	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio of the width to thickness of its circumscribing rectangular prism is greater than a specified value. [See also elongated piece (of aggregate)] 	50 51 52 53 54 55 56 57 58	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 in. (200 mm) wide and 42 to 60 in. (1 to 1.50 m) long, and a handle 4 to 16 ft (1 to 5 m) in length used to 				
 20 21 22 23 24 25 26 27 28 	 cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio of the width to thickness of its circumscribing rectangular prism is greater than a specified value. [See also elongated piece (of aggregate).] 	50 51 52 53 54 55 56 57 58 59	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 in. (200 mm) wide and 42 to 60 in. (1 to 1.50 m) long, and a handle 4 to 16 ft (1 to 5 m) in length used to smooth unformed surfaces of 				
 20 21 22 23 24 25 26 27 28 29 	 comparison with its rengal, instance us a cover to exclude water from exposed joints, at roof valleys, hips, roof parapets, or intersections of roof and chimney. flat jack — see jack, flat. flat piece (of aggregate) — one in which the ratio of the width to thickness of its circumscribing rectangular prism is greater than a specified value. [See also elongated piece (of aggregate).] flat plate — see plate, flat. 	50 51 52 53 54 55 56 57 58 59 60	 float, angle — a finishing tool having a surface bent to form a right angle; used to finish reentrant angles. float, bull — a tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 in. (200 mm) wide and 42 to 60 in. (1 to 1.50 m) long, and a handle 4 to 16 ft (1 to 5 m) in length used to smooth unformed surfaces of freshly placed concrete. 				
1	float, devils — a wooden float with two	30	flow, plastic — increase in concrete strain				
--	--	--	--	--	--	--	--
2	nails protruding from the toe, used	31	of members subject to constant				
3	to roughen the surface of a brown	32	stress and for decrease in concrete				
4	plaster coat. (See also texturing.)	33	stress of members subject to				
5	float, power — see float, rotary (preferred	34	constant strain; an obsolete term				
6	term).	35	(see creep and stress relaxation.)				
7	float, rotary — a motor-driven revolving	36	flow cone — see cone, flow.				
8	disc that smooths, flattens, and	37 f	flow factor — see cone, flow.				
9	compacts the surface of concrete	38 f	flow line — detectable line on a concrete wall or				
10	floors and floor toppings.	39	column usually departing somewhat from				
11	float finish — see finish, float.	40	horizontal, that shows where the concrete				
12	floating — the operation of finishing a fresh	41	in one placement has flowed horizontally				
13	concrete or mortar surface by use of a float,	42	before succeeding placement has been				
14	preceding troweling when that is to be the	43	made.				
15	final finish.	44 f	flow promoter — see promoter, flow.				
16	flow —	45 f	flow table — see table, flow.				
17			flow trough — see trough flow				
1/	(1) time-dependent irrecoverable	46					
17	(1) time-dependent irrecoverable deformation (see also creep and rheology):	46	Now though see though, now.				
17	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly 	46 1 47 1	flowable consistency — see consistency,				
17 18 19 20	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete mortar or cement paste 	46 1 47 1 48	flowable consistency — see consistency, flowable.				
17 18 19 20 21	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in 	46 1 47 1 48 49 1	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing.				
17 18 19 20 21 22	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone. 	46 1 47 1 48 49 1 50 1	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid.				
 17 18 19 20 21 22 23 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number 	46 1 47 1 48 49 1 50 1 51 1	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to				
 17 18 19 20 21 22 23 24 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or 	46 1 47 1 48 49 1 50 1 51 1 52	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing				
17 18 19 20 21 22 23 24	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or (2) measurement of uncared parts under 	 46 47 48 49 50 51 52 53 	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing water content. (See also admixture, water-				
 17 18 19 20 21 22 23 24 25 24 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or (3) movement of uncured resin under arrevity loads or differential pressure 	 46 47 48 49 50 51 52 53 54 	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing water content. (See also admixture, water- reducing.)				
 18 19 20 21 22 23 24 25 26 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or (3) movement of uncured resin under gravity loads or differential pressure. 	 46 47 48 49 50 51 52 53 54 55 	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing water content. (See also admixture, water- reducing.) fluosilicate — magnesium or zinc silico-fluoride				
 18 19 20 21 22 23 24 25 26 27 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or (3) movement of uncured resin under gravity loads or differential pressure. flow, capillary — flow of moisture 	 46 47 48 49 50 51 52 53 54 55 56 	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing water content. (See also admixture, water- reducing.) fluosilicate — magnesium or zinc silico-fluoride used to prepare aqueous solutions				
 18 19 20 21 22 23 24 25 26 27 28 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or (3) movement of uncured resin under gravity loads or differential pressure. flow, capillary — flow of moisture through a capillary pore system, such as in 	 46 47 48 49 50 51 52 53 54 55 56 57 	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing water content. (See also admixture, water- reducing.) fluosilicate — magnesium or zinc silico-fluoride used to prepare aqueous solutions sometimes applied to concrete as surface-				
 18 19 20 21 22 23 24 25 26 27 28 29 	 (1) time-dependent irrecoverable deformation (see also creep and rheology); (2) a measure of the consistency of freshly mixed concrete, mortar, or cement paste expressed in terms of the increase in diameter of a molded truncated cone specimen after jigging a specified number of times; or (3) movement of uncured resin under gravity loads or differential pressure. flow, capillary — flow of moisture through a capillary pore system, such as in concrete. 	 46 47 48 49 50 51 52 53 54 55 56 57 58 	flowable consistency — see consistency, flowable. flowing concrete — see concrete, flowing. fluid consistency — see consistency, fluid. fluidifier — an admixture employed in grout to decrease the flow factor without changing water content. (See also admixture, water- reducing.) fluosilicate — magnesium or zinc silico-fluoride used to prepare aqueous solutions sometimes applied to concrete as surface- hardening agents.				

1	fly ash — the finely divided residue that results
2	from the combustion of ground or
3	powdered coal and that is transported by
4	flue gases from the combustion zone to the
5	particle removal system.
6	flying forms — see forms, flying.
7	foam, preformed — foam produced in a foam
8	generator prior to introduction of the foam
9	into a mixer with other ingredients to
10	produce cellular concrete. (See also
11	concrete, cellular.)
12	foamed blast-furnace slag — see blast-furnace
13	slag (2).
14	foamed concrete — see concrete, foamed.
15	fog curing — see curing, fog.
16	fog room — see moist room.
17	folded plate — see plate, folded.
18	footing — a structural element of a foundation that
19	transmits loads directly to the soil.
20	footing, combined — a structural unit or
21	assembly of units supporting more
22	than one column.
23	footing, continuous —a combined footing
24	of prismatic or truncated shape,
25	supporting two or more columns in
26	a row.
27	footing, sloped — a footing having sloping
28	top or side faces.

29	footing, stepped — a step-like support
30	consisting of prisms of concrete of
31	progressively diminishing lateral
32	dimensions superimposed on each
33	other to distribute the load of a
34	column or wall to the subgrade.
35	footing, strip — see footing, continuous.
36	force, jacking — in prestressed concrete, the
37	temporary force exerted by the device
38	which introduces tension into the tendons.
39	form — a temporary structure or mold for the
40	support of concrete while it is setting and
41	gaining sufficient strength to be self-
42	supporting. (See also formwork.)
43	form, climbing — a form which is raised
44	vertically for succeeding lifts of
45	concrete in a given structure.
46	form, drop-panel — a retainer or mold so
47	erected as to give the necessary
48	shape, support, and finish to a drop
49	panel.
50	form, edge — formwork used to limit the
51	horizontal spread of fresh concrete
52	on flat surfaces such as pavements
53	or floors.
54	form, permanent — any form that remains
55	in place after the concrete has
56	developed its design strength; it
57	may or may not become an integral
58	part of the structure.
59	form, sliding — see slipform.

1	form, top — form required on the upper or	32	form scabbing — inadvertent removal of the			
2	outer surface of a sloping slab or	33	surface of concrete because of adhesion to			
3	thin shell.	34	the form.			
4	form, trench — the vertical sides and	35	form sealer — coating applied to the surface of a			
5	semicircular bottom of a trench	36	form to reduce or prevent absorption of			
6	excavated through compacted soil	37	water from the concrete.			
7	to provide the exterior form and	38	form spacer — see spacer, see also spreader.			
8	base for a cast-in-place concrete	30	form spreader — see spreader			
9	pipe.	57				
10	form, vented — a form so constructed as	40	form tie — see tie, form.			
11	to retain the solid constituents of	41	forms —			
12	concrete and permit the escape of	42	forms, flying — large prefabricated units			
13	water and air.	43	of formwork incorporating support,			
14	form. wall — a retainer or mold so erected	44	and designed to be moved from			
15	as to give the necessary shape.	45	place to place.			
16	support, and finish to a concrete	46	forms, ganged — prefabricated panels			
17	wall.	47	joined to make a much larger unit			
18	form anchor — see anchor form	48	(up to 30 by 50 ft) (9 by 15 m) for			
10		49	convenience in erecting, stripping,			
19	form coating — see coating, form.	50	and reusing; usually braced with			
20	form hanger — see hanger, form.	51	wales, strongbacks, or special lifting			
21	form insulation — see insulation, form.	52	hardware.			
22	form lining — materials used to line the	53	forms, moving — large prefabricated units			
23	concreting face of formwork either to	54	of formwork incorporating supports,			
24	impart a smooth or patterned finish to the	55	and designed to be moved			
25	concrete surface, to absorb moisture from	56	horizontally on rollers or similar			
26	the concrete, or to apply a set-retarding	57	devices, with a minimum amount of			
27	chemical to the formed surface. (See also	58	dismantling between successive			
28	sheathing.)	59	uses.			
29	form oil — see oil, form.					
30	form pressure — see pressure, form.					
31	form release agent — see agent, release.					

1	formwork — total system of support for freshly	32 fracture — a crack or break, as of concrete or
2	placed concrete including the mold or	masonry; the configuration of a broken
3	sheathing that contacts the concrete as well	34 surface; also the action of cracking or
4	as supporting members, hardware, and	35 breaking. (See also crack .)
5	necessary bracing; sometimes called	36 frame, rigid — a frame depending on moment in
6	shuttering in the United Kingdom. (See	37 joints for stability.
7	also falsework and centering .)	38 free fall — descent of freshly mixed concrete into
8	foundation — a system of structural elements that	39 forms without dropchutes or other means of
9	transmit loads from the structure above to	40 confinement; also the distance through
10	the earth.	41 which such descent occurs; also
11	foundation, grid — a combined footing	42 uncontrolled fall of aggregate.
12	formed by intersecting continuous	43 free lime — see lime, free.
13	footings, loaded at the intersection	44 free moisture — see moisture, free.
14	points, and covering much of the	45 free water — see moisture free (See also
15	total area within the outer limits of	46 moisture, surface)
16	the assembly.	17 fresh concrete social analytic fresh
17	foundation, mat — a foundation	47 Tresh concrete — see concrete, fresh.
18	consisting of a continuous concrete	48 fresno trowel — a thin steel trowel that is
19	slab extending in both directions	49 rectangular or rectangular with rounded
20	that is usually reinforced and	corners, usually 4 in. to 10 in. (100 to 250
21	supports an array of columns and/or	51 mm) wide and 20 in. to 36 in. (420 to 900
22	walls. Also referred to as	52 mm) long, having 4 ft to 16 ft (1 to 5 m)
23	foundation, raft.	53long handle, and used to smooth surfaces of
24	foundation, raft —see foundation, mat.	54 nonbleeding concrete and shotcrete.
25	foundation, strip — a continuous	55 friction loss — see loss, friction.
26	foundation wherein the length	56 friction pile — see pile, friction.
27	considerably exceeds the breadth.	57 friction, wobble — in prestressed concrete, the
28	foundation bolt — see bolt. anchor (preferred	58 friction caused by the unintended deviation
29	term).	59 of the prestressing sheath or duct from its
20	four-way reinforcement — see reinforcement	60 specified profile.
31	four-way.	61 frog — a depression in the bed surface of a
		62 masonry unit; sometimes called a panel.

1	fugitive dye — a dye whose color fades in a few	32	gauge water — see batched water (preferred		
2	days to neutral on exposure, usually to	33	term).		
3	ultraviolet rays in sunlight; used to	34	gehlenite — a mineral of the melilite group,		
4	temporarily color membrane-curing	35	$Ca_2Al(AlSi)O_7$. (See also akermanite ,		
5	compounds so that coverage of the concrete	36	melilite, merwinite.)		
6	surface can be observed.	37	gel — matter in a colloidal state that does not		
7	Fuller-Thompson ideal grading curve — see	38	dissolve but remains suspended in a		
8	Fuller's curve (preferred term).	39	solvent from which it fails to precipitate		
9	Fuller's curve — an empirical curve for gradation	40	without the intervention of heat or of an		
10	of aggregates; also known as the Fuller-	41	electrolyte. (See also gel, cement.)		
11	Thompson ideal gradation curve; the curve	42	gel. cement — the colloidal material that		
12	is designed by fitting either a parabola or an	43	makes up the major portion of the		
13	ellipse to a tangent at the point where the	44	porous mass of which mature		
14	aggregate fraction is one-tenth of the	45	hydrated cement paste is composed.		
15	maximum size fraction. (See also grading	46	gel tobermorite — the binder of concrete		
16	curve.)	47	cured moist or in atmospheric-		
17	furring — strips of wood or metal fastened to a	48	pressure steam, a lime-rich gel-like		
18	wall or other surface to even it, to form an	49	solid containing 1.5 to 1.0 mols of		
19	air space, to give appearance of greater	50	lime per mol of silica.		
20	thickness, or for the application of an	51	Cillmore needle see needle Cillmore		
21	interior finish such as plaster.	51			
22		52	girder — a large beam, usually norizontal, that		
23	-G-	53	serves as a main structural member.		
20		54	girt — small beam spanning between columns,		
24	ganged forms — see forms, ganged.	55	generally used in industrial buildings to		
25	ganister — a highly refractory siliceous	56	support outside walls. (See also beam .)		
26	sedimentary rock used for furnace linings.	57	glass — an inorganic product of fusion that has		
27	gap-graded aggregate — see aggregate, gap-	58	cooled too a rigid condition without		
28	graded.	59	crystallizing, sometimes reactive with		
29	gap-graded concrete — see concrete, gap-	60	alkalies in concrete.		
30	graded.				
31	gas concrete — see concrete, gas.				

1	glass-fiber reinforced cement — a composite	26	grading — the distribution of particles of granular			
2	material consisting essentially of a matrix	27	material among various sizes; usually			
3	of hydraulic cement paste or mortar	28	expressed in terms of cumulative			
4	reinforced with glass fibers; typically	29	percentages larger or smaller than each of a			
5	precast into units less than 1 in. (25 mm)	30	series of sizes (sieve openings) or the			
6	thick.	31	percentages between certain ranges of sizes			
7	glass-transition temperature — see	32	(sieve openings).			
8	temperature, glass-transition.	33	grading, combined-aggregate — particle-			
9	go-devil — a ball of rolled-up burlap or paper or a	34	size distribution of a mixture of fine			
10	specially fabricated device put into the	35	and coarse aggregate.			
11	pump end of a pipeline and forced through	36	grading, continuous — a particle size			
12	the pipe by water pressure in order to clean	37	distribution in which intermediate			
13	the pipeline; also a device used with tremie	38	size fractions are present, as			
14	concrete operations.	39	opposed to gap-grading. (See also			
15	grab set — see set, flash (preferred term).	40	aggregate, gap-graded.)			
16	gradation — see grading (preferred term).	41	grading curve — see curve, grading.			
17	grade — the prepared surface on which a concrete	42	granolithic concrete — see concrete, granolithic.			
18	slab is cast; the process of preparing a plane	43	granolithic finish — see finish, granolithic.			
19	surface of granular material or soil on	44	granulated blast-furnace slag — see blast-			
20	which to cast a concrete slab.	45	furnace slag.			
21	grade beam — see beam, grade.	46	gravel —			
22	grade strip — see strip, grade.	47	1. granular material predominantly			
23	graded standard sand — see sand, standard.	48	retained on the 4.75 mm (No. 4) sieve			
24	gradient — rate of change in a variable over a	49	and resulting either from natural			
25	distance, as of temperature or moisture.	50	disintegration and abrasion of rock or			
		51	processing of weakly bound			
		52	conglomerate; and			

1	2. that portion of an aggregate retained	32	grizzly — a simple, stationary screen or series of				
2	on the 4.75 mm (No. 4) sieve and	33	³ equally spaced parallel bars set at an angle				
3	resulting either from natural	34	to remove oversize particles in processing				
4	disintegration and abrasion of rock or	35	aggregate or other material.				
5	processing of weakly bound	36	grog — burned refractory material; usually				
6	conglomerate. (See also aggregate,	37	calcined clay or crushed brick bats.				
7	coarse.)	38	groove joint — see joint, contraction (preferred				
8	gravel, crushed — the product	39	term).				
9	resulting from the artificial	40	groover a tool used to form grooves or				
10	crushing of gravel with a	40 //1	weakened-plane joints in a concrete slab				
11	specified minimum percentage	41	before hardening to control crack location				
12	of fragments having one or more	42	or provide pattern				
13	faces resulting from fracture.	43					
14	(See also aggregate , coarse .)	44	gross volume (of concrete mixers) — in the case				
15	gravel, pea — screened gravel, most of	45	of a revolving-drum mixer, the total interior				
16	the particles of which pass a 9.5	46	volume of the revolving portion of the				
17	mm $(3/8 \text{ in.})$ sieve and are	4/	mixer drum; in the case of an open-top				
18	retained on a 4.75 mm (No. 4)	48	mixer, the total volume of the trough of pan				
19	sieve.	49	calculated on the basis that no vertical				
20	green concrete — see concrete, green.	50	the radius of the circular section below the				
21	grid foundation see foundation grid	51	axis of the central shaft				
21	grid foundation — see foundation, grid.	52	axis of the central shart.				
22	grinding, finish — the final grinding of clinker	53	ground-granulated blast-furnace slag — see				
23	into cement, with calcium sulfate in the	54	cement, slag.				
24	form of gypsum or anhydrite generally	55	ground wire — see wire, ground.				
25	being added; the final grinding operation	56	grout — a mixture of cementitious material and				
26	required for a finished concrete surface, for	57	water, with or without aggregate,				
27	example, bump cutting of pavement, fin	58	proportioned to produce a pourable				
28	removal from structural concrete, terrazzo	59	consistency without segregation of the				
29	noor grinding.	60	constituents; also a mixture of other				
30	grinding aids — see aids, grinding.	61	composition but of similar consistency.				
31	grinding medium — see medium, grinding.	62	(See also grout, neat cement and grout,				
		63	sanded.)				

1	grout, colloidal — grout in which a	33	grout, neat cement — a fluid mixture of				
2	substantial proportion of the solid	34	hydraulic cement and water, with or				
3	particles have the size range of a	35	without other ingredients; also the				
4	colloid.	36	hardened equivalent of such				
5	grout, epoxy — a grout which is a mixture	37	mixture.				
6	of ingredients consisting of an	38	grout, preblended — a hydraulic-cement				
7	epoxy bonding system, aggregate or	39	grout which is a commercially				
8	fillers, and possibly other materials.	40	available mixture of hydraulic				
9	grout, expansive-cement — see concrete	41	cement, aggregate, and other				
10	(mortar or grout), expansive-	42	ingredients which requires only the				
11	cement.	43	addition of water and mixing at the				
12	grout, field-proportioned — a hydraulic-	44	jobsite; sometime termed premixed				
13	cement grout batched at the jobsite	45	grout.				
14	using water and predetermined	46	grout, sanded — grout in which fine				
15	portions of portland cement,	47	aggregate is incorporated into the				
16	aggregate, and other ingredients.	48	mixture.				
17	grout, hydraulic-cement — a grout which	49 gro	ut slope — the natural slope of fluid grout				
17 18	grout, hydraulic-cement — a grout which is a mixture of hydraulic cement,	49 gro 50	ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete.				
17 18 19	grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly	49 gro5051 gro	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, 				
17 18 19 20	grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures.	 49 gro 50 51 gro 52 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. 				
17 18 19 20 21	<pre>grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is</pre>	 49 gro 50 51 gro 52 53 gro 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. 				
17 18 19 20 21 22	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or 	 49 gro 50 51 gro 52 53 gro 54 gro 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout (See 				
 17 18 19 20 21 22 23 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying 	 49 gro 50 51 gro 52 53 gro 54 gro 55 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) 				
 17 18 19 20 21 22 23 24 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to 	 49 gro 50 51 gro 52 53 gro 54 gro 55 54 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) 				
 17 18 19 20 21 22 23 24 25 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a 				
 17 18 19 20 21 22 23 24 25 26 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete contact with the base and to 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 58 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a mass of grout is caused to move 				
 17 18 19 20 21 22 23 24 25 26 27 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete contact with the base and to maintain uniform support. 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 58 50 	<pre>ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a mass of grout is caused to move horizontally through preplaced</pre>				
 17 18 19 20 21 22 23 24 25 26 27 28 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete contact with the base and to maintain uniform support. grout, masonry — a mixture hydraulic 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 58 59 60 	<pre>ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a mass of grout is caused to move horizontally through preplaced aggregate by use of a suitable grout</pre>				
 17 18 19 20 21 22 23 24 25 26 27 28 29 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete contact with the base and to maintain uniform support. grout, masonry — a mixture hydraulic cement, aggregate, water and 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 58 59 60 41 	<pre>ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a mass of grout is caused to move horizontally through preplaced aggregate by use of a suitable grout injection sequence</pre>				
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete contact with the base and to maintain uniform support. grout, masonry — a mixture hydraulic cement, aggregate, water and possibly other materials (ASTM C 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 58 59 60 61 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a mass of grout is caused to move horizontally through preplaced aggregate by use of a suitable grout injection sequence. 				
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 	 grout, hydraulic-cement — a grout which is a mixture of hydraulic cement, aggregate, water and possibly admixtures. grout, machine-base — a grout which is used in the space between plates or machinery and the underlying foundation and which is expected to maintain essentially complete contact with the base and to maintain uniform support. grout, masonry — a mixture hydraulic cement, aggregate, water and possibly other materials (ASTM C 476), used for filling designated 	 49 gro 50 51 gro 52 53 gro 54 gro 55 56 57 58 59 60 61 	 ut slope — the natural slope of fluid grout injected into preplaced-aggregate concrete. uted-aggregate concrete — see concrete, preplaced-aggregate. uted masonry — see masonry, grouted. uting — the process of filling with grout. (See also grout.) grouting, advancing-slope — a method of grouting by which the front of a mass of grout is caused to move horizontally through preplaced aggregate by use of a suitable grout injection sequence. 				

1	grouting, closed-circuit — injection of
2	grout into a hole intersecting
3	fissures or voids which are to be
4	filled at such volume and pressure
5	that grout input to the hole is greater
6	than the grout take of the
7	surrounding formation, excess grout
8	being returned to the pumping plant
9	for recirculation.
10	grouting, containment — see grouting,
11	perimeter.
12	grouting, contraction-joint — injection of
13	grout into contraction joints.
14	grouting, control-joint — see grouting,
15	contraction-joint.
16	grouting, curtain — injection of grout into
17	a subsurface formation in such a
18	way as to create a zone of grouted
19	material transverse to the direction
20	of anticipated water flow.
21	grouting, high-lift — a technique in
22	masonry wall construction in which
23	the grouting operation is delayed
24	until the wall has been laid up to a
25	full story height.
26	grouting, low-lift — a technique of
27	masonry wall construction in which
28	the wall sections are built to a
29	height of not more than 5 ft (1.7 m)
30	before the cells of the masonry units
31	are filled with grout.

	grouting, open-circuit — a grouting
	system with no provision for
	recirculation of grout to the pump.
	grouting, perimeter — injection of grout,
	usually at relatively low pressure,
	around the periphery of an area that
	is subsequently to be grouted at
	greater pressure; intended to confine
	subsequent grout injection within
	the perimeter.
	grouting, slush — distribution of a grout,
	with or without fine aggregate, as
	required over a rock or concrete
	surface that is subsequently to be
	covered with concrete, usually by
	brooming it into place to fill surface
	voids and fissures.
	grouting, staged — sequential grouting of
	a hole in separate steps or stages in
	lieu of grouting the entire length at
	once.
gun —	-
	(1) shotcrete material delivery equipment,
	usually consisting of double chambers
	under pressure; equipment with a single
	pressure chamber is used to some extent

(see also **gun, cement**); or

(2) pressure cylinder used to propel freshly mixed concrete pneumatically.

1	gun, cement — a machine for pneumatic	31	hairlin
2	placement of mortar or small aggregate	32	hairpi
3	concrete; in the "Dry Gun," water from a	33	
4	separate hose meets the dry material at the	34	
5	nozzle of the gun; with the "Wet Gun," the	35	
6	delivery hose conveys the premixed mortar	36	
7	or concrete. (See also shotcrete .)	37	
8	gun finish — see finish, gun.	38	
9	Gunite — a proprietary term for shotcrete.	39	Hamm
10	gunman — workman on shotcreting crew who	40	
11	operates delivery equipment.	41	
12	gunning — the act of applying dry-mix shotcrete.	42	
13	gunning pattern —	43	hamm
14	(1) conical outline of material discharge	44	
15	stream in shotcrete operation; or	45	
16	(2) the sequence of gunning operations to	46	
17	ensure complete filling of the space, total	47	
18	encasement of reinforcing bars, easy	48	
19	removal of rebound, and thickness of	49	
20	shotcrete layers.	50	
21	gutter tool — see tool, gutter.	51	
22	gypsum — a mineral having the composition	52	
23	calcium sulfate dihydrate (CaSO ₄ $2H_2O$).	53	
24	gynsum concrete — see concrete gynsum	54	
24	gypsum concrete see concrete, gypsum.	55	
25	gypsum plaster — plaster made with plaster of	56	
26	paris. (See plaster, plaster of paris.)	57	hangei
27		58	
28	— H —	59	
29	hacking — the roughening of a surface by striking		
30	with a tool.		

11 hairline crack — see crack, hairline.

32	hairpin — the wedge used to tighten some types
33	of form ties; a hairpin-shaped anchor set in
34	place while concrete is unhardened; a light
35	hairpin-shaped reinforcing bar used for
36	shear reinforcement in beams, tie
37	reinforcement in columns, or prefabricated
38	column shear heads.
39	Hamm tip — flared shotcrete nozzle having a
40	larger diameter at midpoint than at either
41	inlet or outlet; also designated premixing
42	tip.
43	hammer —
44	hammer, impact — see hammer,
45	rebound (preferred term).
14	hammer rehound on apparatus that
40	maininer, rebound — an apparatus that
47	provides a relative indication of the
48	strength or hardness of concrete
49	based on the rebound distance of a
50	spring-driven mass after it impacts a
51	rod in contact with the concrete
52	surface.
53	hammer, Schmidt — see hammer,
54	rebound (preferred term).
55	hammer, Swiss — see hammer, rebound
56	(preferred term).
57	hanger — a device used to suspend one object
58	from another object. (See also beam
59	hanger.)

1	hanger, form — device used to support formwork	30 ha	awk — a tool used by plasterers to hold and carry
2	from a structural framework; the dead load	31	plaster mortar; generally a flat piece of
3	of forms, mass of concrete, and	32	wood or metal approximately 10 to 12 in.
4	construction and impact loads must be	33	(0.25 to 0.3 m) square, with a wooden
5	supported.	34	handle centered and fixed to the underside.
6	hard-burned dolomite — see dolomite, hard-	35	(See also hod and mortar board.)
7	burned.	36 h e	eader — a masonry unit laid flat with its greatest
8	hard-burned lime — see lime, hard-burned.	37	dimension at a right angle to the face of the
9	hardened concrete — see concrete, hardened.	38	wall; when the unit is only the depth of the
10	hardonar	39	face wythe it is known as a false header.
10		40	[See also bonder and wythe (leaf) .]
11	(1) a chemical (including certain	41 h	eader, false — see header.
12	fluosilicates or sodium silicate) applied to	42 he	ealing, autogenous— a natural process of filling
13	concrete floors to reduce wear and dusting;	43	and sealing cracks in concrete or in mortar
14	or	44	when kept damp.
15	(2) in a two-component adhesive or	45 h	eat-deflection temperature — see temperature.
16	coating, the chemical component that	46	heat-deflection.
17	causes the resin component to cure.	47 h	at of hydration heat avalved by chemical
18	Hardy Cross method — see moment	47 110	reactions with water, such as that evolved
19	distribution.	40	during the setting and hardening of portland
20	harped tendons — see tendons, deflected	49 E0	compared or the difference between the heat
21	(preferred term).	50	of solution of dry cement and that of
22	harsh mixture — see mixture, harsh.	52	partially hydrated cement (See also heat of
23	haunch — a deepened portion of a beam in the	53	solution.)
24	vicinity of a support.	54 h	eat of solution — heat evolved or absorbed when
25	haunching —	55	a substance is dissolved in a solvent.
26	(1) concrete support to the sides of a drain	56 h e	eat-resistant concrete — see concrete, heat
27	or sewer pipe above the bedding; or	57	resistant.
28	(2) work done in strengthening or	58 h a	eating rate — the rate expressed in degrees per
29	improving the outer strip of a roadway.	59	hour at which the temperature is raised to
		60	the desired maximum temperature.

I	neavy concrete — see concrete, mgn-density
2	(preferred term).
3	heavy-edge reinforcement — see reinforcement,
4	heavy-edge.
5	heavy-media separation — see separation,
6	heavy-media.
7	heavyweight aggregate — see concrete, high-
8	density (preferred term).
9	heavyweight concrete — see concrete, high-
10	density.
11	helical reinforcement — see reinforcement,
12	helical.
13	hematite — a mineral, iron oxide (Fe ₂ O ₃) used as
14	aggregate in high density concrete and in
15	finely divided form as a red pigment in
16	colored concrete.
17	hemihydrate — a hydrate containing one-half
18	molecule of water to one molecule of
19	compound, the most commonly known
20	hemihydrate is partially dehydrated gypsum
21	(also known as plaster of paris),
22	$CaSO_4$ 1/2H ₂ O. (See also bassanite .)
23	hesitation set — see set, false (preferred term).
24	Hessian — see burlap (preferred term).
25	high-alumina cement — see cement, calcium-
26	aluminate (preferred term).
27	high-bond bar — see bar, deformed.
28	high-density concrete — see concrete, high-
29	density.
30	high-discharge mixer — see mixer, inclined-axis
31	(preferred term).

and announts high donaity

hoory concrete

32	high-early-strength	cement — see	cement, high-
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33 early-strength.

34 high-fineness cement — see cement, high35 fineness.

36 high-early-strength concrete — see concrete,

- 37 high-early-strength.
- ³⁸ high-lift grouting see grouting, high-lift.
- 39 high-performance concrete see concrete,

40 high-performance.

11 high-pressure steam curing — see curing,

42 **autoclave** (preferred term).

- 43 high-range water-reducing admixture see
- 44 admixture, water-reducing (high-range).
- 45 high-strength concrete see concrete, high46 strength.
- 47 high-strength reinforcement see steel, high48 strength.
- 49 high-strength steel see steel, high-strength.

50 high-temperature steam curing — see curing,

atmospheric-pressure steam and curing,
autoclave.

1	hinge, Mesnager — a permanent semiarticulation	33	hook — a bend in the end of a reinforcing bar.
2	or flexible joint in a reinforced-concrete	34	hooked bar — see bar, hooked.
3	arch, wherein the angles of rotation at the	35	Hooke's law — see law, Hooke's.
4	hinge are very small; by crossing steel	36	hoon reinforcement see reinforcement_hoon
5	reinforcing bars within the opening	50	noop remore ement see remore ement, noop.
6	between the concrete structural segments,	37	horizontal-axis mixer — see mixer, horizontal-
7	the resultant articulation presents very	38	axis.
8	small resistance to rotation, resists either	39	horizontal-shaft mixer — see mixer, horizontal-
9	axial thrust or shearing forces, and is	40	shaft.
10	permanently flexible; the center of rotation	41	horizontal shoring — see shoring, horizontal.
11	occurs at the intersection of the reinforcing	42	hose, delivery — hose through which shotcrete,
12	bars.	43	grout, or pumped concrete or mortar
13	hinge, plastic — region where ultimate moment	44	passes; also known as conveying hose or
14	capacity in a member may be developed	45	material hose.
15	and maintained with corresponding	46	hot cement — see cement, hot.
16	significant inelastic rotation as main tensile	7	hat face the surface of a refractory section
17	steel elongates beyond yield strain.	47	exposed to the source of heat
18	hinge joint — see joint, hinge.	40	exposed to the source of heat.
19	hod — a V-shaped trough or a tray, supported by a	49	hot-load test — see test, hot-load.
20	pole handle that is borne on the carrier's	50	Hoyer effect — in pretensioned, prestressed
21	shoulder, for carrying small quantities of	51	concrete, frictional forces that result from
22	brick, tile, mortar, or similar load. (See also	52	the tendency of the tendons to regain the
23	hawk and mortar board.)	53	diameter which they had before they were
24	hold-down holt — see holt anchor (preferred	54	stressed.
27	term)	55	hydrate — a chemical combination of water with
25		56	another compound or an element.
26	holding period — see period, presteaming	57	hydrate, calcium-silicate — any of the various
27	(preferred term).	58	reaction products of calcium silicate and
28	hollow-unit masonry — see masonry, hollow-	59	water. (See also dicalcium silicate,
29	unit.	60	tricalcium silicate.)
30	honeycomb — voids left in concrete due to failure	61	hydrated lime — see lime, hydrated.
31	of the mortar to effectively fill the spaces		
32	among coarse-aggregate particles.		

1	hydration — formation of a compound by	31 ignition loss — see loss on ignition (preferre	ed
2	combining water with some other	32 term).	
3	substance. In cementitious materials, the	33 ilmenite — a mineral, iron titanate (FeTiO ₃)),
4	chemical reaction between hydraulic	34 which in pure or impure form is com	monly
5	cement and water.	used as aggregate in high-density con	ncrete.
6	hydraulic cement — see cement, hydraulic.	36 —	
7	hydraulic-cement grout — see grout, hydraulic-	37 impact hammer — see hammer, rebound	
8	cement.	38 (preferred term).	
9	hydraulic hydrated lime — see lime, hydraulic	39 impending slough — consistency of a shote	erete
10	hydrated.	40 mixture containing the maximum amo	ount
11	hydrochloric acid — a mineral acid sometimes	41 of water such that the product will no	ot flow
12	used for cleaning or acid etching concrete	42 or sag after placement.	
13	or removing efflorescence; also known as	43 inclined-axis mixer — see mixer, inclined-	-axis.
14	muriatic acid, which is a 33 % HCl	44 incrustation — a crust or coating, generally	hard,
15	solution.	45 formed on the surface of concrete or	
16	hydromix nozzle — a shotcrete hose and nozzle	46 masonry construction or on aggregate	e
17	configuration used in place of a	47 particles.	
18	predampening system to introduce	48 indented strand — see strand, indented.	
19	pressurized water into the material stream	49 indented wire — see wire, indented	
20	via a water ring located approximately 3 m	50 index plasticity (PI) the range of water of	oontont
21	(10 ft) upstream of the nozzle tip. The	50 index, plasticity (11) — the large of water C	ated as
22	nozzleman can control the amount of water	51 In which a son remains plastic, evaluation of the numerical difference between liqu	uid
23	introduced to the material stream via a	52 limit and plastic limit as calculated	uiu
24	control valve near the nozzle tip.	54 according to ASTM D 4318 (Also re	eferred
25	hydrophobic cement — see cement,	55 to as <i>plasticity</i> .)	
26	hydrophobic.	54 index nozzelenic ectivity on index that	
27	hydrous calcium chloride — see calcium	50 mucx, pozzolamic-activity — an index that 57 measures pozzolanic activity based of	n the
28	chloride, hydrous.	58 strength of cementitious mixtures	
29		59 containing hydraulic cement with and	đ
30	—I—	60 without the pozzolan: or containing the	he
		61 pozzolan with lime.	

1	index, slag activity — the ratio of the compressive
2	strength of a mortar cube made with equal
3	amounts of slag and portland cement to the
4	compressive strength of a mortar cube
5	made with the same portland cement.
6	inelastic behavior — see deformation, inelastic
7	(preferred term).
8	inelastic deformation — see deformation,
9	inelastic.
10	infrared spectroscopy — see spectroscopy,
11	infrared.
12	initial curing — see curing, initial.
13	initial drying shrinkage — see shrinkage, initial
14	drying.
15	initial prestress — see prestress, initial.
16	initial set — see set, initial.
16 17	initial set — see set, initial. initial setting time — see time, initial setting.
16 17 18	<pre>initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial.</pre>
16 17 18 19	<pre>initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of</pre>
16 17 18 19 20	initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity.
 16 17 18 19 20 21 	<pre>initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity. insert — anything other than reinforcing steel that</pre>
 16 17 18 19 20 21 22 	initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity. insert — anything other than reinforcing steel that is rigidly positioned within a concrete form
 16 17 18 19 20 21 22 23 	initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity. insert — anything other than reinforcing steel that is rigidly positioned within a concrete form for permanent embedment in the hardened
 16 17 18 19 20 21 22 23 24 	initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity. insert — anything other than reinforcing steel that is rigidly positioned within a concrete form for permanent embedment in the hardened concrete.
 16 17 18 19 20 21 22 23 24 25 	initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity. insert — anything other than reinforcing steel that is rigidly positioned within a concrete form for permanent embedment in the hardened concrete. in-situ concrete — see concrete, cast-in-place
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 16 17 18 19 20 21 22 23 24 25 26 27 28 29 	initial set — see set, initial. initial setting time — see time, initial setting. initial stresses — see stresses, initial. initial-tangent modulus — see modulus of elasticity. insert — anything other than reinforcing steel that is rigidly positioned within a concrete form for permanent embedment in the hardened concrete. in-situ concrete — see concrete, cast-in-place (preferred term). insoluble residue — the portion of a cement or aggregate that is not soluble in dilute hydrochloric acid of stated concentration.

31	insulation, form — insulating material applied to
32	outside of forms between studs and over
33	the top in sufficient thickness and air
34	tightness to conserve heat of hydration to
35	maintain concrete at required temperatures
36	in cold weather.
37	insulation, roof — low-density concrete used for
38	insulating purposes only and placed over a
39	structural roof system.
40	intermittent sampling — see sampling,
41	intermittent.
42	internal vibration — see vibration.
43	inverted L-beam — a beam having a cross section
44	in the shape of an inverted L. (See also L-
45	beam.)
46	inverted T-beam — a beam having a cross section
47	in the shape of an inverted T. (See also T-
48	beam.)
49	I-section — beam cross section consisting of top
50	and bottom flanges connected by a vertical
51	web.
52	isolation joint — see joint, isolation.
53	
54	— J —
55	jack — a mechanical device used for applying
56	force to prestressing tendons, for adjusting
57	elevation of forms or form supports, and for
58	raising objects small distances.

1	jack, flat — a hydraulic jack consisting of light
2	gage metal that is folded and welded to a
3	flat shape that expands under internal
4	pressure.
5	jack shore — telescoping, or otherwise adjustable,
6	single-post metal shore.
7	jacking device — the device used to stress the
8	tendons for prestressed concrete; also the
9	device for raising a vertical slipform.
10	jacking force — see force, jacking.
11	jacking stress — see stress, jacking.
12	jaw crusher — a machine having two inclined
13	jaws, one or both being actuated by a
14	reciprocating motion so that the charge is
15	repeatedly nipped between the jaws.
16	jet, air-water — a high-velocity jet of air and
17	water mixed at the nozzle, used in clean-up
18	of surfaces of rock or concrete, such as
19	horizontal construction joints.
20	jitterbug — a grate tamper for pushing coarse
21	aggregate slightly below the surface of a
22	slab to facilitate finishing. (See also
23	tamper.)
24	joint —
25	1) a physical separation in a
26	concrete system, whether precast or
27	cast-in-place, including cracks if
28	intentionally made to occur at
29	specified locations; or
30	2) the region where structural
31	members intersect.

joint, butt — a plain square joint between
two members.
joint, cold — a joint or discontinuity
resulting from a delay in placement
of sufficient duration to preclude
intermingling and bonding of the
material, or where mortar or plaster
rejoin or meet.
joint, construction — the surface where
two successive placements of
concrete meet, across which it may
be desirable to achieve bond and
through which reinforcement may
be continuous.
joint, contraction — formed, sawed, or
tooled groove in a concrete
structure to create a weakened plane
to regulate the location of cracking
resulting from the dimensional
change of different parts of the
structure. (See also joint, isolation;
joint, expansion; and joint,
construction.)
joint, control — see joint, contraction
(preferred term).
joint, cross — the joint at the end of
individual formboards between
subpurlins.

1	joint, expansion — (1) a separation	31	joint, longitudinal — a joint parallel to the
2	provided between adjoining parts of	32	length of a structure or pavement.
3	a structure to allow movement	33	joint, raked — a masonry-wall joint that
4	where expansion is likely to exceed	34	was the mortar raked out to a
5	contraction; or	35	specified depth while it is only
6	(2) a separation between pavement	36	slightly hardened.
7	slabs on grade, filled with a	37	joint, sawed — a joint cut in hardened
8	compressible filler material; or	38	concrete, generally not to the full
9	(3) an isolation joint intended to	39	depth of the member, by means of
10	allow independent movement	40	special equipment.
11	between adjoining parts.	41	joint, scarf — see connection, scarf.
12	joint, flexible — see joint, hinge; hinge,	42	joint, semiflexible — a connection in
13	Mesnager, and joint, semiflexible.	43	which the reinforcement is arranged
14	joint, groove — see joint, contraction	44	to permit some rotation of the joint.
15	(preferred term).	45	(See also joint, hinge and hinge,
16	joint, hinge — any joint which permits	46	Mesnager.)
17	rotation with no appreciable	47	joint, separation — see joint, isolation
18	moment developed in the members	48	(preferred term).
19	at the joint. (See also hinge,	49	joint, transverse — a joint normal to the
20	Mesnager, and joint, semiflexible.)	50	longitudinal dimension of a
21	joint, isolation — a separation between	51	structural element, assembly of
22	adjoining parts of a structure that	52	elements, slab, or structure.
23	allows relative movement in three	53	joint, warping — a joint with the sole
24	directions. Isolation joints are	54	function of permitting warping of
25	usually vertical planes located to	55	pavement slabs when moisture and
26	avoid formation of cracks in the	56	temperature differentials occur
27	structure. (See also joint,	57	between the top and bottom of the
28	contraction and joint, expansion.)	58	slabs, that is, longitudinal or
29	joint, lift — surface at which two	59	transverse joints with bonded steel
30	successive lifts meet.	60	or tie bars passing through them.

1	joint, weakened-plane — see joint,	32 k a	aolinite — a common clay mineral having the
2	groove and joint, contraction	33	general formula $Al_2(Si_2O_5)(OH_4)$, the
3	(preferred term).	34	primary constituent of kaolin.
4	joint filler — see filler, joint.	35 K	elly ball — an apparatus used for indicating the
5	joint sealant — see sealant, joint.	36	consistency of fresh concrete, consisting of
6	joint-sealing compound — see compound, joint-	37	a cylindrical weight 6 in. (150 mm) in
7	sealing.	38	diameter, weighing 30 lb (14 kg) with a
8	joint snall — a snall adjacent to a joint	39	hemispherically shaped bottom, a handle
0	isintad datail ass datail isintad	40	consisting of a graduated rod, and a stirrup
9	jointed detail — see detail, jointed.	41	to guide the handle and serve as a reference
10	jointer (concrete) — a metal tool about 6 in. (150	42	for measuring depth of penetration. (See
11	mm) long and from 2 to $4-1/2$ in. (50 to 100	43	also test, ball.)
12	mm) wide and having shallow, medium, or	44 k e	erb form; kerb tool — see curb form and curb
13	deep bits (cutting edges) ranging from 3/16	45	tool (preferred terms in USA; kerb is used
14	in. to 3/4 in. (5 to 20 mm) or deeper used to	46	in UK).
15	cut a joint partly through fresh concrete.	47 ke	ern area — the area within a geometric shape in
16	(See also jointing.)	48	which a compressive force may be applied
17	jointing — the process of producing joints in a	49	without tensile stresses resulting in any of
18	concrete slab. [See also jointer	50	the extreme fibers of the section.
19	(concrete).]	51 ke	ey — see keyway .
20	joist — a comparatively narrow beam, used in	52 k e	evwav — a recess or groove in one lift or
21	closely spaced arrangements to support	53	placement of concrete that is filled with
22	floor or roof slabs (which require no	54	concrete of the next lift, giving shear
23	reinforcement except that required for	55	strength to the joint. (See also tongue and
24	temperature and shrinkage stresses); also a	56	groove.)
25	horizontal structural member such as that	57 ki	cker — a wood block or board attached to a
26	which supports deck form sheathing. (See	58	formwork member in a building frame or
27	also beam .)	50	formwork to make the structure more
28	jumbo — traveling support for forms, commonly	60	stable: in formwork it acts as a haunch
29	used in tunnel work.	61	(See also wall stuh)
20		01	(000 mill) brub.)

— K —

1	kiln — a furnace or oven for drying, charring,	29 la r	oping (reinforcing steel) — the overlapping of
2	hardening, baking, calcining, sintering, or	30	reinforcing steel bars, welded-wire fabric,
3	burning various materials. (See also steam-	31	or expanded metal so that there may be
4	curing room.)	32	continuity of stress in the reinforcing when
5	kiln, rotary — a long steel cylinder with a	33	the concrete member is subjected to
6	refractory lining, supported on rollers so	34	loading.
7	that it can rotate about its own axis, and	35 la r	mite — a mineral; beta dicalcium silicate
8	erected with a slight inclination from the	36	(Ca ₂ SiO ₄); occurs naturally at Scawt Hill,
9	horizontal so that prepared raw materials	37	Northern Ireland, and artificially in slags
10	fed into the higher end move to the lower	38	and as a major constituent of portland
11	end where fuel is blown in by air blast.	39	cement.
12		40 lat	eral reinforcement — see reinforcement,
13	— L —	41	lateral.
1/	lacing — horizontal bracing between shoring	42 lat	ex - a dispersion of organic polymer particles
14	members	43	in water.
10		44 la t	h. diamond mesh or expanded-metal—a metal
16	lagging — neavy sneatning used as in	45	network often used as reinforcement in
17	underground work to withstand earth	46	construction, formed by suitably stamping
18	pressure. (See also sneathing.)	47	or cutting sheet metal and stretching it to
19	laitance — a layer of weak material derived from	48	form open meshes either of diamond-
20	cementitious material and aggregate fines	49	shaped or rhomboidal-shaped openings
21	either: carried by bleeding to the surface or	50	(See also mesh. diamond)
22	to internal cavities of freshly placed		
23	mixture; or separated from the mixture and	51 Iav	w, Abrams ² — a rule stating that, with given
24	deposited on the surface or internal cavities	52	concrete materials and conditions of test,
25	during placement of the mixture.	53	the ratio of the amount of water to the
26	lap — the length by which one bar or sheet of	54	amount of the cement in the mixture
27	fabric reinforcement overlaps another.	55	determines the strength of the concrete
28	lap splice — see splice. lap.	56	provided the mixture is of a workable
20	······································	57	consistency. (See also water-cement
		58	ratio.)

1	law, Hooke's — the law, which holds practically	30	lengtl
2	for strains within the elastic limit, that the	31	
3	strain is proportional to the stress producing	32	
4	it. (See also limit, proportional and	33	length
5	modulus of elasticity.)	34	
6	layer — see course and lift.	35	
7	layer, bonding — a layer of mortar, usually 1/8 to	36	
8	1/2 in. (3 to 13 mm) thick, which is spread	37	
9	on a moist and prepared, hardened concrete	38	
10	surface before placing fresh concrete.	39	lengtł
11	L-beam — a beam having a cross section in the	40	
12	shape of an L; a beam having a ledge on	41	length chang
13	one side only.	42	(See a
14	L-column — the portion of a precast-concrete	43	defor
15	frame, comprising the column, the haunch,	44	length chang
16	and part of the girder.	45	caused
17	leaf — see wythe (leaf).	46	volum
18	lean concrete — see concrete, lean.	47	lever arm —
19	lean mixture — see concrete, lean.	48	from t
20	lean mortar — see mortar, lean.	49	to the
21	ledger — any member with a protrusion or	50	zone;
22	protrusions that support other structural	51	transv
23	members (See also L-beam and inverted	52	mome
24	T-beam.)	53	L-head — the
25	longth	54	horizo
20		55	side, p
26	length, development — the bonded length	56	assem
27	required to achieve the design		
28	strength of a reinforcement at a		
29	critical section.		

length, embedment — the length of
embedded reinforcement provided
beyond a critical section.
length, transfer — the length from the end
of the member where the tendon
stress is zero to the point along the
tendon where the prestress is fully
effective; also called transmission
length.
length, transmission — see length,
transfer.
length change — increase or decrease in length.
(See also volume change and
deformation.)
length change, autogenous — length change
caused by autogenous volume change. (See
volume change, autogenous.)
lever arm — in a structural member, the distance
from the center of the tensile reinforcement
to the center of action of the compression
zone; also the perpendicular distance of a
transverse force from a point about which
moment is taken.
L-head — the top of a shore formed with a braced
horizontal member projecting from one
side, producing an inverted L-shaped
assembly.

1	licensed design professional — an engineer or
2	architect who is licensed to practice
3	structural design as defined by the statutory
4	requirements of the professional licensing
5	laws of a state or jurisdiction; or the
6	architect or engineer, licensed as described,
7	who is responsible for the structural design
8	of a particular project (also historically
9	referred to as the "engineer of record").
10	lift — the concrete placed between two
11	consecutive horizontal construction joints,
12	usually consisting of several layers or
13	courses.
14	lift joint — see joint, lift.
15	lift slab — a method of concrete construction in
16	which floor and roof slabs are cast on or at
17	ground level and hoisted into position by
18	jacking; also a slab that is a component of
19	such construction.
20	lifts (or tiers) — the number of frames of
21	scaffolding erected one above the other.
22	lightweight aggregate — see aggregate,
23	lightweight.
24	lightweight concrete — see concrete,
25	lightweight.
26	lime — specifically, calcium oxide (CaO); loosely,
27	a general term for the various chemical and
28	physical forms of quicklime, hydrated lime,
29	and hydraulic hydrated lime. (See also
30	lime, hydrated; lime, hydraulic hydrated;
31	and quicklime .)

lime, free — calcium oxide (CaO), as in clinker and cement, which has not combined with SiO₂, Al₂O₃, or Fe₂O₃ during the burning process usually because of underburning, insufficient grinding of the raw mixture, or the presence of traces of inhibitors. lime, hard-burned — the product of heating limestone to temperatures sufficient to change the calcium carbonate to calcium oxide, which can undergo expansion when it slowly reacts with water. lime, hydrated — calcium hydroxide, a dry powder obtained by treating quicklime with water. lime, hydraulic hydrated — the hydrated dry cementitious product obtained by calcining a limestone containing silica and alumina to a temperature short of incipient fusion so as to form sufficient free calcium oxide to permit hydration and at the same time leaving unhydrated sufficient calcium silicates to give the dry powder its hydraulic properties. **lime, spray** — a hydrated lime of such

fineness that at least 95% of the particles pass a 45 m (No. 325) sieve.

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1	limestone — a sedimentary rock consisting	31	linear transformation — the method of altering
2	primarily of calcium carbonate.	32	the path of the prestressing tendon in any
3	limit —	33	statically indeterminate prestressed
1	limit elastic — the limit of stress beyond	34	structure by changing the location of the
ч 5	which the strain is not wholly	35	tendon at one or more interior supports
6	recoverable	36	without altering its position at the end
0		37	supports and without changing the basic
/	limit, proportional — the greatest stress	38	shape of the path between any supports;
8	that a material is capable of	39	linear transformation does not change the
9	developing without any deviation	40	location of the path of the pressure line.
10	from proportionality of stress to	41	linear-traverse method — determination of the
11	strain. (See also law, Hooke's.)	42	volumetric composition of a solid by
12	limit, vibration — the age at which fresh	43	integrating the distance traversed across
13	concrete has hardened sufficiently	44	areas of each component along a line or
14	to prevent its becoming mobile	45	along regularly spaced lines in one or more
15	when subjected to vibration.	46	planes intersecting a sample of the solid;
16	limit design — a method of proportioning	47	frequently employed to determine
17	reinforced-concrete members based on	48	characteristics of the air-void system in
18	calculation of their strength. (See also	49	hardened concrete by microscopical
19	strength-design method.)	50	examination along a series of traverse lines
20	limonite — an iron ore composed of a mixture of	51	on finely ground sections of the concrete;
21	hydrated ferric oxides; occasionally used in	52	sometimes called the Rosiwal method. [See
22	heavyweight concrete because of its high	53	also point count method and point count
23	density and combined-water content, which	54	method (modified).]
24	contribute to its effectiveness in radiation	55	lining — any sheet, plate, or layer of material
25	shielding; a mineral occurring commonly	56	attached directly to the inside face of
26	as a constituent of particles of natural	57	formwork to improve or alter the surface
27	aggregate. (See also oxide, brown).	58	texture and quality of the finished concrete.
28	linear prestressing — prestressing applied to	59	(See also form lining, tunnel lining, and
29	linear members, such as beams and	60	sheathing.)
30	columns.	61	lintel — a horizontal supporting member above an
		62	opening, such as a window or a door.

1	liquid-volume measurement — measurement of	32
2	grout on the basis of the total volume of	33
3	solid and liquid constituents.	34
4	lithology — the study of rocks. (See also	35
5	petrography and petrology.)	36
6	live load — see load, live.	37
7	load —	38
8	load, allowable — see load, service dead	39
9	and load, service live.	40
10	load, axle — the portion of the gross	41
11	weight of a vehicle transmitted to a	42
12	structure or a roadway through	43
13	wheels supporting a given axle.	44
14	load, balanced — load capacity at	45
15	simultaneous compressive failure of	46
16	concrete and yielding of tension	47
17	steel. (See also load balancing.)	48
18	load, cracking — the load that causes	49
19	tensile stress in a member to exceed	50
20	the tensile strength of the concrete.	51
21	load, dead —	52
22	(1) the weights of the structural	53
23	members, supported structure, and	54
24	permanent attachments or	55
25	accessories that are likely to be	56
26	present on a structure in service; or	5/
27	(2) loads meeting specific criteria	28
28	found in the governing building	
29	code (without load factors).	
30	load, design — obsolete term for factored	
31	load.	

load, dynamic — a load that is variable,
that is, not static, such as a moving
live load, earthquake, or wind.
load, factored — load, multiplied by
appropriate load factors, used to
proportion members by the
strength-design method.
load, live —
(1) load that is not permanently
applied to a structure but is likely to
occur during the service life of the
structure (excluding environmental
loads); or
(2) loads meeting specific criteria
found in the governing building
code (without load factors).
load, point — a load whose area of contact
with the resisting body is negligible
in comparison with the area of the
resting body.
load, safe leg — the load that can safely be
directly imposed on the frame leg of
a scaffold. (See also load, service.)
load, service — all loads, static or
transitory, imposed on a structure,
or element thereof, during operation
of a facility.

1	load, service dead — unfactored loads,	31	
2	permanent or transient, imposed on	32	
3	a structure during operation.load,	33	
4	service live — the live load	34	
5	specified by the general building	35	
6	code or other bridge specification,	36	
7	or the actual nonpermanent load	37	
8	applied in service.	38	
9	load, shock — impact of material, such as	39	
10	aggregate or concrete, as it is	40	
11	released or dumped during	11	
12	placement.	42	
13	load, snow — the force considered in the	43	
14	design of a flat or pitched surface,		امم
15	usually a roof, for the possible	44	108
16	amount of snow, ice, or both, lying	40	
17	on it.	40	
18	load, static — the mass of a single	48	
19	stationary body or the combined	49	
20	masses of stationary bodies in a	50	
21	structure (such as the load of a	51	
22	stationary vehicle on a roadway);	52	امع
23	or, during construction, the	52	104
24	combined mass of forms, stringers,	54	
25	joists, reinforcing bars, and the		1
26	actual concrete to be placed. (See	55	108
27	also load, dead.)	56	loa
28	load, superimposed — the load, other than	57	
29	its own weight, that is resisted by a	58	
30	structural member or system.		

may be placed on a structure or
structural element before its failure.
load, wheel — the portion of the gross
mass of a loaded vehicle transferred
to the supporting structure under a
given wheel of the vehicle.
load, wind — pressure of suction due to
wind on part or all of a surface of a
structure.
load, working — forces normally imposed
on a member in service (obsolete
term).
alancing — a technique used in the design
of prestressed-concrete members in which
the amount and path of the prestressing is
selected so that the forces imposed upon
the member or structure by the prestressing
counteract or balance a portion of the dead
and live loads for which the member or
structure must be designed.
ctor — a factor by which a service load is
multiplied to determine a factored load
used in the strength-design method.
earing wall — see wall, load-bearing.
st, structural — procedure consisting of
applying loads to verify the strength of a
structure or structural member.
st, structural — procedure consisting of applying loads to verify the strength of a structure or structural member.

1	load-transfer assembly — the unit (basket or	31	longitudinal reinforcement — see
2	plate) designed to support or link dowel	32	reinforcement, longitudina
3	bars during concreting operations so as to	33	Los Angeles abrasion test — see te
4	hold them in place while in the desired	34	Angeles abrasion.
5	alignment.	35	loss —
6	loading, bulk — loading of unbagged cement in	36	loss anchorage — see defo
7	containers, specially designed trucks,	30	anchorage or slin
8	railroad cars, or ships.		
9	loading, dynamic — loading from units	38	loss, elastic — in prestressed
10	(particularly machinery) that, by virtue of	39	reduction in prestress
11	their movement or vibration, impose	40	resulting from the efa
12	stresses in excess of those imposed by their	41	of the member.
13	dead load.	42	loss, friction — the stress lo
14	loading, ribbon — method of batching concrete in	43	prestressing tendon re
15	which the solid ingredients, and sometimes	44	friction between the t
16	also the water, enter the mixer	45	duct or other device of
17	simultaneously.	46	stressing.
18	loading hopper — a hopper in which concrete or	47	loss, ignition — see loss on
19	other free-flowing material is deposited for	48	(preferred term).
20	discharge into buggies or other	49	loss, plastic — see creep.
21	conveyances used for delivery to the forms	50	loss, shrinkage — reduction
22	or to other place of processing, use, or	51	prestressing steel rest
23	storage.	52	shrinkage of concrete
24	locking device — a device used to secure a cross	53	loss, slump — the amount b
25	brace in scaffolding to the frame or panel	54	slump of freshly mixed
20	long column	55	changes during a peri
20		56	after an initial slump
27	longitudinal bar — see reinforcement,	57	on a sample or sampl
28	longitudinal (preferred term).		
29	longitudinal crack — see crack, longitudinal.		
30	longitudinal joint — see joint, longitudinal.		

reinforcement, longitudinal.
s Angeles abrasion test — see test, Los
Angeles abrasion.
s —
loss, anchorage — see deformation,
anchorage or slip.
loss, elastic — in prestressed concrete, the
reduction in prestressing load
resulting from the elastic shortening
of the member.
loss, friction — the stress loss in a
prestressing tendon resulting from
friction between the tendon and
duct or other device during
stressing.
loss, ignition — see loss on ignition
(preferred term).
loss, plastic — see creep.
loss, shrinkage — reduction of stress in
prestressing steel resulting from
shrinkage of concrete.
loss, slump — the amount by which the
slump of freshly mixed concrete
changes during a period of time
after an initial slump test was made
on a sample or samples thereof.

1	loss of prestress — the reduction in the	30	macadam, cement-bound — a road consisting of
2	prestressing force which results from the	31	crushed stone, crushed slag, or gravel and
3	combined effects of slip at anchorage,	32	either a grout or mortar filler; formed by
4	relaxation of steel stress, frictional loss due	33	rolling a base of stone, slag, or gravel to a
5	to curvature in the tendons, and the effects	34	compacted mass having an even surface,
6	of elastic shortening, creep, and shrinkage	35	and then rolling in the cementitious filler.
7	of the concrete.	36	machine, finishing — a power-operated machine
8	loss on ignition — the percentage loss in mass of a	37	used to produce the desired surface texture
9	sample ignited to constant weight at a	38	on a concrete slab.
10	specified temperature, usually 1650 to 1830	39	machine-base grout — see grout, machine base.
11	°F (900 to 1000 °C).	40	macrofiber — a fiber with an equivalent diameter
12	low-alkali cement — see cement, low-alkali.	41	greater than or equal to 0.012 in. (0.3 mm)
13	low-density concrete — see concrete, low-	42	for use in concrete.
14	density and concrete, lightweight.	43	macroscopic — visible to the naked eye (preferred
15	low-heat cement — see cement, low heat.	44	term).
16	low-lift grouting — see grouting, low-lift.	45	magnetite — a mineral, ferrous ferric oxide
16 17	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing,	45 46	magnetite — a mineral, ferrous ferric oxide (FeO·Fe ₂ O ₃); the principal constituent of
16 17 18	<pre>low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred</pre>	45 46 47	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2
16 17 18 19	<pre>low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term).</pre>	45 46 47 48	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an
16 17 18 19 20	<pre>low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low-</pre>	45 46 47 48 49	magnetite — a mineral, ferrous ferric oxide(FeO·Fe2O3); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete.
 16 17 18 19 20 21 	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low-strength material (CLSM) (preferred	45 46 47 48 49 50	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1).
16 17 18 19 20 21 22	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low-strength material (CLSM) (preferred term).	45 46 47 48 49 50 51	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand.
 16 17 18 19 20 21 22 23 	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low- strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L-	45 46 47 48 49 50 51 52	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map.
 16 17 18 19 20 21 22 23 24 	 low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low- strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L- head.) 	45 46 47 48 49 50 51 52 53	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map. marble — a metamorphic rock composed
 16 17 18 19 20 21 22 23 24 25 	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low-strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L-head.) lubricant, dowel — a material applied to part of	45 46 47 48 49 50 51 52 53 53	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map. marble — a metamorphic rock composed essentially of recrystallized calcite,
 16 17 18 19 20 21 22 23 24 25 26 	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low-strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L-head.) lubricant, dowel — a material applied to part of the surface of a dowel to reduce bond with	45 46 47 48 49 50 51 52 53 54 55	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map. marble — a metamorphic rock composed essentially of recrystallized calcite, dolomite, or both.
 16 17 18 19 20 21 22 23 24 25 26 27 	low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low- strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L- head.) lubricant, dowel — a material applied to part of the surface of a dowel to reduce bond with the concrete and permit axial movement.	45 46 47 48 49 50 51 52 53 54 55 55	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map. marble — a metamorphic rock composed essentially of recrystallized calcite, dolomite, or both. marl — calcareous clay, usually containing from
 16 17 18 19 20 21 22 23 24 25 26 27 28 	 low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low- strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L- head.) lubricant, dowel — a material applied to part of the surface of a dowel to reduce bond with the concrete and permit axial movement. 	45 46 47 48 49 50 51 52 53 54 55 56 57	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map. marble — a metamorphic rock composed essentially of recrystallized calcite, dolomite, or both. marl — calcareous clay, usually containing from 35 to 65% calcium carbonate (CaCO₃),
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 	 low-lift grouting — see grouting, low-lift. low-pressure steam curing — see curing, atmospheric-pressure steam (preferred term). low-strength materials — see controlled low-strength material (CLSM) (preferred term). L-shore — a shore with an L-head. (See also L-head.) lubricant, dowel — a material applied to part of the surface of a dowel to reduce bond with the concrete and permit axial movement. 	45 46 47 48 49 50 51 52 53 54 55 56 57 58	 magnetite — a mineral, ferrous ferric oxide (FeO·Fe₂O₃); the principal constituent of magnetic black iron ore; density about 5.2 g/cc and Mohs hardness about 6; used as an aggregate in high-density concrete. manual batcher — see batcher (1). manufactured sand — see sand. map cracking — see cracking, map. marble — a metamorphic rock composed essentially of recrystallized calcite, dolomite, or both. marl — calcareous clay, usually containing from 35 to 65% calcium carbonate (CaCO₃), found in the bottoms of shallow lakes,

1	mason — an artisan who builds with concrete	33	masonry, plain —
2	masonry units, bricks, stone, and tile; name	34	(1) masonry without reinforcement;
3	sometimes given a concrete finisher.	35	or
4	masonry — construction composed of shaped or	36	(2) masonry reinforced only for
5	molded units, usually small enough to be	37	shrinkage or thermal change.
6	handled by one person and composed of	38	masonry, reinforced — unit masonry in
7	stone, ceramic brick or tile, concrete, glass,	39	which reinforcement is embedded in
8	adobe, or the like.	40	such a manner that the two
9	masonry, ashlar — masonry composed of	41	materials act together in resisting
10	bonded blocks of concrete, either	42	forces.
11	rectangular or square, always of two	43	masonry, solid-unit — masonry consisting
12	or more sizes; if the pattern is	44	wholly of solid masonry units laid
13	repeated, it is patterned ashlar; if the	45	in mortar.
14	pattern is not repeated, it is random	46	masonry, unit — a structural element
15	ashlar.	47	consisting of concrete masonry
16	masonry, bonded hollow-wall — a cavity	48	units usually bonded by mortar,
17	wall, built of masonry units, in	49	grout, or both.
18	which the inner and outer walls are	50	masonry cement — see cement, masonry.
19	tied together by bonders.	E1	masonry filler unit masonry unit used to fill in
20	masonry, exposed — masonry constructed	51	hatween joists or hearts to provide a
21	to have no surface finish other than	52	platform for a cast-in-place concrete slab
22	paint.		
23	masonry, grouted — unit masonry	54	masonry grout — see grout, masonry.
24	composed of either hollow units	55	masonry lift — the height to which masonry is
25	wherein the cells are filled with	56	laid between periods of grouting.
26	grout or multiple wythes where	57	masonry unit, concrete — either a hollow or solid
27	spaces between the wythes are filled	58	unit (block) composed of portland-cement
28	with grout.	59	concrete; often referred to by indicating the
29	masonry, hollow-unit — masonry	60	type of mineral aggregate incorporated (for
30	consisting either entirely or partially	61	example, lightweight or sand-gravel block).
31	of hollow masonry units laid in		
32	mortar.		

1	masonry wall, solid — a wall built of blocks or
2	solid masonry units, the mortar completely
3	filling the joints between units.
4	mason's putty — a pasty substance, composed of
5	water and hydrated lime mixed with
6	portland cement and stone dust; used only
7	for jointing ashlar masonry.
8	mass — the physical property of matter that causes
9	it to have weight in a gravitational field; the
10	quantity of matter in a body.
11	mass concrete — see concrete, mass.
12	mass curing — see curing, mass.
13	mass density — see density.
14	mat —
15	(1) an assembly of steel reinforcement
16	composed of two or more layers of bars
17	placed at angles to each other and secured
18	together either by welding or tying; or
19	(2) a thin layer of randomly oriented
20	chopped filaments, short fibers (with or
21	without a carrier fabric), or long random
22	filaments loosely held together with a
23	binder and used as reinforcing for a fiber
24	reinforced polymer composite material.
25	mat foundation — see foundation, mat.
26	material hose — see hose, delivery.
27	material, supplementary cementitious (SCM) —
28	inorganic material such as fly ash, silica
29	fume, metakaolin, or ground-granulated
30	blast-furnace slag that reacts pozzolanically
31	or hydraulically.

32 materials, cementitious — pozzolans and

33 hydraulic cements.	. (See also fly ash; silic	a
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34 **fume**; **cement**, **slag**)

35 matrix —

36	(1) the cement paste in which the fine
37	aggregate particles in mortar are embedded;
38	(2) the mortar in which the coarse
39	aggregate particles in concrete are
40	embedded; or
41	(3) the resin or binders that hold the fibers
42	in fiber-reinforced polymer together,
43	transfer load to the fibers, and protect them
44	against environmental attack and damage
45	due to handling.
46	mats, cotton — cotton-filled quilts fabricated for
47	use as a water-retaining covering in curing
48	concrete surfaces.
49	maturity factor — see factor, maturity.
50	maximum size (of aggregate) — in specifications
51	for and in description of aggregate, the
52	smallest sieve opening through which the
53	entire amount of aggregate is required to
54	pass. [See also nominal maximum size (of
55	aggregate).]
56	maximum-temperature period — a time interval
57	throughout which the maximum
58	temperature is held constant in an autoclave
59	or steam-curing room.

60 mean stress — see stress, mean.

1	mechanical analysis — the process of determining	32 me i	mber, segmental — a structural member made
2	particle-size distribution of an aggregate.	33	up of individual elements prestressed
3	(See analysis, sieve.)	34	together to act as a monolithic unit under
4	mechanical anchorage — see anchorage,	35	service loads.
5	mechanical.	36 me i	mbrane curing — see curing, membrane.
6	mechanical bond — see bond, mechanical.	37 me i	mbrane theory — a theory of design for thin
7	mechanical connection — the complete assembly	38	shells, based on the premise that a shell
8	of an end-bearing sleeve, a coupler, or a	39	cannot resist bending because it deflects;
9	coupling sleeve, and possibly additional	40	the only stresses that exist, therefore, in any
10	intervening material or other components to	41	section are shear stress and direct
11	effect connection of reinforcing bars. (See	42	compression or tension.
12	also bar-end check , coupler , coupling	43 me	rwinite — one of the principal crystalline
13	sleeve, end-bearing sleeve.)	44	phases found in blast-furnace slags;
14	medium, grinding — a hard, free-moving charge	45	chemical formula is Ca ₃ Mg(SiO ₄) ₂ , crystal
15	in a ball or tube mill to reduce the particle	46	system is monoclinic, and density is 3.15
16	size of introduced materials by attrition or	47	g/cc. (See also akermanite, gehlenite, and
	5		
17	impact.	48	melilite.)
17 18	impact. megascopic — see macroscopic (preferred term).	48 49 me s	melilite.)sh — the number of openings (including
17 18 19	<pre>impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the</pre>	48 49 mes 50	melilite.)sh — the number of openings (including fractions thereof) per unit of length in
17 18 19 20	<pre>impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to</pre>	48 49 mes 50 51	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the
17 18 19 20 21	<pre>impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite)</pre>	 48 49 mes 50 51 52 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less.
17 18 19 20 21 22	 impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. 	 48 49 mes 50 51 52 53 mes 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having
17 18 19 20 21 22 23	 impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, 	 48 49 mes 50 51 52 53 mes 54 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric
 17 18 19 20 21 22 23 24 	<pre>impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, merwinite.)</pre>	 48 49 mes 50 51 52 53 mes 54 55 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric pattern. (See also lath, expanded-metal.)
 17 18 19 20 21 22 23 24 25 	<pre>impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, merwinite.) melt — the molten portion of the raw material</pre>	 48 49 mes 50 51 52 53 mes 54 55 56 mes 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric pattern. (See also lath, expanded-metal.) sh reinforcement — see fabric, welded-wire
 17 18 19 20 21 22 23 24 25 26 	impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, merwinite.) melt — the molten portion of the raw material mass during the burning of cement clinker.	 48 49 mes 50 51 52 53 mes 54 55 56 mes 57 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric pattern. (See also lath, expanded-metal.) sh reinforcement — see fabric, welded-wire and reinforcement, welded-wire fabric.
 17 18 19 20 21 22 23 24 25 26 27 	impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, merwinite.) melt — the molten portion of the raw material mass during the burning of cement clinker, firing of lightweight aggregates, or	 48 49 mes 50 51 52 53 mes 54 55 56 mes 57 58 mes 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric pattern. (See also lath, expanded-metal.) sh reinforcement — see fabric, welded-wire and reinforcement, welded-wire fabric. sh roller — a finishing tool consisting of a
 17 18 19 20 21 22 23 24 25 26 27 28 	impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, merwinite.) melt — the molten portion of the raw material mass during the burning of cement clinker, firing of lightweight aggregates, or expanding of blast-furnace slags.	 48 49 mes 50 51 52 53 mes 54 55 56 mes 57 58 mes 59 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric pattern. (See also lath, expanded-metal.) sh reinforcement — see fabric, welded-wire and reinforcement, welded-wire fabric. sh roller — a finishing tool consisting of a rolling drum attached to a handle, of which
 17 18 19 20 21 22 23 24 25 26 27 28 20 	 impact. megascopic — see macroscopic (preferred term). melilite — a group of minerals ranging from the calcium magnesium silicate (akermanite) to the calcium aluminate silicate (gehlenite) that occur as crystals in blast-furnace slag. (See also akermanite, gehlenite, merwinite.) melt — the molten portion of the raw material mass during the burning of cement clinker, firing of lightweight aggregates, or expanding of blast-furnace slags. 	 48 49 50 51 52 53 54 55 56 56 57 58 59 60 	 melilite.) sh — the number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 1/4 in. (6 mm) or less. sh, diamond — a metallic fabric having rhomboidal openings in a geometric pattern. (See also lath, expanded-metal.) sh reinforcement — see fabric, welded-wire and reinforcement, welded-wire fabric. sh roller — a finishing tool consisting of a rolling drum attached to a handle, of which the surface of the drum is made of mesh.
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1	Mesnager hinge — see hinge, Mesnager.	24 m	icroscope, scanning electron (SEM) — an
2	meter, air — a device for measuring the air	25	electron microscope in which the image is
3	content of concrete and mortar.	26	formed by a beam operating in
4	method. advancing-slope — a method of placing	27	synchronism with an electron probe
5	concrete as in tunnel linings in which the	28	scanning the object; the intensity of the
6	face of the fresh concrete is not vertical and	29	image-forming beam is proportional to the
7	moves forward as concrete is placed	30	scattering or secondary emission of
0	microsoparate a mixture of portland compart	31	electrons by the specimen where the probe
8	water and suitably graded cand for	32	beam strikes it.
10	simulating concrete in small scale	33 m	icroscopic — discernible only with the aid of a
10	structural models	34	microscope.
		35 m	icrosilica — see silica fume (preferred term).
12	microcracks — small, numerous cracks that	36 m	iddle strin — see strin, middle
13	develop in hardened concrete.	07 10	ill hall harizantal avlindriaal rotating mill
14	microfiber — a fiber with an equivalent diameter	3/ III	abaraad with large grinding madia (See
15	less than 0.012 in. (0.3 mm) for use in	38	also mill rad)
16	concrete.	39	also min, rou .)
17	microsand — fine aggregate, passing the U.S.	40 m	ill, rod — horizontal, cylindrical, rotating mill
18	Standard 150 m (No. 100) sieve, and	41	charged with steel rods for grinding. (See
19	essentially free of clay and shale.	42	also mill, ball.)
20	microscope, polarizing — a microscope equipped	43 m	ill scale — the partially adherent layers of
21	with elements permitting observations and	44	oxidation products (heavy oxides)
22	determinations to be made using polarized	45	developed on metallic surfaces during
23	light. (See also Nicol prism.)	46	either hot fabrication or heat treatment of
		47	metals, as on hot-rolled steel reinforcing
		48	bars.
		49 m	ineral aggregate — see aggregate, mineral.
		50 m	ineral filler — a finely divided mineral product
		51	at least 65 % of which passes the U.S.
		52	Standard 75 m (No. 200) sieve. (See also
		53	silt.)

1	minimum film-forming temperature — see
2	temperature, minimum film-forming.
3	mix (n.) — see mixture.
4	mix (v.) — the act or process of mixing; also
5	mixture of materials, such as mortar or
6	concrete.
7	mix, dry — a concrete, mortar, or plaster mixture,
8	commonly sold in bags, containing all
9	components except water; also a concrete
10	of near zero slump.
11	mix design — see mixture proportion (preferred
12	term).
13	mixer — a machine used for blending the
14	constituents of concrete, grout, mortar,
15	cement paste, or other mixture.
16	mixer, batch — a machine that mixes
17	batches of either concrete or mortar.
18	mixer, central — a stationary concrete
19	mixer from which the freshly mixed
20	concrete is transported to the work.
21	mixer, colloidal — a mixer designed to
22	produce colloidal grout.
23	mixer, continuous — a mixer into which
24	the ingredients of the mixture are
25	fed without stopping, and from
26	which the mixed product is
27	discharged in a continuous stream.
28	mixer, high-discharge — see mixer,
29	inclined-axis (preferred term).

mixer,	horizontal-axis — a concrete mixer
	of the revolving drum type in which
	the drum rotates about a horizontal
	axis.
mixer,	horizontal-shaft — a mixer having
	a stationary cylindrical mixing
	compartment, with the axis of the
	cylinder horizontal, and one or more
	rotating horizontal shafts to which
	mixing blades or paddle are
	attached; also called pugmill.
mixer,	inclined-axis — a truck with a
	revolving drum that rotates about an
	axis inclined to the bed of the truck
	chassis.
mixer,	nontilting — a horizontal rotating
	drum mixer that charges, mixes, and
	discharges without tilting.
mixer,	open-top — a truck-mounted mixer
	consisting of a trough or a segment
	of a cylindrical mixing
	compartment within which paddles
	or blades rotate about the horizontal
	axis of the trough. (See also mixer,
	horizontal-shaft and mixer, open-
	top.)
mixer,	paddle — see open-top mixer
	(preferred term).
mixer,	pan — see mixer, vertical shaft.
mixer,	revolving-blade (or paddle) — see

1	mixer, tilting — a revolving-drum mixer	28	mixer, volumetric — equipment that uses
2	that discharges by tilting the drum	29	measurements based on the volumes
3	about a fixed or movable horizontal	30	of the ingredients to feed a
4	axis at right angles to the drum axis;	31	container that continually agitates
5	the drum axis may be horizontal or	32	and combines those ingredients, for
6	inclined while charging and mixing.	33	the production of concrete; also
7	mixer, transit — see mixer, truck.	34	called volumetric-measuring and
8	mixer, trough — see mixer, open-top	35	continuous-mixing concrete
9	(preferred term).	36	equipment (VMCM).
10	mixer, truck — a concrete mixer suitable	37	mixer efficiency — the adequacy of a mixer in
11	for mounting on a truck chassis and	38	rendering a homogeneous product within a
12	capable of mixing concrete in	39	stated period; homogeneity is determinable
13	transit (See also mixer, horizontal-	40	by testing for relative differences in
14	axis: mixer, inclined-axis: mixer.	41	physical properties or composition of
15	open-top: and agitator.)	42	samples extracted from different portions
	· · · · ·	43	of a freshly mixed batch.
16	mixer, tub — see mixer, open-top	44	mixing, continuous — producing concrete by
17	(preferred term).	45	continuously blending ingredients in fixed
18	mixer, turbine — see mixer, open-top	46	proportions. The discharge of the concrete
19	(preferred term).	47	mixture may be started or stopped as
20	mixer, vertical-shaft — a cylindrical or	48	required.
21	annular mixing compartment having	49	mixing cycle — the time taken for a complete
22	an essentially level floor and	50	cycle in a batch mixer that is the time
23	containing one or more vertical	51	elapsing between successive repetitions of
24	rotating shafts to which blades or	52	the same operation (for example
25	paddles are attached; the mixing	53	successive discharges of the mixer)
26	compartment may be stationary or		
27	rotate about a vertical axis.	54	mixing, ary — biending of the solid materials for
		55	mortar or concrete before adding the
		56	mixing water.

57 mixing plant — see batch plant (preferred term).

1	mixing speed — rotation rate of a mixer drum or	32	mixture, ternary — concrete containing
2	of the paddles in an open-top, pan, or	33	three cementitious materials.
3	trough mixer, when mixing a batch;	34	mixture proportion — the proportions of
4	expressed in revolutions per minute (rpm),	35	ingredients that make the most economical
5	or in peripheral feet per minute of a point	36	use of available materials to produce mortar
6	on the circumference at maximum	37	or concrete of the required properties. (See
7	diameter.	38	also proportion.)
8	mixing time — the period during which the	39	mobile placer — a small belt conveyor mounted
9	constituents of a batch of concrete are	40	on wheels or truck-mounted that can be
10	mixed by a mixer; for a stationary mixer,	41	readily moved to the job site for conveying
11	time is given in minutes from the	42	concrete from the ready mixed concrete
12	completion of mixer charging until the	43	truck to the forms or slab.
13	beginning of discharge; for a truck mixer,	44	mobility — the ability of fresh concrete or mortar
14	time is given in total minutes at a specified	45	to flow.
15	mixing speed or expressed in terms of total	46	moderate sulfate-resisting cement — see
16	revolutions at a specified mixing speed.	47	cement. moderate sulfate-resisting
17	(See also amount of mixing .)	10	madified on her as partian of a nextan onlar herem
18	mixing water — see water, mixing.	48	af hardened concrete previously broken in
19	mixture — the assembled, blended, commingled	49 50	flevure: used in determining the
20	ingredients of mortar, concrete, or the like;	51	compressive strength of the concrete
21	or the proportions for their assembly.	51	compressive suchgar of the concrete.
22	mixture, binary — concrete containing	52	modified portland cement — a portland cement
23	two cementitious materials.	53	having moderate neat of hydration; this
24	mixture, harsh — a concrete mixture that	54	term was replaced by Type II cement
25	lacks desired workability and	55	madified)
26	consistency due to a deficiency of	56	moaineu.)
27	mortar or aggregate fines.	57	modular ratio — the ratio of modulus of elasticity
20	mixture lean see concrete lean	58	of steel E_s to that of concrete E_c ; usually
28	mixture, iean — see concrete, iean.	59	denoted by the symbol <i>n</i> .
29	mixture, quad — concrete containing four	60	modulus —
30	cementitious materials.		
31	mixture, rich — see rich mixture.		

1	modulus, bulk — the ratio of the change in	24	modulus, section — a term pertaining to
2	average stress to the change in unit	25	the cross section of a flexural
3	volume. (See also modulus of	26	member; the section modulus with
4	compression.)	27	respect to either principal axis is the
5	modulus, chord — see modulus of	28	moment of inertia with respect to
6	elasticity.	29	that axis divided by the distance
7	modulus, elastic — see modulus of	30	from that axis to the most remote
8	elasticity (preferred term).	31	point of the tension or compression
0	modulus finances a factor obtained by	32	area of the section, as required; the
9	adding the total percentages of	33	section modulus is used to
10	material in the sample that are	34	determine the flexural stress in a
11	accurate than each of the following	35	beam.
12	sieves (cumulative percentages	36	modulus, shear — see modulus of
13	retained) and dividing the sum by	37	rigidity.
15	100.150 m (No 100) 300 m	38	modulus, sonic — see modulus of
16	$(N_0, 50), 600, m, (N_0, 30), 1.18$	39	elasticity, dynamic.
17	mm (No. 16), 2.36 mm (No. 8)	40	modulus, subgrade — see coefficient of
18	4.75 mm (No. 4) 9.5 mm (3/8 in)	41	subgrade reaction
19	19.0 mm (3/4 in.). 37.5 mm (1-1/2		modulus tangent see modulus of
20	in.). 75 mm (3 in.). 150 mm (6 in.)	42	modulus, tangent — see modulus of
21	modulus initial tangent see modulus	43	elasticity.
21	af electicity modulus secont	44	modulus, Young's — see modulus of
22	see modulus of electicity	45	elasticity (preferred term).
23	see modulus of elasticity.	46	modulus of compression — the ratio of
		47	compressive stress to cubical compression;
		48	always positive for physical substances;
		49	also known as bulk modulus; related to
		50	Young's modulus and Poisson's ratio by
	~	51	the equation $K = E = 3 (1-2)$, where $k =$
		52	bulk modulus, $E =$ Young's modulus, and
		53	= Poisson's ratio of the material under
		54	consideration.
		55	modulus of deformation —
		106	

1	(1) a concept of modulus of elasticity
2	expressed as a function of two time
3	variables; strain in loaded concrete as a
4	function of the age at which the load is
5	initially applied and of the length of time
6	the load is sustained; and
7	(2) the ratio of stress to strain for a material
8	that does not deform in accordance with
9	Hooke's law when subjected to applied
10	load (See also modulus of elasticity)
10	ioud. (See also mounds of chastlery.)
11	modulus of elasticity — the ratio of normal stress
11 12	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or
11 12 13	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or compressive stress below the proportional
11 12 13 14	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or compressive stress below the proportional limit of the material; also referred to as
11 12 13 14 15	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or compressive stress below the proportional limit of the material; also referred to as elastic modulus, Young's modulus, and
11 12 13 14 15 16	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or compressive stress below the proportional limit of the material; also referred to as elastic modulus, Young's modulus, and Young's modulus of elasticity; denoted by
 11 12 13 14 15 16 17 	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or compressive stress below the proportional limit of the material; also referred to as elastic modulus, Young's modulus, and Young's modulus of elasticity; denoted by the symbol <i>E</i> . (See also modulus of
 11 12 13 14 15 16 17 18 	modulus of elasticity — the ratio of normal stress to corresponding strain for tensile or compressive stress below the proportional limit of the material; also referred to as elastic modulus, Young's modulus, and Young's modulus of elasticity; denoted by the symbol <i>E</i> . (See also modulus of rigidity.)

Note: few materials conform to Hooke's law throughout the entire range of stressstrain relations; deviations therefrom are caused by inelastic behavior. If the deviations are significant, the slope of the tangent to the stress-strain curve at the origin, the slope of the tangent to the stressstrain curve at any given stress, the slope of the secant drawn from the origin to any specified point on the stress-strain curve, or the slope of the chord connecting any two specified points on the stress-strain curve, may be considered as the modulus; in such cases the modulus is designated, respectively, as the initial tangent modulus, the tangent modulus, the secant modulus, or the chord modulus, and the stress stated. The modulus is expressed as force per unit of area (for example, psi or Pa).

modulus of elasticity, dynamic — the modulus of elasticity computed from the size, weight, shape, and fundamental frequency of vibration of a concrete test specimen, or from pulse velocity. (See also modulus of elasticity, static and velocity, pulse.)

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1	modulus of elasticity, static — the value	32	modulus of subgrade reaction — ratio of the load
2	of Young's modulus of elasticity	33	per unit area of soil to the corresponding
3	obtained by arbitrary criteria from	34	settlement of the soil, typically evaluated in
4	measured stress-strain relationships	35	situ per ASTM D 1196. (See also
5	derived from other than dynamic	36	coefficient of subgrade reaction.)
6	loading. (See also modulus of	37	Mohs scale — arbitrary quantitative units, ranging
7	elasticity.)	38	from 1 through 10, by means of which the
8	modulus of elasticity, sustained — term	39	scratch hardness of a mineral is determined;
9	including elastic and inelastic	40	each unit of hardness is represented by a
10	effects in one expression to aid in	41	mineral that can scratch any other mineral
11	visualizing net effects of stress-	42	having a lower-ranking number; the
12	strain up to any given time;	43	minerals are ranked from talc or 1 (the
13	computed by dividing the unit	44	softest), upward through gypsum or 2,
14	sustained stress by the sum of the	45	calcite or 3, fluorite or 4, apatite or 5,
15	elastic and inelastic deformations at	46	orthoclase or 6, quartz or 7, topaz or 8,
16	that time. (See also modulus of	47	corundum or 9, and diamond or 10 (the
17	elasticity.)	48	hardest).
17 18	elasticity.) modulus of resilience — see resilience.	48 49	hardest). moist — slightly damp but not quite dry to the
17 18 19	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing	48 49 50	 hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free
17 18 19 20	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing stress to the corresponding unit shearing	48 49 50 51	hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free water, "damp" implies less wetness than
 17 18 19 20 21 	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing stress to the corresponding unit shearing strain; referred to as shear modulus and	48 49 50 51 52	hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free water, "damp" implies less wetness than "wet," and "moist" implies not quite dry.
 17 18 19 20 21 22 	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing stress to the corresponding unit shearing strain; referred to as shear modulus and modulus of elasticity in shear, denoted by	48 49 50 51 52 53	hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free water, "damp" implies less wetness than "wet," and "moist" implies not quite dry. (See also damp and wet.)
 17 18 19 20 21 22 23 	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing stress to the corresponding unit shearing strain; referred to as shear modulus and modulus of elasticity in shear, denoted by the symbol G. (See also modulus of	48 49 50 51 52 53 54	hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free water, "damp" implies less wetness than "wet," and "moist" implies not quite dry. (See also damp and wet.) moist-air curing — see curing, moist-air.
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 17 18 19 20 21 22 23 24 25 	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing stress to the corresponding unit shearing strain; referred to as shear modulus and modulus of elasticity in shear, denoted by the symbol G. (See also modulus of elasticity.) modulus of rupture — the calculated apparent	48 49 50 51 52 53 54 55	hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free water, "damp" implies less wetness than "wet," and "moist" implies not quite dry. (See also damp and wet.) moist-air curing — see curing, moist-air. moist cabinet — see cabinet, moist.
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 17 18 19 20 21 22 23 24 25 26 27 28 	elasticity.) modulus of resilience — see resilience. modulus of rigidity — the ratio of unit shearing stress to the corresponding unit shearing strain; referred to as shear modulus and modulus of elasticity in shear, denoted by the symbol G. (See also modulus of elasticity.) modulus of rupture — the calculated apparent tensile stress in the extreme tension fiber of a plain concrete beam test specimen at the load that produces rupture when tested in	48 49 50 51 52 53 54 55	 hardest). moist — slightly damp but not quite dry to the touch; the terms "wet" implies visible free water, "damp" implies less wetness than "wet," and "moist" implies not quite dry. (See also damp and wet.) moist-air curing — see curing, moist-air. moist cabinet — see cabinet, moist.
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1	moist room — a room in which the atmosphere is	33 I	moisture content of concrete masonry unit —
--	--	---	--
2	maintained at a selected temperature	34	the amount of water contained in the
3	(usually 23.0 ± 2 °C or 73.0 ± 3.0 °F) and a	35	hardened concrete at the time of sampling
4	relative humidity of at least 95 %, for the	36	and expressed as a percentage of its
5	purpose of curing and storing cementitious	37	capacity for total absorption.
6	test specimens; the facilities must be	38 I	moisture-free — the condition of a material that
7	sufficient to maintain free moisture	39	has been dried in air until there is no further
8	continuously on the exteriors of test	40	significant change in its mass. (See also
9	specimens; also known as a fog room.	41	mass and oven dry.)
10	moisture —	42 I	moisture movement —
11	moisture, absorbed — moisture that has	43	1. the movement of moisture through a
12	entered the permeable voids of a	44	porous medium; and
13	solid and has physical properties not	45	2. in the U.K., the effects of such
14	substantially different from ordinary	46	movement on efflorescence and volume
15	water at the same temperature and	47	change in hardened cement paste, mortar.
16	pressure. (See also absorption.)	48	concrete, or rock. (See also shrinkage and
17	moisture, free — moisture having	40	swelling.)
	-	49	5.00
18	essentially the properties of pure	49 50 I	mold —
18 19	essentially the properties of pure water in bulk; moisture not	49 50 I	mold —
18 19 20	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also	49 50 1 51	mold — (1) a device containing a cavity into which next compared test
18 19 20 21	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .)	49 50 1 51 52 52	mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and
18 19 20 21 22	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained	50 1 51 52 53	mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and
18 19 20 21 22 23	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained on surfaces of aggregate particles	49 50 1 51 52 53 54	mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast
18 19 20 21 22 23 24	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the	 49 50 51 52 53 54 55 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example,
 18 19 20 21 22 23 24 25 	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as	 49 50 51 52 53 54 55 56 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units).
 18 19 20 21 22 23 24 25 26 	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed	 49 50 51 52 53 54 55 56 57 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from
 18 19 20 21 22 23 24 25 26 27 	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed moisture.	 49 50 51 52 53 54 55 56 57 58 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from gypsum plaster, usually to permit concrete
 18 19 20 21 22 23 24 25 26 27 28 	essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface .) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed moisture. moisture barrier — see barrier, moisture .	 49 50 51 52 53 54 55 56 57 58 59 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from gypsum plaster, usually to permit concrete to be formed or cast in intricate shapes or in
 18 19 20 21 22 23 24 25 26 27 28 20 	 essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface.) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed moisture. moisture barrier — see barrier, moisture. 	 49 50 51 52 53 54 55 56 57 58 59 60 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from gypsum plaster, usually to permit concrete to be formed or cast in intricate shapes or in conspicuous relief. (See also mold and
 18 19 20 21 22 23 24 25 26 27 28 29 30 	 essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface.) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed moisture. moisture barrier — see barrier, moisture. moisture content of aggregate — the ratio, expressed as a percentage of the mass of 	 49 50 51 52 53 54 55 56 57 58 59 60 61 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from gypsum plaster, usually to permit concrete to be formed or cast in intricate shapes or in conspicuous relief. (See also mold and form.)
 18 19 20 21 22 23 24 25 26 27 28 29 30 31 	 essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface.) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed moisture. moisture barrier — see barrier, moisture. moisture content of aggregate — the ratio, expressed as a percentage, of the mass of water in a given granular mass to the dry 	 49 50 51 52 53 54 55 56 57 1 58 59 60 61 62 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from gypsum plaster, usually to permit concrete to be formed or cast in intricate shapes or in conspicuous relief. (See also mold and form.) mold oil — see oil, mold.
 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 	 essentially the properties of pure water in bulk; moisture not absorbed by aggregate. (See also moisture, surface.) moisture, surface — free water retained on surfaces of aggregate particles and considered to be part of the mixing water in concrete, as distinguished from absorbed moisture. moisture barrier — see barrier, moisture. moisture content of aggregate — the ratio, expressed as a percentage, of the mass of water in a given granular mass to the dry weight of the mass. 	 49 50 51 52 53 54 55 56 57 1 58 59 60 61 62 	 mold — (1) a device containing a cavity into which neat cement, mortar, or concrete test specimens are cast; and (2) a form used in the fabrication of precast mortar or concrete units (for example, masonry units). mold, plaster — a mold or form made from gypsum plaster, usually to permit concrete to be formed or cast in intricate shapes or in conspicuous relief. (See also mold and form.) mold oil — see oil, mold.

1	moment — the colloquial expression for the more	33	moment, secondary — in statically
2	descriptive term bending moment. (See also	34	indeterminate structures, the
3	moment, bending.)		additional moments caused by
4	moment, bending — the bending effect at	36	deformation of the structure due to
5	any section of a structural element;	37	the applied forces; in statically
6	it is equal to the algebraic sum of	38	indeterminate prestressed-concrete
7	the moments of the vertical and	39	structures, the additional moments
8	horizontal forces, with respect to the	40	caused by the use of a
9	centroidal axis of a member, acting	41	nonconcordant prestressing tendon.
10	on a freebody of the member.	42	moment, ultimate — obsolete term; see
11	moment, negative — a condition of	43	strength, flexural.
12	flexure in which top fibers of a	44	moment distribution — a method of structural
13	horizontally placed member, or	45	analysis for continuous beams and rigid
14	external fibers of a vertically placed	46	frames whereby successive converging
15	exterior member, are subjected to	47	corrections are made to an assumed set of
16	tensile stresses.	48	moments until the desired precision is
17	moment, positive — a condition of flexure	49	obtained; also known as the Hardy Cross
18	in which, for a horizontal simply	50	method.
19	supported member, the deflected	51	monolithic concrete — see concrete, monolithic.
20	shape is normally considered to be	52	monolithic surface treatment — see drv-shake.
21	concave downward and the top	52	monolithic terrographic the application of a $5/8$ in
22	fibers subjected to compression	53	(15 mm) terrazzo — the application of a 5/8 m.
23	stresses; for other members and	54	(15 mm) terrazzo topping directly to a
24	other conditions consider positive	55	eliminating an underbed
25	and negative as relative terms. (See	50	
26	also moment, negative.)	57	monolithic topping — see topping, monolithic.
27	Note: for structural design and		
28	analysis, moments may be		
29	designated as positive or negative		
30	with satisfactory results as long as		
31	the sign convention adopted is used		
32	consistently.		

1	monomolecular — composed of single molecules;	mortar, lean — mortar that is harsh and
2	specifically, films that are one molecule	34 difficult to spread because of either
3	thick; denotes a thickness equal to one	35 insufficient cement content or
4	molecule, for example, certain chemical	36 presence of coarse sand.
5	compounds develop a "monomolecular	37 mortar, plastic —a mortar of plastic
6	film" over bleeding water at the surface of	38 consistency.
7	freshly placed concrete or mortar as a	39 mortar, resin — see concrete, polymer .
8	means of reducing the rate of evaporation.	40 montar survey see shoterete
9	(See also evaporation retardant.)	40 mortar, sprayed — see shottrete
10	montmorillonite — a swelling clay mineral of the	41 (preferied term).
11	smectite group; main constituent of	42 mortar, stringing — the procedure of
12	bentonite. (See also	43 spreading enough mortar on the bed
13	smectite.)	44 Joint to ensure laying several
14	mortar — a mixture of cement paste and fine	45 masonry units.
15	aggregate; in fresh concrete, the material	46 mortar board — a platform or tray for holding
16	occupying the interstices among particles	47 freshly mixed mortar. (See also hawk and
17	of coarse aggregate; in masonry	48 hod.)
18	construction, joint mortar may contain	49 mortar-flow — see flow (2).
19	masonry cement, or may contain hydraulic	50 mosaic — inlaid exposed surface designs of
20	cement with lime (and possibly other	51 aggregates or other material.
21	admixtures) to afford greater plasticity and	52 mottling—uneven color shading or blotchiness
22	workability than are attainable with	53 across a surface. (See also discoloration .)
23	standard portland cement mortar. (See also	54 moving forms — see forms, moving.
24	cement, hydraulic and masonry.)	55 mud halls — lumps of clay or silt ("mud")
25	mortar, air-blown — see shotcrete	
26	(preferred term).	56 mudjacking — see slabjacking (preferred term).
27	mortar, expansive-cement — see	57 mud pumping — see pumping (of pavements).
28	concrete (mortar or grout),	58 mud sill — a timber or timber assembly bedded
29	expansive-cement.	59 into the earth at grade to support framed
30	mortar, epoxy — a mixture of epoxy resin,	60 construction.
31	catalyst, and fine aggregate. (See	
32	also resins, epoxy.)	

1	mud slab — a 2 to 6 in. (50 to 150 mm) layer of	33	nailer — a strip of wood or other fitting attached
2	concrete beneath a structural concrete floor	34	to or set in concrete, or attached to steel to
3	or footing over soft, wet soil; also called	35	facilitate making nailed connections.
4	mud mat.	36	natural air-drying — the process of drying cured
5	multielement prestressing — prestressing	37	concrete masonry units without any special
6	accomplished by stressing an assembly of	38	equipment (for example, the drying that
7	several individual structural elements as a	39	occurs in a covered storage area).
8	means of producing one integrated	40	natural cement — see cement, natural.
9	structural member.	41	natural pozzolan — see pozzolan, natural.
10	multistage stressing — prestressing performed in	42	natural sand — see sand, natural
11	stages as the construction progresses.	12	
12	multiwall-bag — a flexible container for	43	neat cement grout — see grout, neat cement.
13	transporting a cementitious material and	44	neat cement paste — see cement paste, neat.
14	usually consisting of four plies of kraft	45	neat line — a line defining the proposed or
15	paper previously treated to ensure	46	specified limits of an excavation or
16	resistance to moisture.	47	structure.
17	muriatic acid — see hydrochloric acid (preferred	48	neat plaster — see plaster, neat.
18	term).	49	needle, Gillmore — a device used in determining
19	mushroom system of flat-slab construction — a	50	time of setting of hydraulic cement.
20	four-way reinforced-concrete girderless	51	needle, Vicat — a weighted needle for
21	floor slab in which the column reinforcing	52	determining time of setting of hydraulic
22	bars are bent down into the slab around the	53	cements.
23	column head in radial directions and	54	negative catalyst — see catalyst, negative.
24	additional reinforcing bars are bent into	55	negative moment — see moment, negative.
25	rings laid upon the radials, thus forming a	54	nagativa rainforcamant see rainforcamant
26	spider web to provide additional	57	negative
27	reinforcement at the column head and to	57	
28	support the slab steel; mushroom designs of	58	negative-slump concrete — see concrete,
29	the true flat-slab type do not involve drop	59	negative-slump.
30	panels around the capitals of the columns.		
31			

— N —

1	net cross-sectional area (of masonry) — the
2	gross cross-sectional area of a section of
3	masonry minus the area of cavities, cells, or
4	cored spaces.
5	net mixing water — see water, mixing.
6	neutral axis — see axis, neutral.
7	neutral refractory — see refractory, neutral.
8	Nicol prism — a system of two optically clear
9	crystals of calcite ("Iceland spar") used in
10	producing plane-polarized light.
11	nip — the seizing of stone between either the jaws
12	or the rolls of a crusher.
13	no-fines concrete — see concrete, no-fines.
14	nominal flexural strength — see strength,
15	nominal flexural.
16	nominal maximum size (of aggregate) — in
17	specifications for and in descriptions of
18	aggregate, the smallest sieve opening
19	through which the entire amount of the
20	aggregate is permitted to pass. [See also
21	maximum size (of aggregate).]
22	nominal mixture — the proportions of the
23	constituents of a proposed concrete
24	mixture.
25	nominal shear strength — see strength, nominal
26	shear.
27	nominal size — see nominal maximum size (of
28	aggregate).
29	nominal strength — see strength, nominal.

30	nonagitating unit — a truck-mounted container
31	for transporting central-mixed concrete, not
32	equipped to provide agitation (slow
33	mixing) during delivery.
34	nonair-entrained concrete — see concrete,
35	nonair-entrained.
36	nonbearing wall — see wall, nonbearing.
37	noncombustible — any material that neither
38	ignites nor supports combustion in air when
39	exposed to fire.
40	nonevaporable water — see water,
41	nonevaporable.
42	nonferrous — relating to metals other than iron;
43	not containing or including iron.
44	nonprestressed reinforcement — see
45	reinforcement, nonprestressed.
46	nonrecoverable creep — see creep,
47	nonrecoverable.
48	nonreversible deformation — see creep,
49	nonrecoverable (preferred term).
50	nonsimultaneous prestressing — see
51	prestressing, nonsimultaneous.
52	nonslip concrete — see concrete, nonslip.
53	nonstaining cement — see cement, nonstaining.
54	nonstructural reinforcement — see
55	reinforcement, temperature.

56 **nontilting mixer** — see **mixer, nontilting**.

1	nonvolatile content — the portion of a material	32	-0-
2	that remains after volatile matter has been	33	obsidian — a natural volcanic glass of relatively
3	evaporated under specified ambient or	34	low water content; usually of rhyolite
4	accelerated conditions.	35	composition. (See also perlite.)
5	normal cement — see cement, normal.	36	offset — an abrupt change in alignment or
6	normal consistency — see consistency, normal.	37	dimension, either horizontally or vertically;
7	normal portland cement — see cement, normal.	38	a horizontal ledge occurring along a change
8	normal stress — see stress, normal	39	in wall thickness of the wall above.
0	normalweight aggregate	40	offset bend — an intentional distortion from the
9	normalweight	41	normal straightness of a steel reinforcing
10		42	bar to move the center line of a segment of
11	normalweight concrete — see concrete,	43	the bar to a position parallel to the original
12	normalweight.	44	position of the center line; a mechanical
13	normalweight refractory concrete — see	45	operation commonly applied to vertical
14	concrete, normalweight refractory.	46	bars that reinforce concrete columns.
15	no-slump concrete — see concrete, no-slump.	47	offset yield strength — see strength, offset yield.
16	nozzle — a metal or rubber tip attached to the	48	oil, form — oil applied to the interior surfaces of
17	discharge end of a heavy thick-walled	49	forms to promote easy release from the
18	rubber hose from which a continuous	50	concrete when the forms are removed. (See
19	stream of shotcrete is ejected at high	51	also agent, release and bond breaker.)
20	velocity.	52	oil, mold — an oil that is applied to the interior
21	nozzle liner — a replaceable rubber lining, fitted	53	surface of a clean mold, before casting
22	into the nozzle tip, to prevent abrasion of	54	concrete or mortar therein, to facilitate
23	the interior surface of the nozzle.	55	removal of the mold after the concrete or
24	nozzle operator — the technician who	56	mortar has hardened. (See also bond
25	manipulates the nozzle of a placing	57	breaker; oil, form; and agent, release.)
26	machine and controls placement of the	58	oil-well cement — see cement, oil-well.
27	shotcrete.	50	one-way system — see system one-way
28	nozzle velocity — the rate at which shotcrete is		i i i i i i i
29	ejected from the nozzle, usually stated in ft	60	opai — a mineral composed of amorphous
30	per sec or m per sec.	61	nydrous silica (Si O_2 nH ₂ O).
	-		

1	opaline chert — chert composed entirely or	31	overo
2	mainly of opal.	32	
3	open-circuit crushing — a crushing system in	33	
4	which material passes through the crusher	34	
5	without recycling of oversize particles.	35	
6	open-circuit grouting — see grouting, open-	36	overl
7	circuit.	37	
8	open-graded aggregate — see aggregate, open-	38	
9	graded.	39	
10	open_ton miver — see miver open_ton	40	
10	open-top mixer see mixer, open-top.	41	
11	ordinary portland cement — see cement,	42	
12	ordinary portland.	43	overs
13	orthotropic — a contraction of the terms	44	
14	"orthogonal anisotropic" as in the phrase	45	
15	"orthogonal anisotropic plate"; a	46	
16	hypothetical plate consisting of beams and	47	overs
17	a slab acting together with different flexural	48	
18	rigidities in the longitudinal and transverse	49	
19	directions, as in a composite beam bridge.	50	
20	ovals — marble chips that have been tumbled until	51	
21	a smooth oval shape has resulted.	52	
22	oven-dry — the condition resulting from having	53	
23	been dried to essentially constant mass, in	54	
24	an oven, at a temperature that has been	55	overv
25	fixed, usually between 221 and 239 F (105	56	
26	and 115 C).	57	
27	oven dry — the process of drying in an oven at a	58	
28	temperature usually between 221 and 239 F		
29	(105 and 115 C) until the mass of the test		
30	specimen becomes essentially constant.		

31	overdesign — to require adherence to structural
32	design requirements higher than service
33	demands, as a means of compensating for
34	statistical variation or for anticipated
35	deficiencies or both.
36	overlay — a layer of concrete or mortar, seldom
37	thinner than 1 in. (25 mm), placed on and
38	usually bonded onto the worn or cracked
39	surface of a concrete slab to either restore
40	or improve the function of the previous
41	surface, also polymeric concrete usually
42	less than 0.4 in. (10 mm) thick.
43	oversanded — containing more sand than would
44	be necessary to produce adequate
45	workability and a satisfactory condition for
46	finishing.
47	overstretching — stressing of tendons to a value
48	higher than designed for the initial stress to:
49	(a) overcome frictional losses, (b)
50	temporarily overstress the steel to reduce
51	steel creep that occurs after anchorage, and
52	(c) counteract loss of prestressing force that
53	is caused by subsequent prestressing of
54	other tendons.
55	overvibration — excessive use of vibrators during
56	placement of freshly mixed concrete,
57	causing segregation, stratification, and

excessive bleeding.

1	owner — the corporation, association,	32 pa	aint, cement — a paint consisting generally of
2	partnerships, individual, or public body or	33	white portland cement and water, pigments,
3	authority with whom the contractor enters	34	hydrated lime, water repellents, or
4	into an agreement and for whom the work	35	hygroscopic salts.
5	is provided.	36 p a	aint, cold-water — a paint in which the binder or
6	oxide, brown — a brown mineral pigment having	37	vehicle portion is composed of latex,
7	an iron oxide content between 28 and 95%.	38	casein, glue, or some similar material
8	(See also limonite.)	39	dissolved or dispersed in water.
9		40 P a	alladiana — see Berliner.
10	— P —	41 p a	ın.—
11	pack, dry — concrete or mortar mixtures	42	(1) a prefabricated form unit used in
12	deposited and consolidated by dry packing.	43	concrete joist floor construction; and
13	pack, warehouse — see set, warehouse.	44	(2) a container that receives particles
14	pack set — see cement, sticky and set,	45	passing the finest sieve during mechanical
15	warehouse.	46	analysis of granular materials.
16	packaged concrete, mortar, grout — mixtures of	47 p a	an mixer — see mixer, vertical-shaft (preferred
17	dry ingredients in packages, requiring only	48 te	rm).
18	the addition of water to produce concrete,	49 p a	anel —
19	mortar, or grout.	50	1) a section of form sheathing that can be
20	packer — a device inserted into a hole in which	51	erected and stripped as a unit;
21	grout is to be injected which acts to prevent	52	2) a concrete element that is relatively thin
22	return of the grout around the injection	53	with respect to other dimensions and is
23	pipe; usually an expandable device actuated	54	bordered by joints or edges; and
24	mechanically, hydraulically, or	55	3) a region of a suspended slab system
25	pneumatically.	56	bounded by column, beam, or wall
26	packerhead process — see process, packerhead.	57	centerlines.
27	packing, dry — placing of zero-slump, or near	58	panel, drop — the thickened structural
28	zero-slump, concrete, mortar, or grout by	59	portion of a flat slab in the area surrounding
29	ramming into a confined space.	60	column, column capital, or bracket, to
30	paddle mixer — see mixer, open-top (preferred	61	reduce the intensity of stresses.
31	term).		

1	panel, exterior — in a flat slab, a panel	32	particle shape — the form of a particle. [See also
2	having at least one edge that is not	33	cubical piece (of aggregate), elongated
3	in common with another panel.	34	piece (of aggregate), and flat piece (of
4	panel, ribbed — a panel composed of a	35	aggregate).]
5	thin slab reinforced by a system of	36	particle-size distribution — see grading.
6	ribs in one or two directions,	37	parting agent — see agent, release.
7	usually orthogonal.	38	pass — layer of shotcrete placed in one movement
8	panel, sandwich — a prefabricated panel	39	over the area of operation.
9	that is a layered composite, formed	40	paste — see cement paste, neat.
10	by attaching two thin facings to a	11	naste cement — binder of concrete and mortar
11	thicker core, for example, a precast-	41	consisting essentially of cement water
12	concrete panel consisting of two	42	hydration products and any admixtures
13	layers of concrete separated by a	43	together with very finely divided materials
14	nonstructural insulating core.	44	included in the aggregates. (See also
15	panel, solid — a solid slab, usually of	46	cement naste neat)
16	constant thickness.		
17	panel strip — see strip, panel.	47	paste content — proportional volume of cement
18	narallel-wire unit — a post-tensioning tendon	48	paste in concrete, mortar, or the like,
10	composed of a number of wires or strands	49	expressed as volume percent of the entire
20	that are approximately parallel	50	mixture. (See also cement paste, neat).
20	that are approximately paramet.	51	paste volume — see paste content.
21	parapet — the part of a wall that extends above	52	pat — a specimen of neat cement paste, about 3 in.
22	the roof level; a low wall along the top of a	53	(76 mm) in diameter and ½ in. (13 mm) in
23	dam.	54	thickness at the center and tapering to a thin
24	parge — to coat with plaster, particularly	55	edge, on a flat glass plate for indicating
25	foundation walls and rough masonry. (See	56	setting time.
26	also back plastering.)	57	path of prestressing force — the locus of points
27	partial prestressing — see prestressing, partial.	58	defining the resultant effective prestress
28	partial release — see release, partial.	59	force in a concrete member.
29	particle, colloidal — an electrically charged	60	pattern cracking — see cracks, craze and
29 30	particle, colloidal — an electrically charged particle, generally smaller than 0.1 m,	60 61	pattern cracking — see cracks, craze and cracking, map.

1	pattern cracks — see cracks, craze and	30
2	cracking, map.	31
3	patterned ashlar — see masonry, ashlar.	32
4	pavement (concrete) — a layer of concrete on	33
5	such areas as roads, sidewalks, canals,	34
6	playgrounds, and those used for storage or	35
7	parking. (See also pavement, rigid.)	36
8	pavement, flexible — a pavement structure that	37
9	maintains intimate contact with and	38
10	distributes loads to the subgrade and	39
11	depends on aggregate interlock, particle	40
12	friction, and cohesion for stability;	41
13	cementing agents, where used, are	42
14	generally bituminous materials as	43
15	contrasted to hydraulic cement in the case	44
16	of rigid pavement. (See also pavement,	45
17	rigid.)	46
18	pavement, pervious—a pavement comprising	47
19	material with sufficient continuous voids to	48
20	allow water to pass from the surface to the	49
21	underlying layers.	50
22	pavement, rigid — pavement that will provide	51
23	high bending resistance and distribute loads	52
24	to the foundation over a comparatively	53
25	large area.	E 4
26	paver, concrete $-(1)$ a concrete mixer, usually	54
27	mounted on crawler tracks, that mixes and	55 E 4
28	places concrete pavement on the subgrade.	00
29	(2) Precast-concrete paving brick.	57
		58

30	paving train — an assemblage of equipment
31	designed to place and finish a concrete
32	pavement.
33	pea gravel — see gravel, pea.
34	peak load — the highest value for load in any test
35	at which the form of the curve becomes
36	nonlinear and substantially changes slope.
37	peak load strength — strength computed using
38	the peak load.
39	pedestal — member with a ratio of height-to-least
40	lateral dimension less than or equal to 3
41	used primarily to support axial compressive
42	load, such as a short pier or plinth used as
43	the base for a column. For a tapered
44	member, the least lateral dimension is the
45	average of the top and bottom dimensions
46	of the smaller side.
47	pedestal pile — see pile, pedestal.
48	peeling — a process in which thin flakes of mortar
49	are broken away from a concrete surface,
50	such as by deterioration or by adherence of
51	surface mortar to forms as forms are
52	removed.
53	pencil rod — see rod, pencil.
54	penetration — an opening through which pipe,
55	conduit, or other item passes through a wall
56	or floor.
57	penetration probe — see probe, penetration.
58	penetration resistance — see resistance,

penetration.

1	percent fines — the amount, expressed as a	33	period, temperature-rise — the time
2	percentage, of material in aggregate finer	34	interval during which the
3	than a given sieve, usually the 75 m (No.	35	temperature of a concrete product
4	200); also the amount of fine aggregate in a	36	rises at a controlled rate to the
5	concrete mixture expressed as a percent by	37	desired maximum in autoclave or
6	absolute volume of the total amount of	38	atmospheric-pressure steam curing.
7	aggregate.	39	period at maximum temperature — see
8	percentage of reinforcement — the ratio of cross-	40	maximum-temperature period.
9	sectional area of reinforcing steel to the	41	perlite — a volcanic glass having a perlitic
10	effective cross-sectional area of a member,	42	structure, usually having a higher water
11	expressed as a percentage.	43	content than obsidian; when expanded by
12	periclase — a crystalline mineral, magnesia, MgO,	44	heating, used as an insulating material and
13	the equivalent of which may be present in	45	as a lightweight aggregate in concretes,
14	portland-cement clinker, portland cement,	46	mortars, and plasters.
15	and other materials, such as open-hearth	47	perlitic structure — a structure produced in a
16	slags and certain basic refractories.	48	homogeneous material by contraction
17	perimeter grouting — see grouting, perimeter.	49	during cooling, and consisting of a system
17 18	perimeter grouting — see grouting, perimeter. period —	49 50	during cooling, and consisting of a system of irregular convolute and spheroidal
17 18 10	perimeter grouting — see grouting, perimeter. period —	49 50 51	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass.
17 18 19 20	perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term)	49 50 51 52	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent.
 17 18 19 20 21 	perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term).	49 50 51 52 53	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent
 17 18 19 20 21 22 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concerned presteaming that the time</pre>	49 50 51 52 53	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent.
 17 18 19 20 21 22 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time } }</pre>	 49 50 51 52 53 54 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate
 17 18 19 20 21 22 23 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete</pre>	 49 50 51 52 53 54 55 	<pre>during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow</pre>
 17 18 19 20 21 22 23 24 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the</pre>	 49 50 51 52 53 54 55 56 	<pre>during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional</pre>
 17 18 19 20 21 22 23 24 25 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period.</pre>	 49 50 51 52 53 54 55 56 57 	 during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit
 17 18 19 20 21 22 23 24 25 26 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period. period, soaking — in high-pressure and</pre>	 49 50 51 52 53 54 55 56 57 58 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit hydraulic gradient and standard
 17 18 19 20 21 22 23 24 25 26 27 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period. period, soaking — in high-pressure and low-pressure steam curing, the time</pre>	 49 50 51 52 53 54 55 56 57 58 59 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit hydraulic gradient and standard temperature conditions, usually 20 C.
 17 18 19 20 21 22 23 24 25 26 27 28 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period. period, soaking — in high-pressure and low-pressure steam curing, the time during which the live steam supply</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit hydraulic gradient and standard temperature conditions, usually 20 C. pervious concrete — see concrete, pervious.
 17 18 19 20 21 22 23 24 25 26 27 28 29 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period. period, soaking — in high-pressure and low-pressure steam curing, the time during which the live steam supply to the kiln or autoclave is shut off</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit hydraulic gradient and standard temperature conditions, usually 20 C. pervious concrete — see concrete, pervious.
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period. period, soaking — in high-pressure and low-pressure steam curing, the time during which the live steam supply to the kiln or autoclave is shut off and the concrete products are</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit hydraulic gradient and standard temperature conditions, usually 20 C. pervious concrete — see concrete, pervious.
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 	<pre>perimeter grouting — see grouting, perimeter. period — period, precuring — see period, presteaming (preferred term). period, presteaming — in the manufacture of concrete products, the time between molding of a concrete product and start of the temperature-rise period. period, soaking — in high-pressure and low-pressure steam curing, the time during which the live steam supply to the kiln or autoclave is shut off and the concrete products are exposed to the residual heat and</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 	during cooling, and consisting of a system of irregular convolute and spheroidal cracks; generally confined to natural glass. permanent form — see form, permanent. permanent set — see set, permanent. permeability to water, coefficient of — the rate of discharge of water under laminar flow conditions through a unit cross-sectional area of a porous medium under a unit hydraulic gradient and standard temperature conditions, usually 20 C. pervious concrete — see concrete, pervious.

1	petrography — the branch of petrology dealing	29	(2) An isolated vertical masonry member
2	with description and systematic	30	whose horizontal dimension measured at
3	classification of rocks aside from their	31	right angles to its thickness is not less than
4	geologic relations, mainly by laboratory	32	three times its thickness nor greater than six
5	methods, largely chemical and	33	times its thickness and whose height is less
6	microscopical; also, loosely, petrology or	34	than five times its length.
7	lithology; also the techniques and	35	pier, belled — a drilled pier shaft with an
8	knowledge of petrography applied to	36	expanded excavation at the bottom.
9	mortar, concrete, and the like.	37	pier, drilled — a concrete pier with or
10	petrology — the science of rocks, treating of their	38	without a casing, cast in place in a hole
11	origin, structure, composition, etc., from	39	previously bored in soil or rock. (See
12	aspects and in all relations. (See also	40	also pile, cast-in-place.)
13	petrography.)	41	pier cap—a concrete element that transfers load
14	phenolic resin — see resin, phenolic.	42	from a column or pedestal to the top of one
15	phi () factor — see factor, strength reduction	43	or more supporting piers.
16	(preferred term).	44	pigment — a coloring matter, usually in the form
17	Philleo factor — see factor, Philleo.	45	of an insoluble fine powder.
18	photometer, flame —an instrument used to	46	pilaster — column built with a wall, usually
19	determine elements (especially sodium and	47	projecting beyond the wall.
20	potassium in portland cement) by the color	48	pilaster face — see face, pilaster.
21	intensity of their unique flame spectra	49	pilaster side — see side, pilaster.
22	resulting from introducing a solution of a	50	nile — a slender structural element that is driven
23	compound of the element into a flame.	51	ietted or otherwise embedded on end in the
24	(Also known as flame spectrophotometer.)	52	ground to support a load or compact the
25	pier —	53	soil. (See also pile , composite .)
26	(1) a slender isolated foundation member of	54	nile hatter — a nile installed at an angle to
27	either plain or reinforced concrete that is	54	the vertical a raking nile or raker
28	cast on end in the ground; or	55	nile

pile, bored — see pier, drilled.

1	pile, caisson — a cast-in-place pile made	31	pile, pipe — a steel cylinder, usually
2	by driving a tube, excavating it, and	32	between 10 and 24 in. (250 and 600
3	filling the cavity with concrete.	33	mm) in diameter, generally driven
4	pile cap — a concrete element that	34	with open ends to firm bearing and
5	transfers load from a column or	35	then excavated and filled with
6	pedestal to the top of one or more	36	concrete.
7	supporting piles.	37	pile, precast — a reinforced pile
8	pile, cast-in-place — a concrete pile	38	manufactured in a casting plant or at
9	concreted either with or without a	39	the site but not in its final position.
10	casing in its permanent location, as	40	(See also pile, cast-in-place .)
11	distinguished from a precast pile.	41	pile, raking — see pile, batter (preferred
12	(See also pier, drilled and pile,	42	term).
13	precast.)	43	pile, sheet — a pile in the form of a plank
14	pile, composite — a pile made up of	44	driven in close contact or
15	different materials, usually concrete	45	interlocking with others to provide a
16	and wood, or steel fastened together	46	tight wall to resist the lateral
17	end to end, to form a single pile.	47	pressure of water, adjacent earth, or
18	pile, concrete — see pile, cast-in-place	48	other materials; may be tongued and
19	and pile, precast .	49	grooved if made of timber or
20	pile, drilled — see pier, drilled.	50	concrete and interlocking if made of
11	nile friction a load bearing pile that	51	metal.
21	pile, include — a load-bearing pile that	52	pile, wing — a bearing pile, usually of
22	support from skin fristion between	53	concrete, widened in the upper
23	the surface of the buried pile and	54	portion to form part of a sheet pile
24	the surrounding soil	55	wall.
25		56	pile bent — see bent, pile.
26	pile, pedestal — a cast-in-place concrete	57	nile can — see can nile
27	pile constructed so that concrete is	57	pro cup see cup, pro.
28	torced out into a widened bulb or	58	pipe column — see column, pipe.
29	pedestal shape at the foot of the	59	pipe pile — see pile, pipe.
30	pipe which forms the pile.		

1	pipe, vent —a small-diameter pipe used in	30	1) a mixture consisting essentially of a
2	concrete construction to permit escape of	31	cementitious material or materials, fine
3	air in a structure being concreted or	32	aggregate, and water that forms a plastic
4	grouted.	33	mass. When applied to a surface, the
5	pitting — development of relatively small cavities	34	mixture adheres to it and subsequently
6	in a surface; in concrete, localized	35	hardens;
7	disintegration, such as a popout; in steel,	36	2) the placed and hardened mixture; or
8	localized corrosion evident as minute	37	3) the act of placing such material. (See
9	cavities on the surface.	38	also stucco.)
10	placeability — see workability.	39 pla:	ster, neat — plaster devoid of sand.
11	placement — the process of placing and	40 pla	ster mold — see mold, plaster.
12	consolidating concrete; a quantity of	41 plas	ster of paris — CaSO ₄ ¹ / ₂ H ₂ O; gypsum, from
13	concrete placed and finished during a	42	which three-quarters of the chemically
14	continuous operation; inappropriately	43	bound water has been driven off by
15	referred to as pouring.	44	heating; when wetted it recombines with
16	placing — the deposition, distribution, and	45	water and hardens quickly. (See also
17	consolidation of freshly mixed concrete in	46	hemihydrate.)
18	the place where it is to harden;	47 pla	stic — possessing plasticity, or possessing
19	inappropriately referred to as pouring.	48	adequate plasticity. (See also plasticity.)
20	plain bar — see bar, plain.	49 nla	stic cement — see cement, plastic
21	plain concrete — see concrete, plain.	50 pla	stie contraid a contraid of the register of the
22	plain masonry — see masonry, plain	50 pia s	succentroid — centroid of the resistance to
		51	toad computed for the assumptions that the
23	plain pavement — unreinforced concrete	52	design attract the and the steel is stressed
24	pavement.	53	design strength and the steel is stressed
25	plane of weakness — the plane along which a	54	uniformly to its specified yield point.
26	body under stress will tend to fracture; may	55 pla :	stic consistency — see consistency, plastic.
27	exist by design, by accident, or because of	56 pla :	stic deformation — see deformation,
28	the nature of the structure and its loading.	57	inelastic.
29	plaster —	58 pla s	stic flow — obsolete term for creep and stress
		59	relation. (See also creep; flow, plastic; and
		60	stress relaxation.)

1	plastic hinge — see hinge, plastic.	30	(2) in structural design: a member, the
2	plastic loss — see creep.	31	depth of which is substantially less than its
3	plastic mortar — see mortar, plastic.	32	length and width. (See also plate, flat and
4	nlastic or hond fire clay — a fire clay of	33	load-transfer assembly.)
4	sufficient natural plasticity to bond	34	plate, deformed — a flat piece of metal,
6	nonplastic material: a fire clay used as a	35	thicker than 1/4 in. (6 mm), having
7	nlasticizing agent in mortar	36	horizontal deformations or
,		37	corrugations; used in construction to
8	plastic shrinkage — see shrinkage, plastic.	38	form a vertical joint and provide a
9	plastic-shrinkage crack — see crack, plastic-	39	mechanical interlock between
10	shrinkage.	40	adjacent sections.
11	plasticity — a complex property of a material	41	plate, flat — a flat slab without column
12	involving a combination of qualities of	42	capitals or drop panels. (See also
13	mobility and magnitude of yield value; the	43	slab, flat.)
14	property of freshly mixed cement paste,	44	plate, folded — (1) a framing assembly
15	concrete, or mortar that determines its	45	composed of sloping slabs in a
16	resistance to deformation or ease of	46	hipped or gabled arrangement; and
17	molding.	47	(2) prismatic shell with open
18	plasticity index (PI) — see index, plasticity (PI).	48	polygonal section.
19	plasticize — to produce plasticity or to render	40	nlum a large random shaped stope dropped into
20	plastic.	49 50	freshly placed mass concrete to aconomize
21	plasticizer — (1) a material that increases the	50	on the amount of the other concrete
22	plasticity of a fresh cementitious mixture;	52	ingredients (See also concrete
23	or	53	cvclopean.)
24	(2) a substance added to a material to	Γ4	nlumb vortical or to make vortical
25	improve the material's flexibility.	54	prumb — vertical of to make vertical.
26	nlate (1) in formwork for concrete: a flat	55	pneumatically applied mortar — see shotcrete.
20 27	horizontal member either at the ton or		
21 28	hottom or both of stude or posts: a mud		
20 20	sill if on the ground (see also mud sill): and		
<u> </u>	sin it on the ground (see also muu sin), allu		

1	point count method — method for determination	31 p	oolyester — one of a large group of synthetic
2	of the volumetric composition of a solid by	32	resins, mainly produced by reaction of
3	observation of the frequency with which	33	dibasic acids with dihydroxy alcohols;
4	areas of each component coincide with a	34	commonly prepared for application by
5	regular system of points in one or more	35	mixing with a vinyl-group monomer and
6	planes intersecting a sample of the solid.	36	free-radical catalysts at ambient
7	(See also linear-traverse method.)	37	temperatures and used as binders for resin
8	point count method (modified) — the point count	38	mortars and concretes, fiber laminates
9	method supplemented by a determination	39	(mainly glass), adhesives, and the like. (See
10	of the frequency with which areas of each	40	also concrete, polymer.)
11	component of a solid are intersected by	41 F	oolyethylene — a thermoplastic high-molecular-
12	regularly spaced lines in one or more	42	weight organic compound used in
13	planes intersecting a sample of the solid.	43	formulating protective coatings or, in sheet
14	point load — see load, point.	44	form, as a protective cover for concrete
15	point of contraflexure — see point of inflection	45	surfaces during the curing period, or to
16	(preferred term).	46	provide a temporary enclosure for
17	noint of inflaction the point on the length of a	47	construction operations.
17	structural member subjected to flexure	48 p	polymer — the product of polymerization; more
10	where the curvature changes from conceive	49	commonly a rubber or resin consisting of
19	to convex or conversely and at which the	50	large molecules formed by polymerization.
20	bending moment is zero: also called "point	51 p	oolymer concrete — see concrete, polymer.
21	of contraflexure "	52 r	oolvmer-cement concrete — see concrete
~~	Deinen la natio des natio Deinen la	53	nolvmer-cement
23	roisson s ratio — see ratio, roisson s.	Г4 ж	polymon imprograted concrete and concrete
24	polarizing microscope — see microscope,	54 	nolymer-impregnated, concrete — see concrete,
25	polarizing.	55	porymer-mipregnated
26	pole shore — see shore, post.	56 f	bolymerization — the reaction in which two or
27	polish or final grind — the final operation in	57	more molecules of the same substance
28	which fine abrasives are used to hone a	58	combine to form a compound containing
29	surface to its desired smoothness and	59	the same elements and in the same
30	appearance.	60	proportions but of higher molecular weight.
		61 p	polystyrene resin — see resin, polystyrene.

1	polysulfide coating — see coating, polysulfide.	33	porosity — the ratio, usually expressed as a
2	polyurethane — reaction product of an isocyanate	34	percentage of the volume of voids in a
3	with any of a wide variety of other	35	material to the total volume of the material
4	compounds containing an active hydrogen	36	including the voids.
5	group; used to formulate tough, abrasion-	37	portland blast-furnace slag cement — see
6	resistant coatings.	38	cement, portland blast-furnace slag.
7	polyvinyl acetate — colorless, permanently	39	portland cement — see cement, portland.
8	thermoplastic resin; usually supplied as an	40	portland-cement clinker — see clinker,
9	emulsion or water-dispersible powder	41	portland-cement.
10	characterized by flexibility, stability	42	portland-cement concrete — see concrete.
11	towards light, transparency to ultraviolet	42	nortland norrelan company soo company
12	rays, high dielectric strength, toughness,	43	portland pozzelan
13	and hardness; the higher the degree of	44	
14	polymerization, the higher the softening	45	portlandite — a mineral; calcium hydroxide
15	temperature; may be used in paints for	46	$(Ca(OH)_2)$; occurs naturally in Ireland;
16	concrete.	47	equivalent to a product of hydration of
17	polyvinyl chloride — a synthetic resin prepared	48	portland cement.
18	by the polymerization of vinyl chloride,	49	porous fill — see drainage fill.
19	used in the manufacture of nonmetallic	50	positive moment — see moment, positive.
20	waterstops for concrete.	51	positive reinforcement — see reinforcement,
21	ponding — the creation and maintaining of a	52	positive.
22	shallow pond of water on the surface of a	53	post — vertical formwork member used as a
23	concrete slab to assist curing; accidental or	54	support ; also known as shore, prop, or
24	incidental occurrence of a shallow pond or	55	jack.
25	ponds on a nominally flat surface of	56	post shore — see shore, post.
26	concrete; a condition in which a horizontal	57	nost-tensioning — method of prestressing in
27	slab deforms downward between supports .	58	which prestressing steel is tensioned after
28	popcorn concrete — see concrete, popcorn.	59	concrete has hardened
29	popout — the breaking away of small portions of	0,	
30	a concrete, mortar, and plaster surface due		
31	to localized internal pressure that leaves a		
32	shallow, typically conical, depression.		

1	post-tensioning, bonded — post-tensioned	29	pozzolan, natural — a raw or calcined
2	construction in which the annular spaces	30	natural material that has pozzolanic
3	around the tendons are grouted after	31	properties (for example, volcanic
4	stressing, thereby bonding the tendon to the	32	tuffs or pumicites, opaline cherts
5	concrete section.	33	and shales, clays, and diatomaceous
6	pot life — time interval, after mixing of	34	earths).
7	thermosetting resin and initiators, during	35	pozzolanic — of or pertaining to a pozzolan.
8	which the mixture can be applied without	36	pozzolanic-activity index — see index,
9	degrading the final performance of the	37	pozzolanic-activity.
10	resulting polymer composite beyond	38	pozzolanic reaction — see pozzolan
11	specified limits.	20	problem ded grout and grout problem ded
12	pouring (of concrete) — see placement and	39	prebiended grout — see grout, prebiended.
13	placing.	40	precast — a concrete member that is cast and
14	nower float — see float, rotary (preferred term)	41	cured in other than its final position; the
17	power nout see nout, rotary (preferred term).	42	process of placing and finishing precast
15	Powers' spacing factor — see factor, Powers'	43	concrete. (See also cast-in-place.)
16	spacing (preferred term).	44	precast concrete — see concrete, precast.
17	pozzolan — a siliceous or siliceous and aluminous	45	precast pile — see pile, precast.
18	material that in itself possesses little or no	16	nracompressed zone — see zone
19	cementitious value but that will, in finely	40	precompressed
20	divided form and in the presence of	47	precompressed.
21	moisture, chemically react with calcium	48	precuring period — see period, presteaming
22	hydroxide at ordinary temperatures to form	49	(preferred term).
23	compounds having cementitious properties;	50	prefire — to raise the temperature of refractory
24	there are both natural and artificial	51	concrete under controlled conditions before
25	pozzolans.	52	placing it in service.
26	pozzolan, artificial — materials such as	53	preformed foam — see foam, preformed.
27	fly ash and silica fume. (See also fly	54	premature stiffening — see set, false and set,
28	ash, and silica fume).	55	flash.
		56	prepacked concrete — see concrete, preplaced-

aggregate.

1	preplaced-aggregate concrete — see concrete,
2	preplaced-aggregate and concrete,
3	colloidal.
4	pre-post-tensioning — a method of fabricating
5	prestressed concrete in which some of the
6	tendons are pretensioned and a portion of
7	the tendons are post-tensioned.
8	preservation — the process of maintaining a
9	structure in its present condition and
10	arresting further deterioration. (See also
11	rehabilitation, repair, and restoration).
12	preset period — see period, presteaming
13	(preferred term).
14	preshrunk concrete (mortar, grout) — see
15	concrete (mortar, grout), preshrunk.
16	pressed edge — see edge, pressed.
17	pressure —
18	pressure, form — lateral pressure acting
19	on vertical or inclined formed
20	surfaces, resulting from the fluid-
21	like behavior of the unhardened
22	concrete confined by the forms.
23	pressure, lateral — see pressure, form.
24	presteaming period — see period, presteaming.

25	prestress — to place a hardened-concrete member
26	or an assembly of units in a state of
27	compression before application of service
28	loads; the stress developed by prestressing,
29	such as by pretensioning or post-tensioning
30	(See also concrete, prestressed; steel,
31	prestressing; pretensioning; and post-
32	tensioning.)
33	prestress, effective — the prestressing
34	force at a specific location in a
35	prestressed-concrete member under
36	the effects of service dead load or
37	total service load after losses of
38	prestress have occurred.
39	prestress, final — see stress, final.
40	prestress, initial — the prestressing stress
41	(or force) applied to the concrete at
42	the time of stressing.
43	prestress, transverse — prestress that is
44	applied at right angles to the
45	longitudinal axis of a member or
46	slab.
47	prestressed concrete — see concrete,
48	prestressed.
49	prestressing, nonsimultaneous — the post-
50	tensioning of tendons individually rather
51	than simultaneously.
52	prestressing, partial — prestressing to a stress
53	level such that, under design loads, tensile
54	stresses exist in the precompressed tensile
55	zone of the prestressed member.

1	prestressing steel — see steel, prestressing.
2	pretensioning — a method of prestressing
3	reinforced concrete in which the tendons
4	are tensioned before the concrete has
5	hardened.
6	pretensioning bed (or bench) — the casting bed
7	on which pretensioned members are
8	manufactured and which resists the
9	pretensioning force prior to release.
10	primary crusher — see crusher, primary.
11	primary nuclear vessel — interior container in a
12	nuclear reactor designed for sustained loads
13	and for working conditions.
14	principal planes — see stress, principal.
15	principal stress — see stress, principal.
16	probabilistic design — see design, probabilistic.
17	probe, penetration — a device for obtaining a
18	measure of the resistance of concrete to
19	penetration; customarily determined by the
20	distance that a steel pin is driven into the
21	concrete from a special gun by a precisely
22	measured explosive charge.
23	process —

process, centrifugal — a process for
producing concrete products, such
as pipe, that uses an outer form that
is rotated about a horizontal axis
and into which concrete is fed by a
conveyor, also called spinning
process. (See also concrete,
centrifugally cast; process, dry-
cast; process, packerhead;
process, tamp; and process, wet-
cast.)
process, dry — in the manufacture of
cement, the process in which the
raw materials are ground, conveyed,
blended, and stored in a dry
condition. (See also process, wet.)
process, dry-cast —a process for
producing concrete products, such
as pipe, using low-frequency high-
amplitude vibration to consolidate
dry-mix concrete in the form. (See
also centrifugal process ; process ,
packerhead; tamp process;
process, wet-cast.)
process, dry-tamp — see packing, dry.

1	process, packerhead — a process for	29	process, wet — in the manufacture of
2	producing concrete pipe that uses a	30	cement, the process in which the
3	rotating device that forms the	31	raw materials are ground, blended,
4	interior surface of the pipe as	32	mixed, and pumped while mixed
5	concrete is fed into the form from	33	with water; the wet process is
6	above. (See also centrifugal	34	chosen where raw materials are
7	process; process, dry-cast; tamp	35	extremely wet and sticky which
8	process; process, wet-cast.)	36	would make drying before crushing
9	process, tamp — a process for producing	37	and grinding difficult. (See also
10	concrete products, such as pipe, that	38	process, dry)
11	uses direct mechanical action to	39	promoter, flow — substance added to coating to
12	consolidate the concrete by the	40	enhance brushability, flow, and leveling.
13	action of tampers that rise	41	proof stress — see stress, proof.
14	automatically as the form is rotated	42	prop — see post and shore
15	and filled with concrete from above.	12	
16	(See also process, centrifugal ;	43	proportional limit — see limit, proportional.
17	process, dry-cast; process,	44	proportion — to select proportions of ingredients
18	packerhead; and process, wet-	45	to make the most economical use of
19	cast.)	46	available materials to produce mortar or
20	process, wet-cast — a process for	47	concrete of the required properties. (See
21	producing concrete items, such as	48	also mixture .)
22	pipe, that uses concrete having a	49	protected paste volume — the portion of
23	measurable slump, generally placed	50	hardened cement paste that is protected
24	from above, and consolidated by	51	from the effects of freezing by proximity to
25	vibration. (See also centrifugal	52	an entrained air void. (See also factor,
26	process; process, dry-cast;	53	Philleo and factor, spacing.)
27	process, packerhead; and tamp	54	protection period — the required time during
28	process.)	55	which the concrete is maintained at or
	*	56	above a specific temperature to prevent
		57	freezing of the concrete or ensure the
		58	necessary strength of development.
		59	proving ring — see ring, proving.

1	psychrometer, sling — a psychrometer containing	25	pumping (of pavements) — the ejection of water,
2	independently matched dry- and wet-bulb	26	or water and solid materials, such as clay or
3	thermometers, suitably mounted for	27	silt, along transverse or longitudinal joints
4	manually swinging through the ambient air,	28	and cracks, and along pavement edges
5	to simultaneously indicate dry- and wet-	29	caused by downward slab movement
6	bulb temperatures.	30	activated by the passage of loads over the
7	pugmill — see mixer, horizontal-shaft (preferred	31	pavement after the accumulation of free
8	term).	32	water on or in the base course, subgrade, or
9	pulse velocity — see velocity, pulse.	33	subbase.
10	nulverized-fuel ash (nfa) — see fly ash (preferred	34	punching shear — failure of a base or slab when a
11	term in USA pulverized-fuel ash is used in	35	heavily loaded column punches a hole
12	United Kingdom).	36	through it.
12	numice — a highly norous and vesicular lava	37	punching shear stress — shear stress calculated
13	usually of relatively high silica content	38	by diving the load on the slab that is
15	composed largely of glass drawn into	39	transferred to the column by the product of
16	approximately parallel or loosely entwined	40	the perimeter and the thickness of the base
17	fibers which themselves contain sealed	41	or cap or by the product of the perimeter
18	vesicles.	42	taken at 1/2 the slab thickness away from
10	numicite naturally occurring finally divided	43	the column and the thickness of the base or
20	pumice and glass shards	44	cap.
20	punice and glass shards.	45	punning — an obsolete term designating a light
21	pump, concrete — an apparatus that forces	46	form of ramming. (See also ramming and
22	concrete to the placing position through a	47	tamping.)
23	pipeline or hose.	48	purlin — in roofs, a horizontal member supporting
24	pumped concrete — see concrete, pumped.	49	the common rafters. (See also beam.)
		50	putty — a plaster composed of quicklime or
		51	hydrated lime and water with or without
		52	plaster of paris or sand.
		53	pyrite — a mineral, iron disulfide (FeS ₂) that if it
		54	occurs in aggregate used in concrete. can
		55	cause popouts and dark brown or orange-

colored staining.

1	pycnometer — a vessel for determination of	32	— R —
2	specific gravity of liquids or solids.	33	R-value — see resistance , thermal.
3	pyrometric cone — see cone, pyrometric.	34	raft foundation — see foundation, raft.
4	pyrometric-cone equivalent (PCE) — the	35	rail-steel reinforcement — see reinforcement,
5	number of that cone whose tip would touch	36	rail-steel.
6	the supporting plaque simultaneously with	37	rake classifier — machine for separating coarse
7	that of a cone of the refractory material	38	and fine particles of granular material
8	being investigated when tested in	39	temporarily suspended in water; the coarse
9	accordance with a specified procedure such	40	particles settle to the bottom of a vessel and
10	as ASTM C 24.	41	are scraped up an incline by a set of blades,
11		42	the fine particles remaining in suspension
12	-Q-	43	to be carried over the edge of the classifier.
13	quad mixture — see mixture, quad.	44	raker — a sloping brace for a shore head.
14	quality assurance — actions taken by an	45	raked joint — see joint, raked.
15	organization to provide and document	46	raker pile — see pile, batter (preferred term).
16	assurance that what is being done and what	47	raking pile — see pile, batter (preferred term).
17	is being provided are in accordance with	40	remming a form of house temping of concrete
18	the contract documents and standards of	48	grout or the like by means of a blunt tool
19	good practice for the work.	49 50	forcibly applied (See also pack dry)
20		50	nunning: and tamping)
21	quality control — actions taken by an	51	punning, and tamping.)
22	organization to provide control and	52	random ashlar — see masonry, ashlar (preferred
23	documentation over what is being done and	53	term).
24	what is being provided so that the	54	ranger — see wale (preferred term).
25	applicable standard of good practice and	55	ratio, A/F — the molar or mass ratio of
26	the contract documents for the work are	56	aluminum oxide (Al ₂ O ₃) to iron
27	followed.	57	oxide (Fe ₂ O ₃), as in portland
28		58	cement.
29	quicklime — calcium oxide (CaO).	59	ratio, aggregate-cement — the ratio of
30	quick set — see stiffening, early (preferred term).	60	cement to total aggregate, either by
31		61	mass or volume.

1	ratio, Poisson's — the absolute value of	31	reaction, alkali-carbonate rock — the
2	the ratio of transverse (lateral) strain	32	reaction between the alkalies
3	to the corresponding axial	33	(sodium and potassium) in portland
4	(longitudinal) strain resulting from	34	cement and certain carbonate rocks,
5	uniformly distributed axial stress	35	particularly calcitic dolomite and
6	below the proportional limit of the	36	dolomitic limestones, present in
7	material; the value will average	37	some aggregates; the products of
8	about 0.2 for concrete and 0.25 for	38	the reaction may cause abnormal
9	most metals.	39	expansion and cracking of concrete
10	raveling — the wearing away of the concrete	40	in service.
11	surfaced caused by the dislodging of	41	reaction, alkali-silica — the reaction
12	aggregates particles.	42	between the alkalies (sodium and
13	raw mix — blend of raw materials, ground to	43	potassium) in portland cement and
14	desired fineness, correctly proportioned,	44	certain siliceous rocks or minerals,
15	and blended ready for burning; such as that	45	such as opaline chert, strained
16	used in the manufacture of cement clinker.	46	quartz, and acidic volcanic glass,
17	Rayleigh wave — an ultrasonic surface wave in	47	present in some aggregates; the
18	which the particle motion is elliptical and	48	products of the reaction may cause
10	effective penetration is approximately one	49	abnormal expansion and cracking of
20	wavelength	50	concrete in service.
20	reaction —	51	reaction, endothermic — a chemical
21		52	reaction that occurs with the
22	reaction, alkali-aggregate — chemical	53	absorption of heat.
23	reaction in either mortar or concrete	54	reaction, exothermic —a chemical
24	between alkalies (sodium and	55	reaction that occurs with the
25	potassium) from portland cement or	56	evolution of heat.
26	other sources and certain	57	reaction nozzolanic — see nozzolan
27	constituents of some aggregates;	57	reaction, pozzoranie — see pozzorani.
28	under certain conditions, deleterious	58	reaction, subgrade — see contact
29	expansion of concrete or mortar	59	pressure and coefficient of
30	may result.	60	subgrade reaction.
		61	reactive aggregate — see aggregate, reactive.

1	reactive silica material — several types of	29	refractory, castable — a packaged, dry
2	materials that react at high temperatures	30	mixture of hydraulic cement,
3	with portland cement or lime during	31	generally calcium-aluminate
4	autoclaving, includes pulverized silica,	32	cement, and specially selected and
5	natural pozzolan, and fly ash.	33	proportioned refractory aggregates
6	reactivity (of aggregate), alkali — susceptibility	34	that, when mixed with water, will
7	of aggregate to alkali-aggregate reaction.	35	produce refractory concrete or
8	ready mixed concrete — see concrete, ready	36	mortar.
9	mixed.	37	refractory, neutral — a refractory that is
10	rebar — colloquial term for reinforcing bar. (See	38	resistant to chemical attack by
11	also reinforcement.)	39	either acidic or basic substances.
12	rebound — shotcrete materials, or wet shotcrete,	40	refractory aggregate — see aggregate,
13	that bounces away from the surface against	41	refractory.
14	which the shotcrete is being projected.	42	refractory concrete — see concrete, refractory.
15	rebound hammer — see hammer, rebound.	43	refractory-insulating concrete — see concrete,
16	recycled concrete — see concrete, recycled.	44	refractory-insulating.
17	reference standards — standardized mandatory	45	reglet — a groove in a wall to receive flashing.
18	language documents of a technical society,	46	regulated-set cement — see cement, regulated-
19	organization, or association, including the	47	set.
20	building codes of local or state authorities,	48	rehabilitation — the process of repairing or
21	which are referenced in the contract	49	modifying a structure to a desired useful
22	documents.	50	condition. (See also preservation, repair,
23	refractories — materials, usually nonmetallic,	51	and restoration.)
24	used to withstand high temperatures.	52	reinforced concrete — see concrete, reinforced.
25	refractoriness — in refractories, the property of	53	reinforced masonry — see masonry, reinforced.
26	being resistant to softening or deformation	54	reinforcement — bars, wires, strands, fibers, or
27	at high temperatures.	55	other slender elements that are embedded in
28	refractory — resistant to high temperatures.	56	a matrix such that they act together to resist
		57	forces.

1	reinforcement, auxiliary — in a	32	reinforcement, crack-control —
2	prestressed member, any	33	reinforcement in concrete
3	reinforcement in addition to that	34	construction designed to minimize
4	participating in the prestressing	35	opening of cracks, often effective in
5	function.	36	limiting them to uniformly
6	reinforcement, axle-steel — either plain or	37	distributed small cracks.
7	deformed reinforcing bars rolled	38	reinforcement, curtain — a mat of
8	from axle steel.	39	orthogonal reinforcing steel in a
9	reinforcement, cold-drawn wire — steel	40	member such as a wall; known as a
10	wire made from rods that have been	41	double curtain (of reinforcement)
11	hot rolled from billets, cold-drawn	42	when a mat is at each face.
12	through a die; for concrete	43	reinforcement, deformed — metal bars,
13	reinforcement of diameter not less	44	wire, or fabric with a manufactured
14	than 0.080 in. (2 mm) nor greater	45	pattern of surface ridges that
15	than 0.625 in. (16 mm).	46	provide a locking anchorage with
16	reinforcement, cold-worked steel — steel	47	surrounding concrete.
17	bars or wires that have been rolled,	48	reinforcement, distribution-bar — small
18	twisted, or drawn at normal ambient	49	diameter bars, usually at right
19	temperatures.	50	angles to the main reinforcement,
20	reinforcement, compression —	51	intended to spread a concentrated
21	reinforcement designed to carry	52	load on a slab and to prevent
22	compressive stresses. (See also	53	cracking.
23	stress.)	54	reinforcement, dowel-bar — see dowel.
24	reinforcement, corner — metal	55	reinforcement, edge-bar — tension steel
25	reinforcement for plaster at	56	sometimes used to strengthen
26	reentrant corners to provide	57	otherwise inadequate edges in a slab
27	continuity between two intersecting	58	without resorting to edge
28	planes; or concrete reinforcement	59	thickening.
29	used at wall intersections or near	60	reinforcement, expanded-metal fabric —
30	corners of square or rectangular	61	see lath, expanded-metal.
31	openings in walls, slabs, or beams.		

1	reinforcement, four-way — a system of	33	reinforcement, mesh — see fabric,
2	reinforcement in flat-slab	34	welded-wire and reinforcement,
3	construction comprising bands of	35	welded-wire fabric.
4	bars parallel to two adjacent edges	36	reinforcement, negative — steel
5	and also to both diagonals of a	37	reinforcement for negative moment.
6	rectangular slab.	38	reinforcement, nonprestressed —
7	reinforcement, heavy-edge — wire-fabric	39	reinforcing steel, not subjected to
8	reinforcement for highway	40	either pretensioning or post-
9	pavement slabs having one to four	41	tensioning.
10	edge wires heavier than the other	42	reinforcement, nonstructural — see
11	longitudinal wires.	43	reinforcement, temperature
12	reinforcement, helical — steel		noinforcement positive reinforcement
13	reinforcement of hot-rolled bar or	44	for positive moment
14	cold-drawn wire fabricated into a	45	for positive moment.
15	helix (more commonly known as	46	reinforcement, rail-steel — reinforcing
16	spiral reinforcement).	47	bars hot-rolled from standard T-
17	reinforcement, high-strength — see steel,	48	section rails.
18	high-strength.	49	reinforcement, shear — reinforcement
10	rainforcement boon - a one-piece closed	50	designed to resist shear or diagonal
20	tie or continuously wound tie not	51	tension stresses. (See also dowel.)
20	less than No. 3 in size the ends of	52	reinforcement, shrinkage —
21	which have a standard 135 degree	53	reinforcement designed to resist
22	bend with a ten-bar diameter	54	shrinkage stresses in concrete.
20	extension which encloses the	55	reinforcement, spiral — continuously
25	longitudinal reinforcement	56	wound reinforcement in the form of
20		57	a cylindrical helix. (See also
20	reinforcement, lateral — transverse	58	reinforcement, helical.)
27	tion boons and spirals in columns		
28	or column like members		
27			
30	reinforcement, longitudinal —		
31	reinforcement parallel to the length		

1	reinforcement, temperature —	32	reinforcement displacement — movement of
2	reinforcement designed to carry	33	reinforcing steel from its specified position
3	stresses resulting from temperature	34	in the forms.
4	changes; also the minimum	35	reinforcement ratio — ratio of the effective area
5	reinforcement for areas of members	36	of the reinforcement to the effective area of
6	that are not subjected to primary	37	the concrete at any section of a structural
7	stresses or necessarily to	38	member. (See also percentage of
8	temperature stresses.	39	reinforcement.)
9	reinforcement, tension — reinforcement	40	relative humidity — the ratio of the quantity of
10	designed to carry tensile stresses	41	water vapor actually present to the amount
11	such as those in the bottom of a	42	present in a saturated atmosphere at a given
12	simple beam.	43	temperature; expressed as a percentage.
13	reinforcement, transverse —	44	release agent — see agent, release.
14	reinforcement at right angles to the	45	release, partial — release into a prestressed-
15	longitudinal reinforcement.	46	concrete member of a portion of the total
16	reinforcement, twin-twisted bar — two	47	prestress initially held wholly in the
17	bars of the same nominal diameter	48	prestressed reinforcement.
18	twisted together.	10	remoldability — the readiness with which freshly
19	reinforcement, two-way — reinforcement	47 50	mixed concrete responds to a remolding
20	arranged in bands of bars at right	51	effort such as jugging or vibration causing
21	angles to each other.	52	it to reshape its mass around reinforcement
22	reinforcement. web — reinforcement	53	and to conform to the shape of the form
23	placed in a concrete member to	54	(See also flow.)
24	resist shear and diagonal tension.	55	remolding test — see test remolding
25	reinforcement , welded — reinforcement	50	temotang test bee test, temotang
26	ioined together by welding.	56	render — to apply a coat of mortar by a trowel or
	reinforcement welded wire febrie	57	noat.
27	welded wire fabric in either sheets	58	repair — to replace or correct deteriorated,
∠ŏ 20	we need to rainforce concrete	59	damaged, or faulty materials, components,
29	or rous, used to reinforce concrete.	60	or elements of a structure. (See also
30	reinforcement, woven-wire — see fabric,	61	preservation, rehabilitation, and
31	welded-wire (preferred term).	62	restoration.)

1	repair, structural — increasing the load-	33	reshore — a temporary support placed against the
2	carrying capacity of a structural component	34	bottom of a slab or other structural member
3	beyond its current capacity or restoring a	35	immediately after the forms and original
4	damaged structural component to its	36	shores have been removed.
5	original design capacity.	37	residual deformation — see creep,
6	repair system — the combination of materials and	38	nonrecoverable.
7	techniques used in the repair of a structure.	39	residual strength, test specimen — strength in
8	repeatability — variability among replicate test	40	the post-peak load region of a static load-
9	results obtained on the same material	41	deflection curve.
10	within a single laboratory by one operator;	42	resilience — the work done per unit volume of a
11	a quantity that will be exceeded in only	43	material in producing strain.
12	about 5% of the repetitions by the	44	resin — generally a thermosetting polymer used as
13	difference, taken in absolute value, of two	45	the matrix and hinder in ERP composites
14	randomly selected test results obtained in		
15	the same laboratory on a given material; in	46	resin, acrylic — one of a group of
16	use of the term, variable factors should be	47	thermoplastic resins formed by
17	specified.	48	polymerizing the esters or amides of
10	ranost — see rashara	49	acrylic acid used to make polymer-
10	repost — see resnore.	50	modified concrete and polymer
19	reproducibility — variability among replicate test	51	concretes; also used in concrete
20	results obtained on the same material in	52	construction as a bonding agent,
21	different laboratories; a quantity that will	53	surface sealer, or an integral
22	be exceeded in only about 5 % of the	54	concrete component.
23	repetitions by the difference, taken in	55	resin, phenolic — a class of synthetic, oil-
24	absolute value, of two single test results	56	soluble resins (plastics) produced as
25	made on the same material in two different,	57	condensation products of phenol
26	randomly selected laboratories; in use of	50	substituted phenols and
27	the term, variable factors should be	50	formaldehyde, or some similar
28	specified.		aldahyda that may be used in paints
29	required strength — see strength, required.	0U 61	for concrete
30	resetting (of forms) — setting of forms senarately	01	
JU 21	for each successive lift of a well to avoid		
১।	offects at construction inists		
32	onsets at construction joints.		

1	resin, polystyrene — synthetic resins,	29	resistance, penetration — the resistance,
2	varying from colorless to yellow,	30	usually expressed in pounds per
3	formed by the polymerization of	31	square inch (psi) or megapascals
4	styrene on heating with or without	32	(MPa), of either mortar or cement
5	catalysts, that may be used in paints	33	paste to penetration by a plunger or
6	for concrete, or for making	34	needle under standard conditions,
7	sculptured molds, or as insulation.	35	such as to determine time of setting.
8	resin concrete — see concrete, polymer	36	resistance, skid — a measure of the
9	(preferred term).	37	frictional characteristics of a
10	resin mortar — see concrete, polymer.	38	surface.
11	resin, epoxy — a class of organic chemical	39	resistance, sulfate — ability of concrete or
12	bonding systems used in the preparation of	40	mortar to withstand sulfate attack.
13	special coatings or adhesives for concrete	41	(See also sulfate attack.)
14	or as binders in epoxy-resin mortars,	42	resistance, thermal — the reciprocal of
15	concretes, and fiber reinforced polymer	43	thermal conductance expressed by
1/	aammaaitaa		4
16	composites.	44	the symbol K.
16	resistance —	44 45	resistance refractory aggregate — see
16 17 18	resistance — resistance, abrasion — ability of a surface	44 45 46	resistance refractory aggregate — see aggregate, refractory.
17 17 18 19	resistance — resistance, abrasion — ability of a surface to resist being worn away by	44 45 46 47	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the
17 17 18 19 20	resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction.	44 45 46 47 48	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a
17 17 18 19 20 21	resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a	44 45 46 47 48 49	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the
 16 17 18 19 20 21 22 	resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand	44 45 46 47 48 49 50	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation,
 16 17 18 19 20 21 22 23 	resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as	44 45 46 47 48 49 50 51	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.)
 17 18 19 20 21 22 23 24 	<pre>resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as applied to elements of buildings, it</pre>	44 45 46 47 48 49 50 51 52	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.) restraint (of concrete) — restriction of free
 17 18 19 20 21 22 23 24 25 	<pre>resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as applied to elements of buildings, it is characterized by the ability to</pre>	44 45 46 47 48 49 50 51 52 53	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.) restraint (of concrete) — restriction of free movement of fresh or hardened concrete
17 18 19 20 21 22 23 24 25 26	 resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as applied to elements of buildings, it is characterized by the ability to confine a fire or, when exposed to 	44 45 46 47 48 49 50 51 52 53 54	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.) restraint (of concrete) — restriction of free movement of fresh or hardened concrete following completion of placing in
 17 18 19 20 21 22 23 24 25 26 27 	 resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as applied to elements of buildings, it is characterized by the ability to confine a fire or, when exposed to fire, to continue to perform a given 	44 45 46 47 48 49 50 51 52 53 54 55	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.) restraint (of concrete) — restriction of free movement of fresh or hardened concrete following completion of placing in formwork or molds or within an otherwise
 17 18 19 20 21 22 23 24 25 26 27 28 	 resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as applied to elements of buildings, it is characterized by the ability to confine a fire or, when exposed to fire, to continue to perform a given structural function, or both. 	44 45 46 47 48 49 50 51 52 53 54 55 56	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.) restraint (of concrete) — restriction of free movement of fresh or hardened concrete following completion of placing in formwork or molds or within an otherwise confined space; restraint can be internal or
17 18 19 20 21 22 23 24 25 26 27 28	 resistance — resistance, abrasion — ability of a surface to resist being worn away by rubbing and friction. resistance, fire — the property of a material or assembly to withstand fire or give protection from it; as applied to elements of buildings, it is characterized by the ability to confine a fire or, when exposed to fire, to continue to perform a given structural function, or both. 	44 45 46 47 48 49 50 51 52 53 54 55 56 57	resistance refractory aggregate — see aggregate, refractory. restoration — the process of reestablishing the materials, form, and appearance of a structure to those of a particular era of the structure. (See also preservation, rehabilitation, and repair.) restraint (of concrete) — restriction of free movement of fresh or hardened concrete following completion of placing in formwork or molds or within an otherwise confined space; restraint can be internal or external and may act in one or more

1	retardation — reduction in the rate of either	32 revolving-blade (or paddle) mixer — see mixer,
2	hardening, setting, or both, that is, an	33 open-top.
3	increase in the time required to reach time	34 rheology — the science dealing with flow of
4	of initial and final setting or to develop	35 materials, including studies of deformation
5	early strength of fresh concrete, mortar, or	of hardened concrete, the handling and
6	grout. (See also retarder.)	placing of freshly mixed concrete, and the
7	retarder — an admixture that delays the setting of	behavior of slurries, pastes, and the like.
8	cement paste, and of mixtures, such as	39 rib — one of a number of parallel structural
9	mortar or concrete, containing cement. (See	40 members backing sheathing; the portion of
10	also admixture, retarding.)	a T-beam which projects below the slab; in
11	retarder, surface — a retarder applied to the	42 deformed reinforcing bars, the
12	contact surface of a form or to the surface	43 deformations or the longitudinal parting
13	of newly placed concrete, to delay setting	44 ridge.
14	of the cement, to facilitate construction	45 ribbed panel — see panel, ribbed.
15	joint cleanup, or to facilitate production of	16 ribbed slab — see nanel ribbed
16	exposed-aggregate finish.	
17	retarding admixture — see admixture,	47 ribbon — a narrow strip of wood or other material
18	retarding.	48 used in formwork.
19	retemper — to add water and remix a	49 ribbon loading — see loading, ribbon.
20	cementitious mixture to restore workability	50 rich concrete — see concrete, rich.
21	to a condition in which the mixture is	51 rich mixture — a concrete mixture containing a
22	placeable or usable. (See also temper.)	52 high proportion of cement.
23	reveal (<i>n</i> .) — the vertical surface forming the side	53 rider cap — see cap, pile.
24	of an opening in a wall, as for a window or	54 rigid frame — see frame, rigid.
25	door; depth of exposure of aggregate in an	55 rigid navement — see navement, rigid
26	exposed aggregate finish. (See also	c visidity florengel of mooning of stiffeness of a
27	exposed-aggregate finish.)	56 Figure 9 , Hexural — a measure of summess of a
28	revibration — one or more applications of	57 member, mulcated by the product of 59 modulus of electicity and moment of inertia
20	vibration to fresh concrete after completion	50 divided by the length of the member
30	of placing and initial consolidation but	by arviace by the tength of the member.
31	preceding initial setting of the concrete.	

1	ring, air — perforated manifold in nozzle of wet-	31	rod, tamping — a straight steel rod of
2	mix shotcrete equipment through which	32	circular cross-section and having
3	high pressure air is introduced into the	33	one or both ends rounded to a
4	material flow.	34	hemispherical tip.
5	ring, proving — a device for calibrating load	35	rod, tie — see tie, form and tieback.
6	indicators of testing machines, consisting of	36	rodability — the susceptibility of fresh concrete or
7	a calibrated elastic ring and a mechanism or	37	mortar to consolidation by means of a
8	device for indicating the magnitude of	38	tamping rod.
9	deformation under load.	39	rod buster (colloquial) — one who installs
10	rock pocket — a porous, mortar-deficient portion	40	reinforcement for concrete.
11	of hardened concrete consisting primarily	41	rodding — consolidation of concrete by means of
12	of coarse aggregate and open voids; caused	42	a tamping rod. (See also rod, rodability,
13	by leakage of mortar from the form,	43	and tamping.)
14	separation (segregation) during placement,	44	rodding. dry — in measurement of the mass per
15	or insufficient consolidation. (See also	45	unit volume of coarse aggregates, the
16	honeycomb.)	46	process of consolidating dry material in a
17	rod —	47	calibrated container by rodding under
18	1) a tool that is used as a straightedge or	48	standardized conditions.
19	screed to provide a uniform and even	49	rod mill — see mill. rod.
20	surface across a plaster coat usually by	EQ	rollar compacted concrete
21	trimming to a ground or dot;	50	roller-compacted
22	2) a tool used as a guide for a scoring	51	
23	(combed) finish or similar repeating pattern	52	roller compaction — a process for compacting
24	finish; or	53	roller
25	3) a sharp-edged cutting screed used to trim	54	
26	shotcrete to forms or ground wires. (See	55	rolling — the use of heavy metal or stone rollers
27	also screed.)	56	on terrazzo topping to extract excess
28	rod, dowel — see dowel (preferred term).	57	matrix.
29	rod, pencil — plain metal rod of about 1/4	58	Roman cement — see cement, Roman.
30	in. (6 mm) diameter.	59	roof, barrel-vault — a thin concrete roof in the
		60	form of a part of a cylinder.
		61	roof insulation — see insulation, roof.

1	room, fog — see moist room (preferred term).
2	Rosiwal method — see linear-traverse method.
3	rotary float (also called power float) — see float,
4	rotary.
5	rotary kiln — see kiln, rotary.
6	rough grind — the initial operation in which
7	coarse abrasives are used to reduce the
8	projecting stone chips in hardened terrazzo
9	down to a level surface.
10	rout — to deepen and widen a crack to prepare it
11	for patching or sealing.
12	rub brick — see brick, rubbing (preferred term).
13	rubbing brick — see brick, rubbing.
14	rubbed finish — see finish, rubbed.
15	rubber set — see set, false (preferred term).
16	rubble — rough stones of irregular shape and size,
17	broken from larger masses by geological
18	processes or by quarrying; concrete
19	reduced to irregular fragments, as by
20	demolition or natural catastrophe.
21	rubble concrete — see concrete, rubble.
22	runway — decking over area of concrete
23	placement, usually of movable panels and
24	supports, on which buggies of concrete
25	travel to points of placement.
26	rupture modulus — see modulus of rupture.
27	rupture strength — see modulus of rupture.
28	rustic or washed finish — see finish, rustic or
29	washed.

rustication — a groove in a concrete surface.

31 rustication strip — see strip, rustication.

34	<pre>sack — see bag (of cement) (preferred term).</pre>
35	sack rub — a finish for formed concrete surfaces,
36	designed to produce even texture and fill
37	pits and air holes; after dampening the
38	surface, mortar is rubbed over the surface;
39	then, before the surface dries, a mixture of
40	dry cement and sand is rubbed over it with
41	either a wad of burlap or a sponge-rubber
42	float to remove surplus mortar and fill
43	voids. (See also surface air voids and
44	finish, rubbed.)
45	safe leg load — see load, safe leg.
46	sagging — see sloughing (preferred term).
47	sample — either a group of units, or portion of
48	material, taken respectively from a larger
49	collection of units or a larger quantity of
50	material, that serves to provide information
51	that can be used as a basis for action on the
52	larger collection or quantity or on the
53	production process; the term is also used in
54	the sense of a sample of observations.
55	sample, composite — sample obtained by
56	blending two or more individual samples of
57	a material.
58	sampling, continuous— sampling without
59	interruptions throughout an operation or for
60	a predetermined time.

1	sampling, intermittent — sampling successively	33	<i>Note:</i> the definitions are alternatives to be
2	for limited periods of time throughout an	34	applied under differing circumstances.
3	operation or for a predetermined period of	35	Definition (1) is applied to an entire
4	time; the duration of sampling periods and	36	aggregate either in a natural condition or
5	the intervals are not necessarily regular and	37	after processing. Definition (2) is applied to
6	are not specified.	38	a portion of an aggregate. Requirements for
7	sampling plan —	39	properties and grading should be stated in
8	(1) a procedure that specifies the number of	40	the specifications. Fine aggregate produced
9	units of product from a lot that is to be	41	by crushing rock, gravel, or slag commonly
10	inspected to establish acceptability of the	42	is known as manufactured sand.
11	lot; and	43	sand, graded standard — see sand,
12	(2) a prearranged program stipulating	44	standard.
13	locations and procedures for securing	45	sand, manufactured — see sand.
14	samples of a material for testing purposes,	46	sand, natural — sand resulting from
15	for example, as concrete in construction or	47	natural disintegration and abrasion
16	aggregates in a quarry, pit, or stockpile.	48	of rock. (See also sand and
17	sand —	49	aggregate, fine.)
17 18	sand — (1) granular material passing the 9.5 mm	49 50	aggregate, fine.) sand, sharp — coarse sand consisting of
17 18 19	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing 	49 50 51	aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape.
17 18 19 20	sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and	49 50 51 52	aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed
17 18 19 20 21	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 	49 50 51 52 53	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded
17 18 19 20 21 22	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural 	49 50 51 52 53 54	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used
 17 18 19 20 21 22 23 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or 	49 50 51 52 53 54 55	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing
 17 18 19 20 21 22 23 24 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; 	49 50 51 52 53 54 55 55 56	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i>
 17 18 19 20 21 22 23 24 25 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and 	49 50 51 52 53 54 55 56 57	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two
 17 18 19 20 21 22 23 24 25 26 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and (2) that portion of an aggregate passing the 	49 50 51 52 53 54 55 56 57 58	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two gradings.
 17 18 19 20 21 22 23 24 25 26 27 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and (2) that portion of an aggregate passing the 4.75 mm (No. 4) sieve and predominantly 	49 50 51 52 53 54 55 56 57 58 59	aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two gradings. (a) 20-30 sand — standard sand,
 17 18 19 20 21 22 23 24 25 26 27 28 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and (2) that portion of an aggregate passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and 	49 50 51 52 53 54 55 56 57 58 59 60	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two gradings. (a) 20-30 sand — standard sand, predominantly graded to pass a 850
 17 18 19 20 21 22 23 24 25 26 27 28 29 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and (2) that portion of an aggregate passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration from the 75 m (No. 200) sieve, and resulting either from natural disintegration 	49 50 51 52 53 54 55 56 57 58 59 60 61	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two gradings. (a) 20-30 sand — standard sand, predominantly graded to pass a 850 m (No. 20) sieve and be trained
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and (2) that portion of an aggregate passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of 	49 50 51 52 53 54 55 56 57 58 59 60 61 62	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two gradings. (a) 20-30 sand — standard sand, predominantly graded to pass a 850 m (No. 20) sieve and be trained on a 600 m (No. 30) sieve and the
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 	 sand — (1) granular material passing the 9.5 mm (3/8 in.) sieve and almost entirely passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and (2) that portion of an aggregate passing the 4.75 mm (No. 4) sieve and predominantly retained on the 75 m (No. 200) sieve, and resulting either from natural disintegration and abrasion of rock or processing of completely friable sandstone; and 	 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 	 aggregate, fine.) sand, sharp — coarse sand consisting of particles of angular shape. sand, standard — silica sand, composed almost entirely of naturally rounded grains of nearly pure quartz, used for preparing mortars in the testing of hydraulic cements. <i>Note:</i> standard sand is produced in two gradings. (a) 20-30 sand — standard sand, predominantly graded to pass a 850 m (No. 20) sieve and be trained on a 600 m (No. 30) sieve and the 150 m No. 100) sieve.

1	(b) graded sand — standard sand,	33	sand-lime brick — see brick, calcium-silicate
2	predominantly graded between the	34	(preferred term).
3	600 m (No. 30) sieve and the 150	35	sand plate — a flat steel plate or strip welded to
4	m No. 100) sieve.	36	the legs of bar supports for use on
5	sand, stone — fine aggregate resulting	37	compacted soil.
6	from the mechanical crushing and	38	sand pocket — a zone in concrete or mortar
7	processing of rock. (See also	39	containing fine aggregate with little or no
8	aggregate, fine and sand.)	40	cement.
9	sandblast — a system of cutting or abrading a	41	sand streak — a streak of exposed fine aggregate
10	surface such as concrete by a stream of	42	in the surface of formed concrete, caused
11	sand ejected from a nozzle at high speed by	43	by bleeding.
12	compressed air; often used for cleanup of	44	sanded grout — see grout, sanded.
13	horizontal construction joints or for	45	sandstone — a cemented or otherwise indurated
14	exposure of aggregate in architectural	40	sedimentary rock composed predominantly
15	concrete.	47	of sand grains
16	sand box (or sand jack) — a tight box filled with	40	
17	clean, dry, sand on which rests a tight-	48	sandwich panel — see panel, sandwich.
18	fitting timber plunger that supports the	49	Santorin earth — a volcanic tuff originating on
19	bottom of posts used in centering; removal	50	the Grecian island of Santorin and used as a
20	of a plug from a hole near the bottom of the	51	pozzolan.
21	box permits the sand to run out when it is	52	saponification — the alkaline hydrolysis of fats
22	necessary to lower the centering.	53	forming a soap, more generally the
23	sand-coarse aggregate ratio — ratio of fine to	54	hydrolysis of an ester by an alkali with the
24	coarse aggregate in a batch of concrete, by	55	formation of an alcohol and a salt of the
25	mass or by volume.	56	acid portion.
26	sand equivalent — a measure of the relative	57	saturated surface-dry — condition of an
27	proportions of detrimental fine dust or	58	aggregate particle or other porous solid
28	claylike material or both in soils or fine	59	when the permeable voids are filled with
29	aggregate.	60	water and no water is on the exposed
30	sand jack — see sand box.	61	surfaces.
31	sand-lightweight concrete — see concrete, sand-		
32	lightweight.		

1	saturated surface-dry (SSD) particle density — 33	3	sawdust concrete — see concrete, sawdust.
2	the mass of the saturated surface-dry 34	ļ	sawed joint — see joint, sawed.
3	aggregate divided by its displacement	5	scab — a short piece of wood fastened to two
4	volume in water or in concrete.	ò	formwork members to secure a butt joint.
5	saturation — 37	,	scaffolding — a temporary structure for the
6	(1) in general: the condition of coexistence 38	3	support of deck forms, cartways, or
7	in stable equilibrium of either a vapor and a)	workers or a combination of these such as
8	liquid or a vapor and solid phase of the)	an elevated platform for supporting
9	same substance at the same temperature; 41		workers, tools, and materials; adjustable
10	and 42	2	metal scaffolding is frequently adapted for
11	(2) as applied to aggregate or concrete: the 43	3	shoring in concrete work.
12	condition such that no more liquid can be		scale — the oxide formed on the surface of metal
13	held or placed within it.		during heating (See also scaling)
11	saturation critical — a condition	,	
14	describing the degree of filling by	5	scaling — local flaking or peeling away of the
15	freezable water of a nore space in		near-surface portion of hardened concrete
10	cement paste or aggregate that	3	or mortar; also of a layer from metal. (See
17	affects the response of the material	,	also mill scale, peeling, and spalling).
10	to freezing: usually taken to be 01.7)	Note: light scaling of concrete does not
19	$\frac{1}{51}$		expose coarse aggregate; medium scaling
20	volume of water undergoing the	2	involves loss of surface mortar to 5 to 10
21	volume of water undergoing the 53	3	mm in depth and exposure of coarse
22	change of state to ice. 54	ł	aggregate; severe scaling involves loss of
23	saturation, vacuum — a process for 55	5	surface mortar to 5 to 10 mm in depth with
24	increasing the amount of filling of 56	ò	some loss of mortar surrounding aggregate
25	the pores in a porous material, such 57	7	particles 10 to 20 mm in depth; very severe
26	as lightweight aggregate, with a 58	3	scaling involves loss of coarse aggregate
27	fluid, such as water, by subjecting 59)	particles as well as mortar generally to a
28	the porous material to reduced 60)	depth greater than 20 mm.
29	pressure while immersed in the 61		scalper — a sieve for removing oversize particles.
30	fluid.	,	scalning — the removal of particles larger than a
31	saw cut — a cut in hardened concrete made using	-	specified size by sieving
32	abrasive blades or discs.	-	Specifica size of sie ing.
1	scanning electron microscope (SEM) — see	31	screed, cutting — sharp-edged tool used to trim
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2	microscope, scanning electron (SEM).	32	shotcrete to the finished outline. (See also
3	scarf connection — see connection, scarf.	33	rod.)
4	scarf joint — see scarf connection (preferred	34	screed guide — firmly established grade strips or
5	term).	35	side forms for unformed concrete that guide
6	schist — a finely layered metamorphic rock that	36	the strikeoff in producing the desired plane
7	splits easily and in which the grain is coarse	37	or shape.
8	enough to permit identification of the	38	screed rails — see screed guide.
9	principal minerals.	39	screed wire — see wire, ground.
10	Schmidt hammer — see hammer, rebound.	40 :	screeding — the operation of forming a surface
11	scoria — vesicular volcanic ejecta of larger size,	41	using a screed. (See also strikeoff.)
12	usually of basic composition and	42	screen — production equipment for separating
13	characterized by dark color; the material is	43	granular material according to size, using
14	relatively heavy and partly glassy, partly	44	woven-wire cloth or other similar device
15	crystalline; the vesicles do not generally	45	with regularly spaced apertures of uniform
16	interconnect. (See also aggregate,	46	size.
17	lightweight.)	47	screens, finish — vibrating screens (preferably
18	scour — erosion of a concrete surface, exposing	48	horizontal) operated at a batching plant so
19	the aggregate.	49	that excessive amounts of significant
20	scratch coat — see coat, scratch.	50	undersize material are removed and
21	screed —	51	delivered directly to the appropriate batcher
22	(1) to strike off a cementitious mixture	52	bin without intermediate storage.
23	lying beyond the desired plane or shape.	53	screw, adjustment — a leveling device or jack
-0	(2) a tool for striking off the compartitious	54	composed of a threaded screw and an
24	(2) a tool for surking off the cementitious	55	adjusting handle; used for the vertical
20	strikeoff: or	56	adjustment of shoring and formwork.
20		57	sealant — see sealant, joint.
27	(3) a ribbon or pad of a cementitious	58	sealant, joint — compressible material used to
28	mixture that is preplaced to act as a guide	59	exclude water and solid foreign materials
29	for maintaining the desired level as more	60	from joints.
30	material is placed.		

1	sealer — a liquid that is applied to the surface of	31	Self-consolidating concrete — see concrete, self-
2	hardened concrete to either prevent or	32	consolidating.
3	decrease the penetration of liquid or	33	self-desiccation — the removal of free water by
4	gaseous media, for example water,	34	chemical reaction so as to leave insufficient
5	aggressive solutions, and carbon dioxide,	35	water to cover the solid surfaces and cause
6	during service exposer, that is absorbed by	36	a decrease in the relative humidity of the
7	the concrete, is colorless, and leaves little	37	system; applied to an effect occurring in
8	or nothing visible on the surface. (See also	38	sealed concretes, mortars, and pastes.
9	coating and compound, curing).	39	self-furring — metal lath or welded-wire fabric
10	sealing compound — see sealer.	40	formed in the manufacturing process to
11	seating — see deformation, anchorage.	41	include means by which the material is held
12	secant modulus — see modulus of elasticity.	42	away from the supporting surface, thus
13	secondary crusher — see crusher, secondary	43	creating a space for "keying" of the
14	secondary moment accordary	44	insulating concrete, plaster, or stucco.
14	secondary moment — see moment, secondary.	45	self-furring nail — nails with flat heads and a
15	secondary nuclear vessel — exterior container or	46	washer or a spacer on the shank; for
16	safety container in a nuclear reactor	47	fastening reinforcing wire mesh and
17	subjected to design load only once in its	48	spacing it from the nailing member.
18	lifetime, if at all.	49	self-stressing cement — see cement, expansive.
19	section, transformed — a hypothetical section of	50	solf stressing concrete (morter or grout)
20	one material arranged so as to have the	50	sen-stressing concrete (mortar or grout) — see
21	same elastic properties as a section of two	51	concrete (mortar or grout), sen-stressing.
22	or more materials.	52	selvage — a finished edge of woven-wire screen
23	section modulus — see modulus, section.	53	cloth produced in the weaving process of
24	segmental member — see member, segmental.	54	the finer meshes.
25	sagragation	55	semiautomatic batcher — see batcher.
20	segregation —	56	semiflexible joint — see joint, semiflexible.
26	(1) nonuniform concentration of	57	sensor — a device designed to respond to a
27	components in concrete or mortar; or	58	physical stimulus (as temperature,
28	(2) nonuniform distribution of size	59	illumination, and motion) and transmit a
29	fractions in a mass of aggregate. (See also	60	resulting signal for interpretation.
30	bleeding and separation.)	61	measurement, or for operating a control.

1 separation —

2	(1) divergence from the mass and
3	differential accumulation of coarse
4	aggregate during movement of the
5	concrete;
6	(2) divergence from the mass and
7	differential accumulation of large coarse
8	aggregate from the bulk coarse aggregate as
9	it is being moved; or
10	(3) the gravitational settlement of solids
11	from a liquid. (See also bleeding and
12	segregation).
13	separation joint — see joint, isolation (preferred
14	term).
15	separation, heavy-media — a method in which a
16	liquid or suspension of given specific
17	gravity is used to separate particles into a
18	portion lighter than (those that float) and a
19	portion heavier than (those that sink) the
20	medium.
21	separator, air — an apparatus that separates
22	various size fractions of ground materials
23	pneumatically; fine particles are discharged
24	as product; oversize is returned to the mill
25	as tailing.
26	sequence-stressing loss — in post-tensioning, the
27	elastic loss in a stressed tendon resulting
28	from the shortening of the member when
29	additional tendons are stressed.
30	service dead load — see load, service dead.
31	service live load — see load, service live.

32 S	ervice	load —	see	load,	service.
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set (n)	— the co	ondition reached by a cement paste,		
	mortar, o	or concrete when it has lost		
	plasticity	y to an arbitrary degree, usually		
	measure	d in terms of resistance to		
penetration or deformation; initial set re				
	to first s	tiffening; final set refers to		
	attainme	ent of significant rigidity; also,		
	strain re	maining after removal of stress.		
	(See also	o set, permanent.)		
	set, false	e — the rapid development of		
	r	igidity in a freshly mixed portland		
	с	ement paste, mortar, or concrete		
	v	vithout the evolution of much heat,		
	v	which rigidity can be dispelled and		
	r	plasticity regained by further		
	r	nixing without addition of water;		
	p	premature stiffening, hesitation set,		
	e	early stiffening, and rubber set are		
	t	erms referring to the same		
	p	henomenon, but false set is the		
	p	preferred designation. (See also set,		
	f	lash.)		

1	set, final — a degree of stiffening of a	26	set, initial — a degree of stiffening of a
2	mixture of cement and water greater	27	mixture of cement and water less
3	than initial set, generally stated as	28	than final set, generally stated as an
4	an empirical value indicating the	29	empirical value indicating the time
5	time in hours and minutes required	30	in hours and minutes required for
6	for a cement paste to stiffen	31	cement paste to stiffen sufficiently
7	sufficiently to resist, to an	32	to resist to an established degree,
8	established degree, the penetration	33	the penetration of a weighted test
9	of a weighted test needle; also	34	needle; also applicable to concrete
10	applicable to concrete and mortar	35	or mortar with use of suitable test
11	mixtures with use of suitable test	36	procedures. (See also set, final.)
12	procedures. (See also set, initial.)	37	set, pack — see cement, sticky and set,
13	set, flash — the rapid development of	38	warehouse.
14	rigidity in a freshly mixed portland	39	set, permanent — inelastic elongation or
15	cement paste, mortar, or concrete,	40	shortening.
16	characteristically with the evolution	41	set. rubber — see set. false (preferred
17	of considerable heat, which rigidity	42	term).
18	cannot be dispelled nor can the		act stallhouse and semant stiely and
19	plasticity be regained by further	43	set, stockhouse — see cement, sticky and
20	mixing without addition of water;	44	set, warehouse.
21	also referred to as quick set or grab	45	set, warehouse — (1) the partial hydration
22	set. (See also set, false.)	46	of cement stored for a time and
23	set. grab — see set. flash (preferred term).	47	exposed to atmospheric moisture;
	set besitetion and set folgo (motored	48	and
∠4 25	set, nesitation — see set, laise (preferred	49	(2) mechanical compaction
25	term).	50	occurring during storage. (See also
		51	cement, sticky.)

52 set-accelerating admixture — see accelerator.

1	set-control addition — material, composed	30	shale — a laminated and fissile sedimentary rock,
2	essentially of calcium sulfate in any	31	the constituent particles of which are
3	hydration state from CaSO ₄ to	32	principally in clay and silt sizes; the
4	$CaSO_4$ 2H ₂ O, interground with the clinker	33	laminations are bedding planes of the rock.
5	during manufacture of cement to modify	34	shale, expanded (clay or slate) — lightweight
6	the setting time of the cement.	35	vesicular aggregate obtained by firing
7	set-retarding admixture — see admixture,	36	suitable raw materials in a kiln or on a
8	retarding and retarder.	37	sintering grate under controlled conditions.
9	setting time — the length of time required to set or	38	sharp sand — see sand, sharp.
10	harden resin or adhesive under heat or	39	she bolt — see bolt, she.
11	pressure.	40	shear — an internal force tangential to the plane
12	setting time, final — the time required for	41	on which it acts.
13	a freshly mixed cement paste,	42	shearhead — assembled unit in the top of the
14	mortar, or concrete to achieve final	43	columns of flat slab or flat plate
15	set. (See also time, initial setting.)	44	construction to transmit loads from slab to
16	setting time, initial — the time required	45	column.
17	for a freshly mixed cement paste,	46	shear modulus — see modulus of rigidity
18	mortar, or concrete to achieve initial	10	shoor minforcement and minforcement
19	set. (See also time, final setting.)	47	shoor
20	settlement — sinking of solid particles in grout,	48	Silcal.
21	mortar, or fresh concrete, after placement	49	shear strength — see strength, shear.
22	and before initial set. (See also bleeding.)	50	shear stress — see stress, shear.
23	settlement shrinkage — see shrinkage,	51	shearwall — a wall portion of a structural frame
24	settlement.	52	intended to resist lateral forces, such as
25	settling — the lowering in elevation of sections of	53	earthquake, wind, and blast, acting in the
26	pavement or structures due to their mass,	54	plane of the wall.
27	the loads imposed on them, or shrinkage or	55	sheath — an enclosure in which post-tensioning
28	displacement of the support.	56	tendons are encased to prevent bonding
29	settling velocity — see velocity, settling.	57	during concrete placement. (See also duct.)
		58	sheathing — the material forming the contact face
		59	of forms; also called lagging or sheeting.
		60 149	sheet pile — see pile, sheet.

1	sheeting — see sheathing (preferred term).	28	shore — a temporary support for formwork and
2	shelf angles — structural angles with holes or slots	29	fresh concrete or for recently built
3	in one leg for bolting to the structure to	30	structures that have not developed full
4	support brick work, stone, or terra cotta.	31	design strength; also called prop, tom, post,
5	shelly structure — see perlitic structure	32	strut. (See also L-head and T-head.)
6	(preferred term).	33	shore, pole — see shore, post.
7	shielding concrete — see concrete, shielding.	34	shore, post — individual vertical member
8	shim — a strip of metal, wood, or other material	35	used to support loads; also known
9	employed to set base plates or structural	36	as pole shore.
10	members at the proper level for placement	37	(1) adjustable timber single-post
11	of grout, or to maintain the elongation in	38	shore — individual timber used
12	some types of post-tensioning anchorages.	39	with a fabricated clamp to obtain
13	shiplan — a type of joint in lumber or precast	40	adjustment and not normally
14	concrete, made by using pieces having a	41	manufactured as a complete unit;
15	portion of the width cut away on both	42	(2) fabricated single-post shore —
16	edges, but on opposite sides, so as to make	43	Type I: single all-metal post, with a
17	a flush joint with similar pieces.	44	fine-adjustment screw or device in
18	shock. thermal — the subjection of newly	45	combination with pin-and-hole
19	hardened concrete to a rapid change in	46	adjustment or clamp; Type II: single
20	temperature that may be expected to have a	47	or double wooden post members
21	potentially deleterious effect.	48	adjustable by a metal clamp or
22	shoeld load shoeld	49	screw and usually manufactured as
22	shock load — see load, shock.	50	a complete unit; and
23	shooting — placing of shotcrete. (See also	51	(3) timber single-post shore —
24	gunning.)	52	timber used as a structural member
25	shoot wire — a wire running across the width of	53	for shoring support.
26	the sieve cloth, as woven; also known as	54	shore head — wood or metal horizontal member
27	fill, filler, weft, or woof wire.	55	placed on and fastened to vertical shoring
		56	member. (See also raker.)

1	shoring — props or posts of timber or other	32
2	material in compression used for the	33
3	temporary support of excavations,	34
4	formwork, or unsafe structures; the process	35
5	of erecting shores.	36
6	shoring, horizontal — metal or wood load-	37
7	carrying strut, beam, or trussed section used	38
8	to carry a shoring load from one bearing	00
9	point, column, frame, post, or wall to	39
10	another; may be adjustable.	40
11	shoring layout — a drawing prepared before	41
12	erection showing arrangements of	42
13	equipment for shoring.	43
14	short column — see column, short.	44
1 Г	shorton to dograge in length (See also	45
10	shorten — to decrease in length. (See also	46
10	contraction, ciongation, and sin inkage.)	47
17	shortening, elastic — in prestressed concrete, the	48
18	shortening of a member that occurs	49
19	immediately on the application of forces	50
20	induced by prestressing.	51
21	shotcrete — concrete placed by a high velocity	52
22	pneumatic projection from a nozzle.	53
23	shotcrete, dry-mix— shotcrete in which most of	54
24	the mixing water is added at the nozzle.	55
25	shotcrete, wet-mix — shotcrete in which	56
26	the ingredients, including water, are	
27	mixed before introduction into the	
28	delivery hose.	
29	shoulder — an unintentional offset in a formed	
30	concrete surface usually caused by bulging	
31	or movement of formwork.	

shrink-mixed concrete — see concrete, shrink-					
mixed.					
shrinkage — decrease in either length or volume.					
Note: may be restricted to effects of moisture					
content or chemical changes.					
shrinkage, carbonation — shrinkage					
resulting from carbonation.					
shrinkage, drying — shrinkage resulting					
from loss of moisture.					
shrinkage, initial drying —the difference					
between the length of a specimen					
(molded and cured under stated					
conditions) and its length when first					
dried to constant length, expressed					
as a percentage of the moist length.					
shrinkage, plastic — shrinkage that takes					
place before cement paste, mortar,					
grout, or concrete sets.					
shrinkage, settlement — a reduction in					
volume of concrete before the final					
set of cementitious mixtures, caused					
by settling of the solids and					
displacement of fluids. (See also					
shrinkage, plastic, and volume					
change, autogenous.)					

1	shrinkage-compensating — a characteristic of	31 sieve correction — correction of a sieve analysis
2	grout, mortar, or concrete made using	to adjust for deviation of sieve performance
3	expansive cement in which volume	from that of standard calibrated sieves.
4	increases after setting, and if properly	34 sieve fraction — that portion of a sample that
5	elastically restrained, induces compressive	35 passes through a standard sieve of specified
6	stresses that are intended to approximately	36 size and is retained by some finer sieve of
7	offset the tendency of drying shrinkage to	37 specified size.
8	induce tensile stresses. (See also cement,	38 sieve number — a number used to designate the
9	expansive.)	39 size of a sieve, usually the approximate
10	shrinkage-compensating cement — see cement,	40 number of openings per linear inch; applied
11	expansive.	41 to sieves with openings smaller than 6.3
12	shrinkage-compensating concrete — see	42 mm (1/4 in.). (See also mesh.)
13	concrete, shrinkage-compensating.	43 sieve size — nominal size of openings between
14	shrinkage crack — see crack, shrinkage.	44 cross wires of a testing sieve.
15	shrinkage cracking — see cracking, shrinkage.	45 significant (statistically significant) — values of
16	shrinkage loss — see loss, shrinkage.	46 a test statistic that lie outside of
17	shrinkage reinforcement — see reinforcement.	47 predetermined limits of test precision and
18	shrinkage	48 so taken to indicate a difference between
10	shuttaring and formwork	49 populations.
19	snuttering — see formwork.	50 silica — silicon dioxide (SiO ₂).
20	SI (Système International) — the modern metric	51 silica flour — very finely divided silica, a
21	system. (See ASTM E 380.)	52 siliceous binder component that reacts with
22	side, pilaster — the form for the side surface of a	53 lime under autoclave curing conditions;
23	pilaster perpendicular to the wall.	54 prepared by grinding silica, such as quartz,
24	sieve — a metallic plate or sheet, a woven-wire	55 to a fine powder; also known as silica
25	cloth, or other similar device, with	56 powder.
26	regularly spaced apertures of uniform size,	57 silica fume — very fine noncrystalline silica
27	mounted in a suitable frame or holder for	58 produced in electric arc furnaces as a
28	use in separating granular material	59 byproduct of the production of elemental
29	according to size.	60 silicon or allovs containing silicon.
30	sieve analysis — see analysis, sieve.	61 silica powder — see silica flour (preferred term).

1	silicate — salt of a silicic acid (see alite; belite;	29	silt — a granular material resulting from the
2	blast-furnace slag; bredigite; celite;	30	disintegration of rock, with grains largely
3	brick, calcium-silicate; hydrate, calcium-	31	passing a 75 m (No. 200) sieve;
4	silicate; concrete, siliceous-aggregate;	32	alternatively, such particles in the range
5	clay; dicalcium silicate; clay, fire;	33	from 2 to 50 m diameter.
6	fluosilicate; lime, hydraulic hydrated;	34	simple beam — see beam, simple.
7	kaolin; larnite; melilite; smectite;	35	single-sized aggregate — see aggregate, single-
8	Stratling's compound; tobermorite;	36	sized.
9	tricalcium silicate; vermiculite; and	07	
10	xonotlite).	37	single-stage curing — see curing, single-stage.
11	siliceous-aggregate concrete — see concrete,	38	sinter — a ceramic material or mixture fired to
12	siliceous-aggregate.	39	less than complete fusion, resulting in a
13	silicon carbide — an artificial product (SiC)	40	coherent mass; also the process involved.
14	granules of which may be embedded in	41	sintering — the formation of a porous mass of
15	concrete surfaces to increase resistance to	42	material by the agglomeration of fine
16	wear or as a means of reducing skidding or	43	particles during particle fusion.
17	slipping on stair treads or payements: also	44	sintering grate — a grate on which material is
18	used as an abrasive in saws and drills for	45	sintered.
19	cutting concrete and masonry, and as	46	size, nominal — see nominal maximum size (of
20	abrasive grit in a range of particle sizes.	47	aggregate).
21	silicone — a resin, characterized by water-	48	skew back — sloping surface against which the
22	repellent properties, in which the main	49	end of an arch rests, such as a concrete
23	polymer chain consists of alternating	50	thrust block supporting thrust of an arch
24	silicon and oxygen atoms, with carbon-	51	bridge. (See also strip, chamfer.)
25	containing side groups; silicones may be	52	skid resistance — see resistance, skid.
26	used in caulking or coating compounds or	53	slab — a molded layer of plain or reinforced
27	as admixtures for concrete.	54	concrete, flat, horizontal (or nearly so),
28	sill — see mud sill.	55	usually of uniform but sometimes of
		56	variable thickness, either on the ground or
		57	supported by beams, columns, walls, or
		58	other framework. (See also slab, flat and
		59	plate, flat.)

1	slab, flat — a concrete slab reinforced in	32	(1) a pipe or tube passing through formwork
2	two or more directions and having	33	for a wall or slab through which pipe,
3	drop panels or column capitals or	34	wires, or conduit can be passed after the
4	both. (See also plate, flat.)	35	forms have been stripped; and
5	slab, ribbed — see panel, ribbed.	36	(2) a device used around an anchor to
6	slab bolster — see bolster, slab.	37	accommodate adjustment and preloading of
7	slabjacking — the process of either raising	38	the anchor after the concrete has hardened.
8	concrete pavement slabs or filling voids	39	sleeve, expansion — a tubular metal covering for
9	under them, or both, by injecting a material	40	a dowel bar to allow its free longitudinal
10	(cementitious, noncementitious, or	41	movement at a joint.
11	asphaltic) under pressure.	42	slender beam — see beam, slender.
12	slab-on-ground — a slab cast directly on the	43	slender column — see column, slender.
13	ground. May be structural or non-structural.	44	slenderness ratio — the effective unsupported
14	Structural slabs-on-ground are a required	45	length of a uniform column divided by the
15	part of a load path which transmits vertical	46	least radius of gyration of the cross-
16	or lateral loads to the ground and must	47	sectional area.
17	conform to applicable structural building	48	slick line — end section of a pipe line used in
18	codes. Non-structural slabs-on-ground	49	placing concrete by pump which is
19	serve only as an architectural wearing	50	immersed in the placed concrete and moved
20	surface and are not subject to structural	51	as the work progresses
21	building code requirements.		
22	slab spacer — see spacer, slab.	52	sliding form — see slipform (preferred term).
22	slah strin — see strin middle (preferred term)	53	sling psychrometer — see psychrometer, sling.
23	stab strip see strip, induce (preferred term).	54	slip — movement occurring between steel
24	slag — see blast-furnace slag.	55	reinforcement and concrete in stressed
25	slag activity index — see index, slag activity.	56	reinforced concrete, indicating anchorage
26	slag cement — see cement, slag.	57	breakdown.
27	slate — a fine-grained metamorphic rock	58	slip, anchorage — see deformation, anchorage
28	possessing a well-developed fissility (slaty	59	or slip .
29	cleavage), usually not parallel to the		
30	bedding planes of the rock.		
31	sleeve —		

1	slipform — a form that is pulled or raised as	28	smectite — a group of clay minerals, including
2	concrete is placed; may move in a generally	29	montmorillonite, characterized by a sheet-
3	horizontal direction to lay concrete evenly	30	like internal atomic structure; consisting of
4	for highway paving or on slopes and inverts	31	extremely finely-divided hydrous
5	of canals, tunnels, and siphons; or may	32	aluminum or magnesium silicates that swell
6	move vertically to form walls, bins, or	33	on wetting, shrink on drying, and are
7	silos.	34	subject to ion exchange.
8	sloped footing — see footing, sloped.	35	snap tie — a proprietary concrete wall-form tie,
9	sloughing — subsidence of shotcrete, plaster, or	36	the end of which can be twisted or snapped
10	the like, generally due to excessive water in	37	off after the forms have been removed.
11	the mixture; also called sagging.	38	snow load — see load, snow.
12	slugging — pulsating and intermittent flow of	39	soaking period — see period, soaking.
13	shotcrete material due to improper use of	40	soffit — the underside of a part or member of a
14	delivery equipment and materials.	41	structure, such as a beam, stairway, or arch.
15	slump — a measure of consistency of freshly	42	soft particle — an aggregate particle possessing
16	mixed concrete, mortar, or stucco equal to	43	less than an established degree of hardness
17	the subsidence measured to the nearest 1/4	44	or strength as determined by a specific
18	in. (5 mm) of the molded specimen	45	testing procedure.
19	immediately after removal of the slump	46	soil — a generic term for unconsolidated natural
20	cone.	47	surface material above bedrock.
21	slump cone — see cone, slump.	48	soil. fine-grained — soil in which the
22	slump loss — see loss, slump.	49	smaller grain sizes predominate,
23	slump test — see test, slump.	50	such as fine sand, silt, and clay.
24	slurry — a mixture of water and any finely	51	soil, coarse-grained — soil in which the
25	divided insoluble material, such as portland	52	larger grain sizes, such as sand and
26	cement, slag, or clay in suspension.	53	gravel, predominate.
27	slush grouting — see grouting, slush.	54	soil cement — a mixture of soil and measured
		55	amounts of portland cement and water,
		56	compacted to a high density.
		57	soil pressure — see contact pressure.

1	soil stabilization — chemical or mechanical	28	sounding well — a vertical conduit in the mass of
2	treatment designed to either increase or	29	coarse aggregate for preplaced-aggregate
3	maintain the stability of a mass of soil or	30	concrete, provided with continuous or
4	otherwise to improve its engineering	31	closely spaced openings to permit entrance
5	properties.	32	of grout; the grout level is determined by
6	soldier — a vertical wale used to strengthen or	33	means of a float on a measured line.
7	align formwork or excavations.	34	soundness — the freedom of a solid from cracks,
8	solid masonry unit — a unit whose net cross-	35	flaws, fissures, or variations from an
9	sectional area in every plane parallel to the	36	accepted standard; in the case of a cement,
10	bearing surface is 75 % or more of its gross	37	freedom from excessive volume change
11	cross-sectional area measured in the same	38	after setting; in the case of aggregate, the
12	plane.	39	ability to withstand the aggressive action to
13	solid masonry wall — see masonry wall, solid.	40	which concrete containing it might be
1/	solid nanel — see nanel solid	41	exposed, particularly that due to weather.
45		42	space, capillary — void space in concrete
15	5 solid-unit masonry — see masonry, solid-unit.		recompling migrogaonia abannals small
		43	resembling incroscopic channels small
16	solid volume — see volume, absolute.	43 44	enough to draw liquid water through them
16 17	<pre>solid volume — see volume, absolute. solubility — the amount of one material that will</pre>	43 44 45	enough to draw liquid water through them by the molecular attraction of the water
16 17 18	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as 	43 44 45 46	enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces.
16 17 18 19	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts 	43 44 45 46 47	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in
16 17 18 19 20	solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume	43 44 45 46 47 48	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping
16 17 18 19 20 21	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume at a specified temperature. 	43 44 45 46 47 48 49	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping wall forms apart at a given distance before
16 17 18 19 20 21 22	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume at a specified temperature. solution — a liquid consisting of at least two 	43 44 45 46 47 48 49 50	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping wall forms apart at a given distance before and during concreting. (See also spreader.)
16 17 18 19 20 21 22 23	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume at a specified temperature. solution — a liquid consisting of at least two substances, one of which is a liquid solvent 	43 44 45 46 47 48 49 50 51	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping wall forms apart at a given distance before and during concreting. (See also spreader.) spacer, slab — bar support and spacer for slab
 16 17 18 19 20 21 22 23 24 	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume at a specified temperature. solution — a liquid consisting of at least two substances, one of which is a liquid solvent in which the other or others, that may be 	 43 44 45 46 47 48 49 50 51 52 	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping wall forms apart at a given distance before and during concreting. (See also spreader.) spacer, slab — bar support and spacer for slab reinforcement; similar to slab bolster but
 16 17 18 19 20 21 22 23 24 25 	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume at a specified temperature. solution — a liquid consisting of at least two substances, one of which is a liquid solvent in which the other or others, that may be either solid or liquid, are dissolved. 	 43 44 45 46 47 48 49 50 51 52 53 	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping wall forms apart at a given distance before and during concreting. (See also spreader.) spacer, slab — bar support and spacer for slab reinforcement; similar to slab bolster but without corrugations in top wire; no longer
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 16 17 18 19 20 21 22 23 24 25 26 27 	 solid volume — see volume, absolute. solubility — the amount of one material that will dissolve in another, generally expressed as mass percent, or as volume percent, or parts per 100 parts of solvent by mass or volume at a specified temperature. solution — a liquid consisting of at least two substances, one of which is a liquid solvent in which the other or others, that may be either solid or liquid, are dissolved. sonic modulus — see modulus of elasticity, dynamic. 	 43 44 45 46 47 48 49 50 51 52 53 54 55 	 enough to draw liquid water through them by the molecular attraction of the water adsorbed on their inner surfaces. spacer — device that maintains reinforcement in proper position, also a device for keeping wall forms apart at a given distance before and during concreting. (See also spreader.) spacer, slab — bar support and spacer for slab reinforcement; similar to slab bolster but without corrugations in top wire; no longer in general use. (See also bolster, slab). spacing factor — see factor, spacing.
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1	spall — a fragment, usually in the shape of a flake,	32
2	detached from a larger mass by a blow, the	33
3	action of weather, pressure, or expansion	34
4	within the larger mass.	35
5	spalling — the development of spalls.	36
6	span — distance between the support reactions of	37
7	members carrying transverse loads.	38
8	span-depth ratio — the numerical ratio of total	39
9	span to member depth.	40
10	span, effective — the lesser of the two following	41
11	distances: (a) the distance between	42
12	supports; (b) the clear distance between	43
13	supports plus the effective depth of the	44
14	beam or slab.	45
15	span length — see span, effective.	46
		47
16	spandrel — that part of a wall between the head of	
16 17	spandrel — that part of a wall between the head of a window and the sill of the window above	48
16 17 18	spandrel — that part of a wall between the head of a window and the sill of the window above it.	48 49
16 17 18	spandrel — that part of a wall between the head of a window and the sill of the window above it.	48 49 50
16 17 18 19	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. 	48 49 50 51
16 17 18 19 20	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement 	48 49 50 51 52
 16 17 18 19 20 21 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a 	48 49 50 51 52 53
 16 17 18 19 20 21 22 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other 	48 49 50 51 52 53 54
 16 17 18 19 20 21 22 23 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarse- 	48 49 50 51 52 53 54 55
 16 17 18 19 20 21 22 23 24 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarse- textured, continuous coating; as a 	48 49 50 51 52 53 54 55 56
 16 17 18 19 20 21 22 23 24 25 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarse- textured, continuous coating; as a preliminary treatment before rendering, it 	48 49 50 51 52 53 54 55 56 57
 16 17 18 19 20 21 22 23 24 25 26 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarse- textured, continuous coating; as a preliminary treatment before rendering, it assists bond of the undercoat to the 	48 49 50 51 52 53 54 55 56 57 58
 16 17 18 19 20 21 22 23 24 25 26 27 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarse- textured, continuous coating; as a preliminary treatment before rendering, it assists bond of the undercoat to the background, improves resistance to rain 	48 49 50 51 52 53 54 55 56 57 58 59
 16 17 18 19 20 21 22 23 24 25 26 27 28 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarsetextured, continuous coating; as a preliminary treatment before rendering, it assists bond of the undercoat to the background, improves resistance to rain penetration, and evens out the suction of 	48 49 50 51 52 53 54 55 56 57 58 59 60
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarsetextured, continuous coating; as a preliminary treatment before rendering, it assists bond of the undercoat to the background, improves resistance to rain penetration, and evens out the suction of variable backgrounds. (See also coat, dash- 	48 49 50 51 52 53 54 55 56 57 58 59 60 61
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	 spandrel — that part of a wall between the head of a window and the sill of the window above it. spandrel beam — see beam, spandrel. spatterdash — a rich mixture of portland cement and coarse sand; it is thrown onto a background by a trowel, scoop, or other appliance so as to form a thin, coarse- textured, continuous coating; as a preliminary treatment before rendering, it assists bond of the undercoat to the background, improves resistance to rain penetration, and evens out the suction of variable backgrounds. (See also coat, dash- bond and parge.) 	48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

specific gravity, absolute — ratio of the			
mass (referred to a vacuum) of a			
given volume of a solid or liquid at			
a stated temperature to the mass			
(referred to a vacuum) of an equal			
volume of gas-free distilled water at			
a stated temperature.			
specific gravity, apparent — the ratio of			
the mass of a volume of the			
impermeable portion of a material			
at a stated temperature to the mass			
of an equal volume of distilled			
water at a stated temperature;			
specific gravity, bulk — the ratio of the			
mass of a volume of a material			
(including the permeable and			
impermeable voids in the material,			
but not including the voids between			
particles of the material) at a stated			
temperature to the mass of an equal			
volume of distilled water at a stated			
temperature; and			
specific gravity, bulk (saturated-surface-			
dry) — the ratio of the mass of a			
volume of a material (including the			
mass of water within the voids, but			

not including the voids between

the mass of an equal volume of

temperature. (See also **density.**)

distilled water at a stated

particles) at a stated temperature to

31 specific gravity —

1	specific gravity factor — the ratio of the mass of	3
2	aggregates (including moisture), as	32
3	introduced into the mixer, to the effective	3
4	volume displaced by the aggregates.	3
5	specific heat — the amount of heat required per	3
6	unit mass to cause a unit rise of	3
7	temperature, over a small range of	3
8	temperature.	3
9	specific surface — see surface, specific.	3
10	specification (in ASTM) — an explicit set of	4
11	requirements to be satisfied by a material,	4
12	product, system, or service.	4
13	specification, performance-based — a	4
14	specification in which the requirements are	4
15	stated in terms of required results with	4
16	criteria for verifying compliance rather than	4
17	specific composition, design, or procedure.	4
18	specified compressive strength of concrete (f_c')	4
19	— see concrete, specified compressive	4
20	strength of (f_c') .	5
21	specimen — a piece or portion of a sample used to	5
22	make a test.	5
23	spectrophotometer — instrument for measuring	5
24	intensity of radiant energy of desired	5
25	frequencies absorbed by atoms or	5
26	molecules; substances are analyzed by	5
27	converting the absorbed energy to electrical	5
28	signals, proportional to the intensity of	5
29	radiation. (See also spectroscopy, infrared	5
30	and photometer, flame.)	6

31	spectroscopy, infrared — the use of a
32	spectrophotometer for determination of
33	infrared absorption spectra (2.5 to 18 m
34	wave lengths) of materials; used for
35	detection, determination, and identification
36	especially of organic materials.
37	spectroscopy, X-ray emission — see X-ray
38	fluorescence.
39	speed, agitating — the rate of rotation of the drum
40	of a truck mixer or agitator when used for
41	agitating mixed concrete.
42	spinning — the essential factor of the process of
43	producing spun concrete. (See also
44	concrete, spun.)
45	spiral reinforcement — see reinforcement,
46	spiral.
47	spirally reinforced column — see column,
48	spirally reinforced.
49	splice — connection of one reinforcing bar to
50	another by lapping, welding, mechanical
51	couplers, or other means; connection of
52	welded-wire fabric by lapping; connection
53	of piles by mechanical couplers.
54	splice, contact — a means of connecting
55	reinforcing bars in which the bars
56	are lapped and in direct contact.
57	(See also splice, lap).
58	splice, lap — a connection of reinforcing
59	steel made by lapping the ends of
60	bars.

1	splice, welded-butt — a reinforcing bar	31	S
2	splice made by welding the butted	32	
3	ends.	33	
4	split-batch charging — method of charging a	34	
5	mixer in which the solid ingredients do not	35	
6	enter the mixer together; cement, and	36	S
7	sometimes different sizes of aggregate, may	37	
8	be added separately.	38	
9	split block — see split-face block.	39	
10	split-face block — a concrete masonry unit with	40	
11	one or more faces purposely fractured to	41	
12	provide architectural effects in masonry	42	
13	wall construction.	43	
14	splitting tensile strength — see strength,	44	
15	splitting tensile.	45	
16	splitting tensile test (diametral compression	46	
17	test) — a test for tensile strength in which a	47	
18	cylindrical specimen is loaded to failure in	48	
19	diametral compression applied along the	49	
20	entire length.	50	
21	spray drying — a method of evaporating the	51	r
22	liquid from a solution or dispersion by	52	
23	spraying it into a heated gas.	53	
24	sprav lime — see lime, sprav	54	
25	spray and concrete see shotorete (proferred	55	
20	sprayed concrete — see shotcrete (preferred	56	
20		57	
27	sprayed mineral fiber — a blend of mineral fibers	58	S
28	and inorganic binders, to which water is	59	S
29	added during the spraying operation.	60	
30	sprayed mortar — see shotcrete.		

81	spread	footing — a	generally	rectangular	r prism	of
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concrete, larger in lateral dimensions than
the column or wall it supports, to distribute
the load of a column or wall to the
subgrade.

36 spreader —

1) a piece of lumber, usually about 1 by 2 in. (25 by 50 mm), cut to the thickness of a wall or other formed element and inserted in the form to hold it temporarily at the correct dimension against tension of form ties; wires are usually attached to spreaders so they can be pulled up out of the forms as the pressure of concrete permits their removal; and 2) a device consisting of reciprocating paddles, a revolving screw, or other mechanism for distributing concrete to required uniform thickness in a paving slab. **spreader, concrete** — a machine, usually carried on side forms or on rails parallel thereto, designed to spread concrete from heaps already dumped in front of it, or to receive and spread concrete in a uniform layer. spreader, form — see spreader. pud vibrator — see vibrator, spud. pun concrete — see concrete, centrifugally cast

60 (preferred term).

1	stabilizer — a substance that makes either a	3
2	solution or suspension more stable, usually	3
3	by keeping particles from precipitating.	3
4	stacking tube — a slender, free-standing tubular	3
5	structure used to store granular materials;	3
6	the material is loaded into the top of the	3
7	tube and spills out of wall openings to	3
8	make a conical pile surrounding the tube.	3
9	staged grouting — see grouting, staged.	3
10	stain — discoloration by foreign matter.	4
11	standard curing — see curing, standard.	4
12	standard deviation — the root mean square	4
13	deviation of individual values from their	4
14	average.	4
15	standard fire test — the test prescribed by ASTM	4
16	E 119.	4
17	standard hook — a hook at the end of a	4
18	reinforcing bar made in accordance with a	4
19	standard.	4
20	standard hooked bar — see bar, standard	5
21	hooked.	5
22	standard matched — tongue-and-groove lumber	5
23	with the tongue and groove offset rather	5
24	than centered as in center matched lumber.	5
25	standard sand — see sand, standard.	5
26	standard time-temperature curve — the graphic	5
27	time table for application of temperature to	5
28	a material or member for the ASTM E 119	
29	fire test.	

30 static load — see load, static.

31	static modulus of elasticity — see modulus of
32	elasticity, static.
33	stationary hopper — a container used to receive
34	and temporarily store freshly mixed
35	concrete.
36	steam box — enclosure for steam-curing concrete
37	products. (See also steam-curing room).
38	steam curing — see curing, steam.
39	steam-curing cycle — the time interval between
40	the start of the temperature rise period and
41	the end of the soaking period or the
42	cooling-off period; also a schedule
43	indicating the duration of and the
44	temperature range of the periods that make
45	up the cycle.
46	steam-curing room — a chamber for steam curing
47	of concrete products at atmospheric
48	pressure.
49	steam kiln — see steam-curing room (preferred
50	term).
51	stearic acid — a white crystalline fatty acid,
52	obtained by saponifying tallow or other
53	hard fats containing stearin. (See also butyl
54	stearate).
55	steel —
56	steel, axle — steel from carbon-steel axles
57	for railroad cars.

1	steel, billet — steel, either produced	32	stiffback — see strongback (preferred term).
2	directly from ingots or continuously	33	stiffening, early — the early development of an
3	cast, made from properly identified	34	abnormal reduction in the working
4	heats of open-hearth, basic oxygen,	35	characteristics of a hydraulic-cement paste,
5	or electric-furnace steel, or lots of	36	mortar, or concrete, which may be further
6	acid Bessemer steel and conforming	37	described as false set, quick set, or flash
7	to specified limits on chemical	38	set.
8	composition.	39	stiffening, premature — see set, false and set,
9	steel, high-strength — steel with a high	40	flash (preferred term).
10	yield point; in the case of	41	stiffness — resistance to deformation.
11	reinforcing bars 60,000 psi (414	12	stiffnass factor
12	MPa) and greater. (See also steel,	42	summess factor — see factor, summess.
13	prestressing.)	43	stirrup — bar or wire reinforcement oriented
14	steel, prestressing — high-strength steel	44	normal to or at an acute angle to the
15	used to prestress concrete,	45	longitudinal reinforcement in a flexural
16	commonly seven-wire strands,	46	member and extending as close as practical
17	single wires, bars, rods, or groups of	47	to the extreme tension and compression
18	wires or strands. (See also	48	fibers of the cross section. (See also tie .)
19	prestress; concrete, prestressed;	49	stockhouse set — see cement, sticky and set,
20	pretensioning, and post-	50	warehouse.
21	tensioning.)	51	stoichiometric —
22	steel sheet — cold-formed sheet or strip steel	52	(1) characterized by or being a proportion
23	shaped as a structural member for the	53	of substances or energy in a specific
24	purpose of carrying the live and dead loads	54	chemical reaction in which there is no
25	in lightweight concrete roof construction.	55	excess of any reactant or product; and
26	steel temperature — see reinforcement,	56	(2) proportioning based on atomic or
27	temperature.	57	molecular weight.
28	steel trowel — see trowel.	58	stone —
29	stem bars — see bars, stem.	59	stone, cast — concrete or mortar cast into
30	stepped footing — see footing, stepped.	60	blocks or small slabs in special
31	sticky cement — see cement. sticky	61	molds so as to resemble natural
31 §	sucky coment — see coment, sucky.		building stone.

1	stone, crushed — the product resulting	30 strain, unit — deformation of a material expressed
2	from the artificial crushing of rocks,	31 as the ratio of linear unit deformation to the
3	boulders, or large cobblestones,	32 distance within which that deformation
4	substantially all faces of that	33 occurs.
5	possess well-defined edges resulting	34 strand — a prestressing tendon composed of a
6	from the crushing operation. (See	number of wires twisted above the center
7	also aggregate , coarse .)	36 wire or core.
8	stone sand — see sand, stone.	37 strand, compacted — prestressing strand that is
9	storage hopper — see stationary hopper.	drawn through a circular die to deform the
10	straightedge —	39 wires and produce a strand with a smaller
11	(1) a rigid straight piece of either wood or	40 circular shape.
12	metal used to strikeoff or screed a concrete	41 strand, indented — strand having machine-made
13	surface to proper grade or to check the	42 surface indentations intended to improve
14	planeness of a finished grade (see also rod,	43 bond.
15	screed, and strikeoff); and	44 strand grip — a device used to anchor strands.
16	(2) a highway tool for truing surfaces	45 strand wrapping — application of high tensile
17	instead of a bull float.	46 strand, wound under tension by machines,
18	straight-line theory — an assumption in	47 around circular concrete or shotcrete walls,
19	reinforced-concrete analysis according to	48 domes, or other tension-resisting structural
20	which the strains and stresses in a member	49 components.
21	under flexure are assumed to vary in	50 stratification — the separation of overwet or
22	proportion to the distance from the neutral	51 overvibrated concrete into horizontal layers
23	axis.	52 with increasingly lighter material toward
24	strain — the change in length per unit of length, in	the top; water, laitance, mortar, and coarse
25	a linear dimension of a body; a	⁵⁴ aggregate tend to occupy successively
26	dimensionless quantity that may be	lower positions in that order; a layered
27	measured conveniently in percent, in inches	56 structure in concrete resulting from placing
28	per inch, in millimeters per millimeters, but	57 of successive batches that differ in
29	preferably in millionths.	58appearance; occurrence in aggregate
		59 stockpiles of layers of differing grading or
		60 composition; a layered structure in a rock
		61 foundation.

1	Stratling's compound — dicalcium aluminate
2	monosilicate-8-hydrate, a compound that
3	has been found in reacted lime-pozzolan
4	and cement-pozzolan mixtures.
5	strength — a generic term for the ability of a
6	material to resist strain or rupture induced
7	by external forces. (See also strength,
8	concrete compressive; strength, fatigue;
9	strength, flexural; strength, shear;
10	strength, splitting tensile; strength,
11	tensile; strength, ultimate; and strength,
12	yield.)
13	strength, bond — resistance to separation
14	of mortar and concrete from
15	reinforcing and other materials with
16	which it is in contact; a collective
17	expression for forces such as
18	adhesion, friction due to shrinkage,
19	and longitudinal shear in the
20	concrete engaged by the bar
21	deformations that resist separation.
22	strength, cold — the compressive or
23	flexural strength of refractory
24	concrete determined before drying
25	or firing.
26	strength, concrete compressive — the
27	measured maximum resistance of a
28	concrete specimen to axial
29	compressive loading; expressed as
30	force per unit cross sectional area.

2material or a structural member that35strength of a member or cross3indicates its ability to resist failure36section calculated in accordance4in bending; in concrete flexural37with provisions and assumptions of5members, the stress at which a39application of any strength-7bending capacity; for under-40reduction () factor.8reinforced concrete flexural41strength, offset yield — the stress at which9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17strength neaches the modulus of51strength, required — strength of a18strength, nominal — strength of a member52member or cross section required to20rupture.)53strength, shear — the maximum shearing21strength, nominal flexural — the flexural54strength, shear — the maximum shearing22method before application of any54strength ceclation as </th <th>1</th> <th>strength, flexural — the property of a</th> <th>34</th> <th>strength, nominal shear — the shear</th>	1	strength, flexural — the property of a	34	strength, nominal shear — the shear
3indicates its ability to resist failure36section calculated in accordance4in bending; in concrete flexural37with provisions and assumptions of5members, the stress at which a38the strength-design method before6section reaches its maximum usable39application of any strength-7bending capacity; for under-40reduction () factor.8reinforced concrete flexural41strength, offset yield — the stress at which9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength, value (yield strength at16unreinforced-concrete members, the49percent offset =, psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength, nominal — strength of a member51strength, required — strength of a20rupture.)53strength, strength of a21strength, nominal — strength design5722member application of any5623strength, nominal flexural — the flexural6024assumpt	2	material or a structural member that	35	strength of a member or cross
4in bending; in concrete flexural37with provisions and assumptions of5members, the stress at which a38the strength-design method before6section reaches its maximum usable39application of any strength-7bending capacity; for under-40reduction () factor.8reinforced concrete flexural41strength, offset yield — the stress at which9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14strength of the concrete; for48strength value (yield strength at15strength reaches the modulus of51strength, required — strength of a16unreinforced-concrete members, the49percent offset =, psi) or as force17strength, nominal — strength of a member54internal moments and forces in such20rupture.)53consist factored loads or related21strength, nominal — strength design57strength, shear — the maximum shearing22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.	3	indicates its ability to resist failure	36	section calculated in accordance
5members, the stress at which a38the strength-design method before6section reaches its maximum usable39application of any strength-7bending capacity; for under-40reduction () factor.8reinforced concrete flexural41strength, offset yield — the stress at which9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength naminal — strength of a member54internal moments and forces in such20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing </td <td>4</td> <td>in bending; in concrete flexural</td> <td>37</td> <td>with provisions and assumptions of</td>	4	in bending; in concrete flexural	37	with provisions and assumptions of
6section reaches its maximum usable39application of any strength-7bending capacity; for under-40reduction () factor.8reinforced concrete flexural41strength, offset yield — the stress at which9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength, nominal — strength of a member54internal moments and forces in such20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing<	5	members, the stress at which a	38	the strength-design method before
7bending capacity; for under-40reduction () factor.8reinforced concrete flexural41strength, offset yield — the stress at which9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17strength reaches the modulus of51strength, required — strength of a19rupture.)53resist factored loads or related20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strengt	6	section reaches its maximum usable	39	application of any strength-
8 reinforced concrete flexural 41 strength, offset yield — the stress at which 9 members, the stress at which the 42 the strain exceeds, by a specified 10 compressive strain in the concrete 43 amount, an extension of the initially 11 reaches 0.003; for over-reinforced 44 proportional part of the stress-strain 12 concrete flexural members, the 45 curve; expressed either as 13 stress at which the compressive 46 percentage of the original gage 14 stress reaches 85 % of the cylinder 47 length in conjunction with the 15 strength of the concrete; for 48 strength value (yield strength at 16 unreinforced-concrete members, the 49 percent offset =psi) or as force 17 stress at which the concrete tensile 50 per unit area (psi) or (MPa). 18 strength, nominal — strength of a member 52 member or cross section required to 20 rupture.) 53 resist factored loads or related internal moments and forces in such 21 strength, nominal — strength design 57 strength, shear — the maximum shearing	7	bending capacity; for under-	40	reduction () factor.
9members, the stress at which the42the strain exceeds, by a specified10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specific alcoin.26strength-nominal flexural — the flexural60controlled by the combined effects27strength of a member or cross61of shear forces and bending28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.21strengt	8	reinforced concrete flexural	41	strength, offset yield — the stress at which
10compressive strain in the concrete43amount, an extension of the initially11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a20rupture. (See also modulus of52member or cross section required to21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength, nominal flexural — the flexural62moment.29section calculated in accordance62moment.<	9	members, the stress at which the	42	the strain exceeds, by a specified
11reaches 0.003; for over-reinforced44proportional part of the stress-strain12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a19rupture. (See also modulus of52member or cross section required to20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.29sect	10	compressive strain in the concrete	43	amount, an extension of the initially
12concrete flexural members, the45curve; expressed either as13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a19rupture. (See also modulus of52member or cross section required to20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength, nominal flexural — the flexural60controlled by the combined effects29section calculated in accordance62moment.20with provisions and assumptions of51strength, design method before29 </td <td>11</td> <td>reaches 0.003; for over-reinforced</td> <td>44</td> <td>proportional part of the stress-strain</td>	11	reaches 0.003; for over-reinforced	44	proportional part of the stress-strain
13stress at which the compressive46percentage of the original gage14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a19rupture. (See also modulus of52member or cross section required to20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.29section calculated in accordance62moment.20with provisions and assumptions of11the strength-design method before29section calculated in acco	12	concrete flexural members, the	45	curve; expressed either as
14stress reaches 85 % of the cylinder47length in conjunction with the15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a19rupture. (See also modulus of52member or cross section required to20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.31the strength-design method before40of shear forces and bending29section calculated in accordance62moment.31the strength-design method before31of shear forces and bending32application of any strength- <t< td=""><td>13</td><td>stress at which the compressive</td><td>46</td><td>percentage of the original gage</td></t<>	13	stress at which the compressive	46	percentage of the original gage
15strength of the concrete; for48strength value (yield strength at16unreinforced-concrete members, the49percent offset =psi) or as force17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a19rupture. (See also modulus of52member or cross section required to20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of62moment.31the strength-design method before33reduction () factor.32application of any strength62moment.	14	stress reaches 85 % of the cylinder	47	length in conjunction with the
16unreinforced-concrete members, the stress at which the concrete tensile strength reaches the modulus of rupture. (See also modulus of strength, nominal — strength of a member or cross section calculated in accordance with provisions and strength-reduction () factor.49percent offset =psi) or as force per unit area (psi) or (MPa).20rupture.)53strength, required — strength of a member or cross section required to resist factored loads or related21strength, nominal — strength of a member accordance with provisions and assumptions of the strength design strength, required member can strength, nominal flexural — the flexural exist at a specific location as strength of a member or cross set on calculated in accordance strength, nominal flexural — the flexural exist at a specific location as strength of a member or cross strength of a member strength of a member or cross strength or shear forces and bending memet.20with provisions and assumptions of strength-design method before application of any strength- strength-design method before30with provisions and assumptions of strength-design method before application of any strength- strength-design method before <td>15</td> <td>strength of the concrete; for</td> <td>48</td> <td>strength value (yield strength at</td>	15	strength of the concrete; for	48	strength value (yield strength at
17stress at which the concrete tensile50per unit area (psi) or (MPa).18strength reaches the modulus of51strength, required — strength of a19rupture. (See also modulus of52member or cross section required to20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of62moment.31the strength-design method before33reduction () factor.	16	unreinforced-concrete members, the	49	percent offset =psi) or as force
18 strength reaches the modulus of 51 strength, required — strength of a 19 rupture. (See also modulus of 52 member or cross section required to 20 rupture.) 53 resist factored loads or related 21 strength, nominal — strength of a member 54 internal moments and forces in such 22 or cross section calculated in 55 combinations as are stipulated in the 23 accordance with provisions and 56 applicable code or specification. 24 assumptions of the strength design 57 strength, shear — the maximum shearing 25 method before application of any 58 stress a flexural member can 26 strength, nominal flexural — the flexural 60 controlled by the combined effects 28 strength of a member or cross 61 of shear forces and bending 29 section calculated in accordance 62 moment. 30 with provisions and assumptions of 41 the strength-design method before 31 the strength-design method before 32 application of any strength-	17	stress at which the concrete tensile	50	per unit area (psi) or (MPa).
19 rupture. (See also modulus of 52 member or cross section required to 20 rupture.) 53 resist factored loads or related 21 strength, nominal — strength of a member 54 internal moments and forces in such 22 or cross section calculated in 55 combinations as are stipulated in the 23 accordance with provisions and 56 applicable code or specification. 24 assumptions of the strength design 57 strength, shear — the maximum shearing 25 method before application of any 58 strength, shear — the maximum shearing 26 strength, nominal flexural — the flexural 60 controlled by the combined effects 28 strength of a member or cross 61 of shear forces and bending 29 section calculated in accordance 62 moment. 30 with provisions and assumptions of 31 the strength-design method before 31 the strength-design method before application of any strength- 32 application of any strength- application of any strength-	18	strength reaches the modulus of	51	strength, required — strength of a
20rupture.)53resist factored loads or related21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength-reduction () factor.59support at a specific location as27strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of51of shear forces and bending31the strength-design method before33reduction () factor	19	rupture. (See also modulus of	52	member or cross section required to
21strength, nominal — strength of a member54internal moments and forces in such22or cross section calculated in55combinations as are stipulated in the23accordance with provisions and56applicable code or specification.24assumptions of the strength design57strength, shear — the maximum shearing25method before application of any58stress a flexural member can26strength-reduction () factor.59support at a specific location as27strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of31the strength-design method before31application of any strength-33reduction () factor.	20	rupture.)	53	resist factored loads or related
22or cross section calculated in accordance with provisions and assumptions of the strength design method before application of any strength-reduction () factor.55combinations as are stipulated in the applicable code or specification.24assumptions of the strength design method before application of any strength-reduction () factor.57strength, shear — the maximum shearing stress a flexural member can support at a specific location as controlled by the combined effects26strength, nominal flexural — the flexural strength of a member or cross60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of31the strength-design method before31the strength-design method before33	21	strength, nominal — strength of a member	54	internal moments and forces in such
23accordance with provisions and assumptions of the strength design method before application of any strength-reduction () factor.56applicable code or specification.26strength-reduction () factor.59strength, shear — the maximum shearing support at a specific location as controlled by the combined effects27strength, nominal flexural — the flexural strength of a member or cross60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance with provisions and assumptions of62moment.31the strength-design method before application of any strength-reduction () factor	22	or cross section calculated in	55	combinations as are stipulated in the
24assumptions of the strength design method before application of any strength-reduction () factor.57strength, shear — the maximum shearing stress a flexural member can support at a specific location as controlled by the combined effects26strength, nominal flexural — the flexural strength of a member or cross60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions ofit he strength-design method beforeit he strength-design method before31the strength-design method beforeit application of any strength-33reduction () factor	23	accordance with provisions and	56	applicable code or specification.
25method before application of any strength-reduction () factor.58stress a flexural member can26strength-reduction () factor.59support at a specific location as27strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of31the strength-design method before32application of any strength-33reduction () factor	24	assumptions of the strength design	57	strength, shear — the maximum shearing
26strength-reduction () factor.59support at a specific location as27strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of1the strength-design method before31the strength-design method before33reduction () factor	25	method before application of any	58	stress a flexural member can
27strength, nominal flexural — the flexural60controlled by the combined effects28strength of a member or cross61of shear forces and bending29section calculated in accordance62moment.30with provisions and assumptions of1the strength-design method before31the strength-design method before232application of any strength-33reduction () factor	26	strength-reduction () factor.	59	support at a specific location as
 strength of a member or cross section calculated in accordance with provisions and assumptions of the strength-design method before application of any strength- reduction () factor 	27	strength, nominal flexural — the flexural	60	controlled by the combined effects
 section calculated in accordance 62 moment. with provisions and assumptions of the strength-design method before application of any strength- reduction () factor. 	28	strength of a member or cross	61	of shear forces and bending
 with provisions and assumptions of the strength-design method before application of any strength- reduction () factor 	29	section calculated in accordance	62	moment.
 the strength-design method before application of any strength- reduction () factor 	30	with provisions and assumptions of		
 32 application of any strength- 33 reduction () factor 	31	the strength-design method before		
reduction () factor	32	application of any strength-		
	33	reduction () factor.		

1	strength, specified concrete	33	strength-reduction factor — see factor,
2	compressive— the specified	34	strength-reduction.
3	resistance of a concrete specimen to	35	stress — force per unit area.
4	axial compressive loading used in	36	stress, allowable — maximum permissible
5	design calculations and as a	37	stress used in design of members of
6	criterion for material proportioning	38	a structure and based on a factor of
7	and acceptance.	39	safety against rupture or yielding of
8	strength, splitting tensile — tensile	40	any type.
9	strength of concrete determined by	41	stress. anchorage bond — the bar forces
10	a splitting tensile test.	42	divided by the product of the bar
11	strength, tensile — maximum unit stress	43	perimeter or perimeters and the
12	that a material is capable of	44	embedment length.
13	resisting under axial tensile loading;	45	stress bond — the force of adhesion per
14	based on the cross-sectional area of	45	unit area of contact between two
15	the specimen before loading.	40	bonded surfaces such as concrete
16	strength, transfer — the concrete strength	48	and reinforcing steel or any other
17	required before stress is transferred	49	material. such as foundation rock:
18	from the stressing mechanism to the	50	shear stress at the surface of a
19	concrete.	51	reinforcing bar, preventing relative
20	strength, transverse — see strength,	52	movement between the bar and the
21	flexural and modulus of rupture.	53	surrounding concrete when the bar
22	strength, ultimate — an obsolete term; see	54	carries tensile force.
23	strength, nominal.	55	stress, compressive — see stress.
24	strength, yield — the stress at which a	56	stress, effective — see prestress, effective.
25	material exhibits a specific limiting	57	stress, final — in prestressed concrete, the
26	deviation from the proportionality	58	stress that exists after substantially
27	of stress to strain.	59	all losses have occurred.
28	strength-design method — a design method that	60	stress, jacking — the maximum stress
29	requires service loads to be increased by	61	occurring in a prestressed tendon
30	specified load factors and computed	62	during stressing.
31	nominal strengths to be reduced by the		
32	specified phi () factors.		

1	stress, mean — the average of the	32	stress, temperature — stress in a structure
2	maximum and minimum stress in	33	or a member due to changes or
3	one cycle of fluctuating loading (as	34	differentials in temperature in the
4	in a fatigue test); tensile stress is	35	structure or member.
5	considered positive and	36	stress, temporary — a stress that may be
6	compressive stress, negative.	37	produced in a precast-concrete
7	stress, normal — the stress component	38	member or in a component of a
8	that is perpendicular to the plane on	39	precast-concrete member during
9	which the force is applied;	40	fabrication or erection, or in cast-in-
10	designated tensile if the force is	41	place concrete structures due to
11	directed away from the plane and	42	construction or test loadings.
12	compressive if the force is directed	43	stress, tensile — see stress.
13	toward the plane. (See also stress.)	44	stress, thermal — see stress.
14	stress, principal — maximum and	45	temperature.
15	minimum stresses at any point	16	stress torsional — the shear stress on a
16	acting at right angles to the	40	transverse cross section resulting
17	mutually perpendicular planes of	47	from a twisting action
18	zero shearing stress, which are	40	
19	designated as the principal planes.	49	stress, ultimate shear — see strength,
20	stress, proof — stress applied to materials	50	shear.
21	sufficient to produce a specified	51	stress, working — maximum permissible
22	permanent strain; a specific stress to	52	design stress using working-stress
23	which some types of tendons are	53	design methods.
24	subjected in the manufacturing	54	stress corrosion — corrosion of a metal either
25	process as a means of reducing the	55	initiated or accelerated by stress.
26	deformation of anchorage, reducing	56	stress-corrosion cracking — see cracking,
27	the relaxation of steel, or ensuring	57	stress-corrosion.
28	that the tendon is sufficiently	58	stress relaxation — the time-dependent decrease
29	strong.	59	in stress in a material held at constant
30	stress, shear — the stress component	60	strain. (See also flow, plastic and creep.)
31	acting tangentially to a plane.		

1	stress-strain diagram — a diagram in which	32 stri	nging mortar — see mortar, stringing.
2	corresponding values of stress and strain	33 stri	p — to remove formwork or a mold; also a
3	are plotted against each other; values of	34	long thin piece of wood, metal, or other
4	stress are usually plotted as ordinates	35	material. (See also demold and stripping.)
5	(vertically) and values of strain as abscissas	36	strip, cant — see strip, chamfer
6	(horizontally).	37	(preferred term).
7	stresses, initial — the stresses occurring in	38	strin, chamfer — either a triangular or
8	prestressed-concrete members before any	39	curved insert placed in an inside
9	losses occur.	40	form corner to produce either a
10	stressing end — in prestressed concrete, the end	41	rounded or flat chamfer or to form a
11	of the tendon at which the load is applied	42	rustication, also called cant strip,
12	when tendons are stressed from one end	43	fillet, dummy joint, and skew back.
13	only.	44	strip, grade — usually a thin strip of wood
14	stretcher — a masonry unit laid with its length	45	tacked to the inside surface of forms
15	horizontal and parallel with the face of a	46	at the elevation to which the top of
16	wall or other masonry member. (See also	47	the concrete lift is to rise, either at a
17	header.)	48	construction joint or the top of the
18	strike — see striking.	49	structure.
19	strikeoff — to remove concrete in excess of that	50	strip, kick — see kicker.
20	which is required to fill the form evenly or	51	strip, middle — in flat-slab framing, the
21	bring the surface to grade: performed with		
	oring the surface to grade, performed with	52	slab portion that occupies the
22	a straightedged piece of wood or metal by	52 53	slab portion that occupies the middle half of the span between
22 23	a straightedged piece of wood or metal by means of a forward sawing movement or	52 53 54	slab portion that occupies the middle half of the span between columns. (See also column strip.)
22 23 24	a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for	52 53 54 55	slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the
22 23 24 25	a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for this purpose; also the name applied to the	52 53 54 55 56	slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the length or width of a flat slab for
22 23 24 25 26	a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for this purpose; also the name applied to the tool. (See also screed and screeding.)	52 53 54 55 56 57	slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the length or width of a flat slab for structural design and construction or
22 23 24 25 26 27	a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for this purpose; also the name applied to the tool. (See also screed and screeding.) striking — the releasing or lowering of centering	52 53 54 55 56 57 58	slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the length or width of a flat slab for structural design and construction or for architectural purposes.
22 23 24 25 26 27 28	a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for this purpose; also the name applied to the tool. (See also screed and screeding.) striking — the releasing or lowering of centering or other temporary support.	52 53 54 55 56 57 58 59	 slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the length or width of a flat slab for structural design and construction or for architectural purposes. strip, rustication — a strip of wood or
22 23 24 25 26 27 28 28 29	 a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for this purpose; also the name applied to the tool. (See also screed and screeding.) striking — the releasing or lowering of centering or other temporary support. stringer — a secondary flexural member that is 	52 53 54 55 56 57 58 59 60	 slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the length or width of a flat slab for structural design and construction or for architectural purposes. strip, rustication — a strip of wood or other material attached to a form
22 23 24 25 26 27 28 29 30	 a straightedged piece of wood or metal by means of a forward sawing movement or by a power operated tool appropriate for this purpose; also the name applied to the tool. (See also screed and screeding.) striking — the releasing or lowering of centering or other temporary support. stringer — a secondary flexural member that is parallel to the longitudinal axis of a bridge 	52 53 54 55 56 57 58 59 60 61	 slab portion that occupies the middle half of the span between columns. (See also column strip.) strip, panel — a strip extending across the length or width of a flat slab for structural design and construction or for architectural purposes. strip, rustication — a strip of wood or other material attached to a form surface to produce a groove or

1	strip, slab — see strip, middle (preferred	31	structural end-point — the acceptance criterion
2	term).	32	of ASTM E 119, which states that the
3	strip, wrecking — small piece or panel	33	specimen shall sustain the applied load
4	fitted into a formwork assembly in	34	without collapse.
5	such a way that it can be easily	35	structural lightweight concrete — see concrete,
6	removed ahead of main panels or	36	structural lightweight.
7	forms, making it easier to strip	37	structural load test — see load test, structural.
8	those major form components.	38	structural repair — see repair, structural.
9	strip footing — see footing, continuous.	30	structural sandwich construction — see
10	strip foundation — see foundation, strip.	40	construction, structural sandwich
11	stripper — a liquid compound formulated to		
10	remove contings by either chemical or	41	strut — see shore.
12	remove coarings by entire enclinear of	42	stub wall — see wall, stub.
13	solvent action, or both.	43	stucco — a portland cement-based plaster used for
14	stripping — the removal of formwork or a mold.	44	coating exterior walls and other exterior
15	(See also demold.)	45	surfaces (See also plaster .)
16	strips, divider — in terrazzo work, nonferrous		
17	metal or plastic strips of different	46	stud —
18	thicknesses usually embedded from 5/8 to	47	(1) member of appropriate size and spacing
19	1-1/4 in (10 to 40 mm) used to form	48	to support sheathing of concrete forms; and
20	panels in the topping	49	(2) a headed steel device used to anchor
	stronghool, a frame attached to the healt of a	50	steel plates or shapes to concrete members.
21	strongback — a frame attached to the back of a	51	subaqueous concrete — see concrete.
22	form of precast structural member to suffen	52	underwater
23	or reinforce the form or member during	52	
24	concrete placing operations or handling	53	subbase — the layer in a pavement system
25	operations.	54	between the subgrade and the base course,
26	structural adhesive — a bonding agent used for	55	or between the subgrade and the pavement.
27	transferring required loads between	56	subgrade — the soil prepared and compacted to
28	adherents exposed to service environments	57	support a structure or a pavement system.
29	typical for the structure involved.	58	subgrade modulus — see coefficient of subgrade
30	structural concrete — see concrete, structural.	59	reaction.

1	subgrade reaction — see contact pressure and
2	coefficient of subgrade reaction.
3	subpurlin — a light structural section used as a
4	secondary structural member; in
5	lightweight concrete roof construction,
6	used to support the form boards over which
7	the lightweight concrete is placed.
8	subsample — a sample taken from another
9	sample.
10	subsieve fraction — particles all of which pass
11	through a U.S. Standard 45 m (No. 325)
12	sieve.
13	substrate — Any material on the surface of which
14	another material is applied.
15	substructure —all of that part of a structure below
16	grade.
17	sulfate attack — either a chemical or a physical
18	reaction or both between sulfates usually in
19	soil or ground water and concrete or
20	mortar; the chemical reaction is primarily
21	with calcium aluminate hydrates in the
22	cement-paste matrix, often causing
23	deterioration.
24	sulfate resistance — see resistance, sulfate.
25	sulfate-resistant cement — see cement, sulfate-
26	resistant.
27	sulfoaluminate cement — see cement,
28	expansive, Type K.
29	superimposed load — see load, superimposed.
30	superplasticizer — see admixture, water-
31	reducing (high-range) (preferred term).

32	superstructure — all of that part of a structure
33	above grade.
34	supersulfated cement — see cement,
35	supersulfated.
36	supplementary cementitious material (SCM) —
37	see material, supplementary
38	cementitious (SCM).
39	surface —
40	surface, brushed — a sandy texture
41	obtained by brushing the surface of
42	freshly placed or slightly hardened
43	concrete with a stiff brush for
44	architectural effect or, in
45	pavements, to increase skid
46	resistance. (See also finish,
47	broom.)
48	surface, specific — the surface area of
10	partialas or of air voids contained in
49	particles of of all volus contained in
49 50	a unit mass or unit volume of a
49 50 51	a unit mass or unit volume of a material; in the case of air voids in
49 50 51 52	a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area
49 50 51 52 53	a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as
 49 50 51 52 53 54 	a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or
 49 50 51 52 53 54 55 	a unit mass or unit volus contained in a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or square millimeters per cubic
 49 50 51 52 53 54 55 56 	a unit mass or unit volus contained in a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or square millimeters per cubic millimeter.
 49 50 51 52 53 54 55 56 57 	a unit mass or unit volus contained in a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or square millimeters per cubic millimeter. surface active — having the ability to modify
 49 50 51 52 53 54 55 56 57 58 	a unit mass or unit volus contained in a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or square millimeters per cubic millimeter. surface active — having the ability to modify surface energy and to facilitate wetting,
 49 50 51 52 53 54 55 56 57 58 59 	a unit mass or unit volus contained in a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or square millimeters per cubic millimeter. surface active — having the ability to modify surface energy and to facilitate wetting, penetrating, emulsifying, dispersing,
 49 50 51 52 53 54 55 56 57 58 59 60 	 a unit mass or unit volus contained in a unit mass or unit volume of a material; in the case of air voids in hardened concrete, the surface area of the air-void volume expressed as square inches per cubic inch or square millimeters per cubic millimeter. surface active — having the ability to modify surface energy and to facilitate wetting, penetrating, emulsifying, dispersing, solubilizing, foaming, frothing, etc., of

62 surface-active agent — agent, surface-active.

1	surface air voids — small regular or irregular	30	sway brace — a diagonal brace used to resist wind
2	cavities, usually not exceeding 15 mm in	31	or other lateral forces. (See also bracing,
3	diameter, resulting from entrapment of air	32	cross bracing, and X-brace.)
4	bubbles in the surface of formed concrete	33	swelling — increase in either length or volume.
5	during placement and consolidation. (See	34	(See also contraction; expansion; volume
6	also sack rub.)	35	change; and volume change, autogenous.)
7	surface area — see surface, specific.	36	swift — a reel or turntable on which prestressing
8	surface bonding (of masonry) — bonding of dry-	37	tendons are placed to facilitate handling
9	laid masonry by parging with a thin layer of	38	and placing.
10	fiber-reinforced mortar.	39	swirl finish — see finish, swirl.
11	surface moisture — see moisture, surface.	40	Swiss hammer — see hammer, rebound
12	surface retarder — see retarder, surface.	41	(preferred term).
13	surface tension — an internal molecular force that	42	syneresis — the contraction of a gel, usually
14	exists in the surface film of all liquids and	43	evidenced by the separation from the gel of
15	tends to prevent the liquid from flowing.	44	small amounts of liquid; a process possibly
16	surface texture — degree of roughness or	45	significant in bleeding and cracking of
17	irregularity of the exterior surfaces of	46	fresh hydraulic-cement mixtures.
18	aggregate particles and also of hardened	47	syngenite — potassium calcium sulfate hydrate, a
19	concrete.	48	compound sometimes produced during
20	surface vibrator — see vibrator, surface.	49	hydration of portland cement, found in
21	surface voids — see voids, surface.	50	deteriorating portland-cement concrete and
22	surface water — see moisture surface (preferred	51	said to form in portland cement during
22	term)	52	storage by reaction of potassium sulfate and
25		53	gypsum.
24	surfactant — a shortened form of the term	54	system —
25	surface-active agent.	55	system, one-way — the arrangement of
26	surkhi — a pozzolan consisting of burned clay	56	steel reinforcement within a slab
27	powder principally produced in India.	57	that presumably bends in only one
28	sustained modulus of elasticity — see modulus	58	direction.
29	of elasticity, sustained.		

1	system, two-way — a system of	32 tamping — the operation of consolidating freshly
2	reinforcement; bars, rods, or wires	33 placed concrete by repeated blows or
3	placed at right angles to each other	34 penetrations with a tamper. (See also
4	in a slab and intended to resist	35 consolidation and rodding).
5	stresses due to bending of the slab	36 tamping rod — see rod, tamping.
6	in two directions.	37 tangent modulus — see modulus of elasticity
7	Système International — see SI.	20 Theorem above composed of a store and a
8		1 - beam - a beam composed of a stem and a
0	Т	34 hange in the form of a 1.
7	— I —	40 telltale — any device designed to indicate
10	T & G — see tongue and groove.	41 movement of formwork or of a point on the
11	table, flow — a flat, circular jigging device used in	42 longitudinal surface of a pile under load.
12	making flow tests for consistency of	43 temperature —
13	cement paste, mortar, or concrete. (See also	44 temperature, glass-transition — the
14	flow [2]).	45 midpoint of the temperature range
15	talc — a mineral with a greasy or soapy feel, very	46 over which an amorphous material
16	soft, having the composition	47 (such as glass or a high polymer)
17	$Mg_3Si_4O_{10}(OH)_2$. (See also cement ,	48 changes from (or to) a brittle,
18	masonry and Mohs scale).	49 vitreous state to (or from) a plastic
19	tamp process — see process, tamp.	50 state.
20	tamper —	51 temperature, heat-deflection — the
21	(1) an implement used to consolidate	52 temperature at which a plastic
22	concrete or mortar in molds or forms; and	53 material has an arbitrary deflection
	(2) a hand anarated davias for	54when subjected to an arbitrary load
23	(2) a hand-operated device for	55and test condition; this is an
24	unformed congrete by impact from the	⁵⁶ indication of the glass-transition
25	dropped device in propagation for strikeoff	57 temperature.
20 27	and finishing: contact surface often	58 temperature, steel — see reinforcement ,
27	consists of a screen or a grid of bars to	59 temperature .
20 20	force coarse aggregates below the surface	
27 20	to prevent interference with floating or	
21	troweling (See also iitterbug)	
51	nowening. (See also juici bug.)	

1	temperature, minimum film-forming —
2	the minimum temperature at which
3	a synthetic latex or emulsion will
4	coalesce when laid on a substrate as
5	a thin film.
6	temperature cracking — see cracking,
7	temperature.
8	temperature reinforcement — see
9	reinforcement, temperature.
10	temperature rise — the increase of temperature
11	caused by either absorption of heat or
12	internal generation of heat, for example,
13	hydration of cement in concrete.
14	temperature-rise period — see period,
15	temperature-rise.
16	temperature stress — see stress, temperature.
17	temper — to add water to a cementitious mixture
18	as necessary to initially bring the mixture to
19	the desired workability. (see also
20	retempering.)
21	template — a thin plate or board frame used as a
22	guide in positioning or spacing form parts,
23	reinforcement, or anchors; also a full-size
24	mold, pattern, or frame, shaped to serve as
25	a guide in forming or testing contour or
26	shape.
27	temporary stress — see stress, temporary.

tendon — an assembly consisting of a tensioned					
element (such as a wire, bar, rod, strand, or					
a bundle of these elements) used to impa compressive stress in concrete, along with any associated components used to enclo					
					and anchor the tensioned element.
					tendon, bonded — a prestressing tendon
that is bonded to the concrete either					
directly or through grouting.					
tendon, eccentric — a prestressing tendon					
that follows a trajectory not					
coincident with the gravity axis of					
the concrete member.					
tendon, unbonded — a tendon that is					
permanently prevented from					
bonding to the concrete after					
stressing.					
tendons, concentric — tendons following					
a line coincident with the gravity					
axis of the prestressed-concrete					
member.					
tendons, deflected — tendons that have a					
trajectory that is curved or bent with					
respect to the gravity axis of the					
concrete member.					
tendons, draped — see tendons,					
deflected.					
tendons, harped — see tendons,					
deflected.					

1	tendon, concordant — a tendon with a	32	test, ball — a test to determine the
2	profile that does not produce	33	consistency of freshly mixed concrete by
3	secondary moments and support	34	measuring the depth of penetration of a
4	reactions due to the prestressing	35	cylindrical metal weight with a
5	force.	36	hemispherical bottom. (See also kelly ball.)
6	tendon profile — the path or trajectory of the	37	test, Blaine — a method for determining
7	prestressing tendon.	38	the fineness of cement or other fine
8	tensile strength — see strength, tensile.	39	material on the basis of the permeability to
9	tensile strength, splitting — tensile strength of	40	air of a sample prepared under specified
10	concrete determined by a splitting tensile	41	conditions.
11	test.	42	test, compression — test made on a test
12	tensile stress — see stress	43	specimen of mortar or concrete to
10	tension diagonal the principal tensile strong	44	determine the compressive strength; in the
13	regulting from the combination of normal	45	United States, unless otherwise specified,
14	and shear stresses acting upon a structural	46	compression tests of mortars are made on 2
15	allowent	47	in. (50 mm) cubes and compression tests of
10	element.	48	concrete are made on cylinders 6 in. (152
17	tension reinforcement — see reinforcement,	49	mm) in diameter and 12 in. (305 mm) high.
17 18	tension reinforcement — see reinforcement, tension.	49 50	mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the
17 18 19	tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary.	49 50 51	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a
17 18 19 20	tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo.	49 50 51 52	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a
17 18 19 20 21	tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile	49 50 51 52 53	mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified
 17 18 19 20 21 22 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics.</pre>	49 50 51 52 53 54	mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time.
 17 18 19 20 21 22 23 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or</pre>	49 50 51 52 53 54 55	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for
 17 18 19 20 21 22 23 24 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring</pre>	49 50 51 52 53 54 55 56	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates.
 17 18 19 20 21 22 23 24 25 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical</pre>	49 50 51 52 53 54 55 56 57	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure
 17 18 19 20 21 22 23 24 25 26 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical characteristic of a material, or a physical</pre>	49 50 51 52 53 54 55 56 57 58	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure remoldability.
 17 18 19 20 21 22 23 24 25 26 27 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical characteristic of a material, or a physical characteristic of either a structural element</pre>	49 50 51 52 53 54 55 56 57 58 59	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure remoldability. test, slump — the procedure for measuring
 17 18 19 20 21 22 23 24 25 26 27 28 	 tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical characteristic of a material, or a physical characteristic of either a structural element or a structure. 	49 50 51 52 53 54 55 56 57 58 59 60	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure remoldability. test, slump — the procedure for measuring slump.
 17 18 19 20 21 22 23 24 25 26 27 28 29 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical characteristic of a material, or a physical characteristic of either a structural element or a structure. test, air-permeability — a procedure for</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 61 	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure remoldability. test, slump — the procedure for measuring slump. testing machine — a device for applying test
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical characteristic of a material, or a physical characteristic of either a structural element or a structure. test, air-permeability — a procedure for measuring the fineness of powdered</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 61 62 	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure remoldability. test, slump — the procedure for measuring slump. testing machine — a device for applying test conditions and accurately measuring
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 	<pre>tension reinforcement — see reinforcement, tension. ternary mixture — see mixture, ternary. terrazzo concrete — see concrete, terrazzo. tesserae — small pieces of glass or marble tile used in mosaics. test — a trial, examination, observation, or evaluation used as a means of measuring either a physical or a chemical characteristic of a material, or a physical characteristic of either a structural element or a structure. test, air-permeability — a procedure for measuring the fineness of powdered materials such as portland cement.</pre>	 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 	 mm) in diameter and 12 in. (305 mm) high. test, hot-load — a test for determining the resistance to deformation or shear of a refractory material when subjected to a specified compressive load at a specified temperature for a specified time. test, Los Angeles abrasion — test for abrasion resistance of concrete aggregates. test, remolding — a test to measure remoldability. test, slump — the procedure for measuring slump. testing machine — a device for applying test conditions and accurately measuring results.

1	tetracalcium aluminoferrite — a compound in	30	thermal movement — change of dimension of
2	the calcium aluminoferrite series, having	31	concrete or masonry resulting from change
3	the composition $4CaO$. Al_2O_3 . Fe_2O_3 ,	32	of temperatures. (See also contraction and
4	abbreviated C ₄ AF, that is usually assumed	33	expansion.)
5	to be the aluminoferrite present when	34	thermal resistance — see resistance, thermal.
6	compound calculations are made from the	35	thermal shock — see shock, thermal.
7	results of chemical analysis of portland	36	thermal stress — see stress temperature
8	cement. (See also brownmillerite .)	50	thermal stress see stress, temperature.
9	texture — the pattern or configuration apparent in	37	thermal volume change — see volume change,
10	an exposed surface, as in concrete and	38	thermal.
11	mortar, including roughness, streaking,	39	thermocouple — two conductors of different
12	striation, or departure from flatness.	40	metals joined together at both ends,
13	texturing — the process of producing a special	41	producing a loop in which an electric
14	texture on either unhardened or hardened	42	current will flow when there is a difference
15	concrete.	43	in temperature between the two junctions.
16	T-head — in precast framing a segment of girder	44	thermoplastic — becoming soft when heated and
17	crossing the top of an interior column: also	45	hard when cooled.
18	the top of a shore formed with a braced	46	thermosetting — becoming rigid by chemical
19	horizontal member projecting on two sides	47	reaction and not remeltable.
20	forming a T-shaped assembly.	48	thin-shell precast — precast concrete
21	thermal conductance — see conductance.	49	characterized by thin slabs and web
22	thermal.	50	sections. (See also construction, shell.)
23	thermal conductivity — see conductivity,	51	thixotropy — A reversible, time-dependent
24	thermal.	52	decrease in viscosity when a fluid is
25	thermal contraction caused by	53	subjected to increased shear stress or shear
20	decrease in temperature	54	rate. (See also rheology .)
20		55	threaded anchorage — see anchorage, threaded.
27	thermal diffusivity — see diffusivity, thermal.	56	tie —
28	thermal expansion — expansion caused by	-	
29	increase in temperature.	57	(1) loop of reinforcing bars encircling the
		58	longitudinal steel in columns;

1	(2) a tensile unit adapted to holding concrete
2	forms secure against the lateral pressure of
3	unhardened concrete; and
4	(3) a tension member in a strut-and-tie model.
5	tie, form — a mechanical connection in tension
6	used to prevent concrete forms from
7	spreading due to the fluid pressure of fresh
8	concrete.
9	tie bar — see bar, tie.
10	tie bar, deformed — see bar, tie.
11	tie rod — see tie, form and tieback.
12	tieback — a rod fastened to a deadman, a rigid
13	foundation, or either a rock or soil anchor
14	to prevent lateral movement of formwork,
15	sheet pile walls, retaining walls, bulkheads,
16	etc.
17	tied column — see column, tied.
18	tiers — see lifts (preferred term).
19	tilting mixer — see mixer, tilting.
20	tilt-up — a construction technique for casting
21	concrete elements in a horizontal position
22	at the jobsite and then tilting them to their
23	final position in a structure.
24	time-dependent deformation — see
25	deformation, time-dependent.
26	time, final setting — the time required for a
27	freshly mixed cement paste, mortar, or
28	concrete to achieve final set. (See also

30	time, initial setting — the time required for a
31	freshly mixed cement paste, mortar, of
32	concrete to achieve initial set. (See also
33	time, final setting.)
34	time of haul — in production of ready mixed
35	concrete, the period from first contact
36	between mixing water and cement until
37	completion of discharge of the freshly
38	mixed concrete.
39	time of set — see time of setting.
40	time of setting —
41	(1) the time required for a freshly mixed
42	cement paste, mortar, or concrete to
43	achieve initial set (see set, initial) or;
44	(2) the time required for a freshly mixed
45	cement paste, mortar, or concrete to
46	achieve final set (see set, final).

1	tobermorite — a mineral found in Northern	32	top form — see form, top.
2	Ireland and elsewhere, having the	33	topping —
3	approximate formula	34	(1) a layer of concrete or mortar placed to
4	Ca ₅ (Si ₆ O ₁₆ (OH) ₂ . 4H ₂ O identified	35	form a floor surface on a concrete base;
5	approximately with the artificial product	36	(2) a structural cast-in-place surface for
6	tobermorite (G) of Brunauer, a hydrated	30	precast floor and roof systems: and
7	calcium silicate having CaO:SiO ₂ ratio in	57	
8	the range 1.39 to 1.75 and forming minute	38	(3) the mixture of marble chips and matrix
9	layered crystals that constitute the principal	39	that, when properly processed, produces a
10	cementing medium in portland-cement	40	terrazzo surface.
11	concrete; a mineral with 5 mols of lime to 6	41	topping, dry — see dry-shake (preferred
12	mols of silica, usually occurring in plate-	42	term).
13	like crystals, which is easily synthesized at	43	topping, monolithic —on flatwork: a
14	steam pressures of about 100 psig and	44	higher quality, more serviceable
15	higher; the binder in several properly	45	topping course placed promptly
16	autoclaved products.	46	after the base course has lost all
17	tobermorite gel — see gel, tobermorite.	47	slump and bleed water.
17 18	tobermorite gel — see gel, tobermorite.tolerance — the permitted deviation from a	47 48	slump and bleed water. torque viscometer — see viscometer, torque.
17 18 19	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. 	47 48 49	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional.
17 18 19 20	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). 	47 48 49 50	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists
17 18 19 20 21	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a 	47 48 49 50 51	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock.
 17 18 19 20 21 22 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits 	47 48 49 50 51 52	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of
 17 18 19 20 21 22 23 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, 	47 48 49 50 51 52 53	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force.
 17 18 19 20 21 22 23 24 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) 	47 48 49 50 51 52 53 54	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a
 17 18 19 20 21 22 23 24 25 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) tool, arrissing — a tool similar to a float, but 	47 48 49 50 51 52 53 54 55	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a strand or strands from a jack or
 17 18 19 20 21 22 23 24 25 26 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) tool, arrissing — a tool similar to a float, but having a form suitable for rounding an edge 	47 48 49 50 51 52 53 54 55 56	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a strand or strands from a jack or pretensioning bed to a concrete or masonry
 17 18 19 20 21 22 23 24 25 26 27 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) tool, arrissing — a tool similar to a float, but having a form suitable for rounding an edge of freshly placed concrete. 	47 48 49 50 51 52 53 54 55 56 56 57	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a strand or strands from a jack or pretensioning bed to a concrete or masonry member.
 17 18 19 20 21 22 23 24 25 26 27 28 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) tool, arrissing — a tool similar to a float, but having a form suitable for rounding an edge of freshly placed concrete. tool, gutter — a tool used to give the desired 	47 48 49 50 51 52 53 54 55 56 57 58	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a strand or strands from a jack or pretensioning bed to a concrete or masonry member. transfer bond — see bond, transfer.
 17 18 19 20 21 22 23 24 25 26 27 28 29 	 tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) tool, arrissing — a tool similar to a float, but having a form suitable for rounding an edge of freshly placed concrete. tool, gutter — a tool used to give the desired shape and finish to concrete gutters. 	47 48 49 50 51 52 53 54 55 56 57 58 59	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a strand or strands from a jack or pretensioning bed to a concrete or masonry member. transfer bond — see bond, transfer. transfer length — see length, transfer (preferred
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 	tobermorite gel — see gel, tobermorite. tolerance — the permitted deviation from a specified dimension, location, or quantity. tom — see shore (preferred term). tongue and groove — a joint in which a protruding rib on the edge of one side fits into a groove in the edge of the other side, abbreviated "T & G." (See also keyway.) tool, arrissing — a tool similar to a float, but having a form suitable for rounding an edge of freshly placed concrete. tool, gutter — a tool used to give the desired shape and finish to concrete gutters. tooling — the act of compacting and contouring a	47 48 49 50 51 52 53 54 55 56 57 58 59 60	slump and bleed water. torque viscometer — see viscometer, torque. torsional stress — see stress, torsional. toughness — the property of matter that resists fracture by impact or shock. trajectory of prestressing force — see path of prestressing force. transfer — to shift the tensioning force for a strand or strands from a jack or pretensioning bed to a concrete or masonry member. transfer bond — see bond, transfer. transfer length — see length, transfer (preferred term).

1	transformed section — see section, transformed.
2	transit-mixed concrete — see concrete, transit-
3	mixed.
4	transit-mixer — see mixer, truck.
5	translucent concrete — see concrete,
6	translucent.
7	transmission length — see length, transfer.
8	transverse crack — see crack, transverse.
9	transverse joint — see joint, transverse.
10	transverse prestress — see prestress, transverse.
11	transverse reinforcement — see reinforcement,
12	transverse.
13	transverse strength — see strength, flexural and
14	modulus of rupture.
15	traprock — any of various fine-grained, dense,
16	dark colored igneous rocks, typically basalt
17	or diabase; also called q"trap."
18	trass — a natural pozzolan of volcanic origin
19	found in Germany, namely, trachytic tuffs
20	that are intensely altered by geologic
21	processes.
22	traveler — an inverted-U-shaped structure usually
23	mounted on tracks that permit it to move
24	from one location to another to facilitate
25	the construction of an arch, bridge, or
26	building.
27	travertine — dense to irregularly porous,
28	commonly stratified or banded calcium
29	carbonate, either aragonite or calcite,
30	formed by deposition from hot spring
31	waters.

32	tremie — a pipe or tube through which concrete is
33	deposited under water, having at its upper
34	end a hopper for filling and a bail for
35	moving the assemblage.
36	tremie seal — the depth to which the discharge
37	end of the tremie pipe is kept embedded in
38	the fresh concrete that is being placed; a
39	layer of tremie concrete placed in a
40	cofferdam for the purpose of preventing the
41	intrusion of water when the cofferdam is
42	dewatered.
43	trench form — see form, trench.
44	trench form (for cast-in-place concrete pipe) —
45	the vertical sides and semicircular bottom
46	of the trench shaped to provide full, firm,
47	and uniform support for the lower 210
48	degrees of the pipe.
49	trial batch — see batch, trial.
50	triaxial compression test — a test in which a
51	specimen is subjected to a confining
52	hydrostatic pressure and then loaded axially
53	to failure.
54	triaxial test — a test in which a specimen is
55	subjected simultaneously to lateral and
56	axial loads.
57	tricalcium aluminate — a compound having the
58	composition $3CaO$. Al_2O_3 , abbreviated
59	C_3A .

1	tricalcium silicate — a compound having the	29	truck, agitating — a vehicle in which freshly
2	composition 3CaO SiO ₂ , abbreviated	30	mixed concrete can be conveyed from the
3	C_3S , an impure form of which (alite) is a	31	site of mixing to the site of placement;
4	main constituent of portland cement. (See	32	while being agitated, the truck body can
5	also alite .)	33	either be stationary and contain an agitator
6	trough, flow —a sloping trough used to convey	34	or it can be a drum rotated continuously so
7	concrete by gravity flow from either a truck	35	as to agitate the contents; designated
8	mixer or a receiving hopper to the point of	36	"agitating lorry" in the United Kingdom.
9	placement. (See also chute.)	37	truck-mixed concrete — see concrete, transit-
10	trough mixer — see mixer, open-top.	38	mixed.
11	trowel —	39	truck mixer — see mixer, truck.
12	(1) a flat, broad-blade steel hand tool used	40	T-shore — a shore with a T-head.
13	in the final stages of finishing operations to	41	tub mixer — see mixer, open-top (preferred
14	impart a relatively smooth surface to	42	term).
15	concrete floors and other unformed	43	tube-and-coupler shoring — a load-carrying
16	concrete surfaces;	44	assembly of tubing or pipe which serves as
17	(2) a flat, triangular-blade tool used for	45	posts, braces, and ties, a base supporting
18	applying mortar; or	46	the posts, and special couplers that connect
19	(3) a flat, broad-blade steel hand tool used	47	the uprights and join the various members.
20	to place, spread, shape, finish, or otherwise	48	tunnel lining — a structural system of concrete,
21	apply materials. (See also fresno trowel.)	49	steel, or other materials to provide support
22	trowel finish — see finish, trowel.	50	for a tunnel for exterior loads, to reduce
23	troweling — smoothing and compacting the	51	water seepage, or to increase flow capacity.
24	unformed surface of fresh concrete by	52	turbidimeter — a device for measuring the
25	strokes of a trowel.	53	particle-size distribution of a finely divided
26	troweling machine — a motor driven device that	54	material by taking successive
27	operates orbiting steel trowels on radial	55	measurements of the turbidity of a
28	arms from a vertical shaft.	56	suspension in a fluid.

1	turbidimeter fineness — the fineness of a	29	U-value — overall coefficient of heat
2	material such as portland cement, usually	30	transmission; a standard measure of the rate
3	expressed as total surface area in square	31	at which heat will flow through a unit area
4	centimeters per gram, as determined with a	32	of a material of known thickness.
5	turbidimeter. (See also Wagner fineness.)	33	ultimate-design resisting moment — the moment
6	turbine mixer — see mixer, open-top (preferred	34	at which a reinforced-concrete section
7	term).	35	reaches its usable flexural strength,
8	twin-twisted bar reinforcement — see	36	commonly accepted for under-reinforced
9	reinforcement, twin-twisted bar.	37	concrete flexural members to be the
10	two-stage curing — see curing, two-stage.	38	bending moment at which the concrete
11	two way rainformed facting a facting having	39	compressive strain equals 0.003; an
11	rainforcement in two directions generally	40	obsolete term.
12	perpendicular to each other	41	ultimate load — see load, ultimate.
15		42	ultimate moment — an obsolete term; see
14	two-way reinforcement — see reinforcement,	43	strength, nominal flexural.
15	two-way.	44	ultimate shear strength — an obsolete term: see
16	two-way system — see system, two-way.	45	strength nominal shear
17	Type I cement — see cement, normal (preferred	+5	
18	term).	46	ultimate strength — an obsolete term; see
19	Type II cement — see cement , modified	47	strength, nominal.
20	(preferred term).	48	ultimate-strength design — see strength-design
21	Type III cement — see cement, high-early	49	method.
22	strength (preferred term).	50	ultrasonic — pertaining to mechanical vibrations
22	Type IV coment see coment low-heat	51	having a frequency greater than
23	(preferred term)	52	approximately 20,000 Hz.
24		53	unbonded member — a prestressed-concrete
25	Type v cement — see cement, sulfate-resistant	54	member post-tensioned with tendons that
26	(preferred term).	55	are not bonded to the concrete between the
27		56	end anchorages after stressing.
28	— U —	57	unbonded post-tensioning — post-tensioning in
		58	which the tendons are not grouted after
		59	stressing.

1	unbonded tendon — see tendon, unbonded.	32	
2	unbraced length of column — distance between	33	— V —
3	lateral supports.	34	vacuum concrete — see concrete, vacuum.
4	underbed — the base mortar, usually horizontal,	35	vacuum dewatering — see concrete, vacuum.
5	into which strips are embedded and on	36	vacuum saturation — see saturation, vacuum.
6	which terrazzo topping is applied.	37	valve bag — paper bag for cement or other
7	undersanded — concrete containing an	38	material, either glued or sewn, made of four
8	insufficient proportion of fine aggregate to	39	or five plies of kraft paper and completely
9	produce optimum properties in the fresh	40	closed except for a self-sealing paper valve
10	mixture, especially workability and	41	through which the contents are introduced
11	finishing characteristics.	42	and released.
12	undersize — particles of aggregate passing a	43	vapor barrier — see barrier, vapor.
13	designated sieve.	11	vanor pressure — the pressure everted when a
14	underwater concrete — see concrete,	44	vapor is in equilibrium with its liquid or
15	underwater.	45	vapor is in equilibrium with its inquid of
16	unhardened concrete — see concrete, fresh	46	solid form at a given temperature.
17	(preferred term)	47	variation — see coefficient of variation and
17	(preferred term).	48	standard deviation.
18	unreinforced concrete — see concrete, plain.	49	vebe apparatus — an apparatus for measuring
19	unit masonry — see masonry, unit.	50	workability of very low-slump or no-slump
20	unit strain — see strain, unit.	51	concrete, including a vibrating table, a
21	unit water content — the quantity of water per	52	sample container, and other ancillary items,
22	unit volume of freshly mixed concrete,	53	that permits measurement of the time
23	often expressed as pounds or gallons per	54	(vebetime) required to be consolidated in a
24	cubic yard; the quantity of water on which	55	mold.
25	the water-cement ratio is based, not	56	vehicle — liquid carrier or binder of solids.
26	including water absorbed by the aggregate.	57	velocity, pulse — the velocity at which
27	unit weight — deprecated term; see density.	58	compressional waves are propagated
28	unit weight, fired — see density, fired.	59	through a medium.
29	unsound — not firmly made, placed, or fixed;		
30	subject to deterioration or disintegration		
31	during service exposure.		
1	velocity, settling — the terminal rate of fall of a	28	(1) external vibration employs vibrating
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2	particle through a fluid as induced by	29	devices attached at strategic positions on
3	gravity or other external force; the rate at	30	the forms and is particularly applicable to
4	which frictional drag balances the	31	manufacture of precast items and for
5	accelerating force (or the external force).	32	vibration of tunnel-lining forms; in
6	veneer — a masonry facing that is attached to the	33	manufacture of concrete products, external
7	backup, but not so bonded as to act with it	34	vibration or impact may be applied to a
8	under load.	35	casting table;
9	Venetian — a type of terrazzo topping that	36	(2) internal vibration employs one or more
10	incorporates large chips of stone.	37	vibrating elements that can be inserted into
11	vent pipe — see pipe, vent.	38	the fresh concrete at selected locations, and
10	vonted form goo form vonted	39	is more generally applicable to in-place
12	venteu form — see form, venteu.	40	construction; and
13	vermiculite — a micaceous mineral, also a group	41	(3) surface vibration employs a portable
14	name for certain platy minerals, hydrous	42	horizontal platform on which a vibrating
15	silicates of aluminum, magnesium, and iron	43	element is mounted.
16	characterized by marked extoliation on	44	vibration limit — see limit, vibration.
17	heating; also a constituent of clays.	45	vibrator — an oscillating machine used to agitate
18	vermiculite concrete — see concrete,	45	fresh concrete so as to eliminate gross
19	vermiculite.	40	voids including entrapped air but not
20	vertical-shaft mixer — see mixer, vertical-shaft.	47	entrained air, and to produce intimate
21	vibrated concrete — see concrete, vibrated.	40	contact with form surfaces and embedded
22	vibration — energetic agitation of freshly mixed	50	materials. (See also vibration.)
23	concrete during placement by mechanical	51	vibrator, external — see vibrator.
24	devices, either pneumatic or electric, that	۲ 2	vibrator spud — a vibrator baving a
25	create vibratory impulses of moderately	52	vibrating casing or a vibrating head
26	high frequency to assist in consolidating the	53	used to consolidate freshly placed
27	concrete in the form or mold.	54	concrete by insertion into the mass
		55	

1	vibrator, surface — a vibrator used for	25	void, air — a space in cement paste,
2	consolidating concrete by	26	mortar, or concrete filled with air;
3	application to the surface of a mass	27	an entrapped air void is
4	of freshly mixed concrete; four	28	characteristically 1 mm or more in
5	principal types exist: vibrating	29	size and irregular in shape; an
6	screeds, pan vibrators, plate or grid	30	entrained air void is typically
7	vibratory tampers, and vibratory	31	between 10 m and 1 mm in
8	roller screeds.	32	diameter and spherical or nearly so.
9	Vicat apparatus — a penetration device used in	33	void, water — void along the underside of
10	the testing of hydraulic cements and similar	34	an aggregate particle or reinforcing
11	materials.	35	steel which formed during the
12	Vicat needle — see needle, Vicat.	36	bleeding period; initially filled with
13	viscometer — instrument for determining	37	bleed water.
14	viscosity of slurries, mortars, or concretes.	38	void-cement ratio — volumetric ratio of air plus
15	viscometer. torque — an apparatus used for	39	net mixing water to cement in a concrete or
16	measuring the consistency of slurries in	40	mortar mixture.
17	which the energy required to rotate a device	41	voids, surface — cavities visible on the surface of
18	suspended in a rotating cup is proportional	42	a solid. (See also bug holes .)
19	to viscosity.	43	volatile material — material that is subject to
20	viscosity — a measure of the resistance of a fluid	44	release as a gas or vapor; liquid that
21	to deform under shear stress.	45	evaporates readily.
22	visual concrete — see concrete, architectural	46	volume —
23	and concrete, exposed.	47	volume, absolute — in the case of solids,
24	void —	48	the displacement volume of
		49	particles themselves, including their
		50	permeable and impermeable voids,
		51	but excluding space between
		52	particles; in the case of fluids, their
		53	volume.

1	volume, dry-rodded — the bulk volume	31	Wagner fi
2	occupied by a dry aggregate	32	cem
3	compacted by rodding under	33	squ
4	standardized conditions; used in	34	the
5	measuring density of aggregate.	35	pro
6	volume batching — measuring the constituents of	36	wale — a l
7	mortar or concrete by volume.	37	use
8	volume change — an increase or decrease in	38	sim
9	volume due to any cause. (See also	39	the
10	deformation and deformation, time-	40	pre
11	dependent).	41	use
12	volume change, autogenous — change in	42	wal
13	volume produced by continued	43	waler — se
14	hydration of cement, exclusive of	44	wall — a v
15	effects of applied load and change	45	enc
16	in either thermal condition or	46	wal
17	moisture content.	47	
18	volume change, thermal — the increase or	48	wal
19	decrease in volume caused by	49	
20	changes in temperature. (See	50	
21	thermal contraction and thermal	51	7
22	expansion).	52	wal
23	volumetric measuring — dispensing an	53	
24	ingredient based on volume, either	54	
25	in discrete quantities or by	55	
26	continuous flow.	56	wal
27	volumetric mixer — see mixer, volumetric.	57	
28		58	
29	— W —	59	
30	waffle — see dome	60	
50	wante jou uome.	61	
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1	wall form — see form, wall.	32	water, gauge — see batched water.
2	warehouse pack — see set, warehouse and	33	water, mixing — the water in freshly
3	cement, sticky.	34	mixed sand-cement grout, mortar,
4	warehouse set — see set, warehouse.	35	or concrete, exclusive of any
5	warping — out-of-plane deformation of the	36	previously absorbed by the
6	corners, edges, and surface of a pavement.	37	aggregate (for example, water
7	slab, or wall panel from its original shape.	38	considered in the computation of
8	(See also curling.)	39	the net water-cement ratio). (See
0	warning joint — see joint warning	40	also batched water and moisture ,
7	wai ping joint — see joint, wai ping.	41	surface.)
10	wash (or flush) water — see water, wash (or	42	water, nonevaporable — the water that is
11	flush).	43	chemically combined during cement
12	water —	44	hydration; not removable by
13	water, absorbed — see moisture,	45	specified drying. (See also water,
14	absorbed.	46	evaporable.)
15	water, adsorbed — water held on surfaces	47	water, wash (or flush) — water carried on
16	of a material by electrochemical	48	a truck mixer in a special tank for
17	forces and having physical	49	flushing the interior of the mixer
18	properties substantially different	50	after discharge of the concrete.
19	from those of absorbed water or	51	water blast — a system of cutting or abrading a
20	chemically combined water at the	52	surface such as concrete by a stream of
21	same temperature and pressure.	53	water ejected from a nozzle at high
22	(See also adsorption.)	54	velocity.
23	water, evaporable — water in set cement	55	water-cement ratio — the ratio of the mass of
24	paste present in capillaries or held	56	water, exclusive only of that absorbed by
25	by surface forces; measured as that	57	the aggregates, to the mass of portland
26	removable by drying under	58	cement in concrete, mortar, or grout, stated
27	specified conditions. (See also	59	as a decimal and abbreviated as w/c . (See
28	water, nonevaporable.)	60	also water-cementitious materials ratio.)
29	water, flush — see water, wash (or		
30	flush).		
31	water, free — see moisture, free.		

1	water-cementitious material ratio — the ratio of	30	water ring — a
2	the mass of water, excluding that absorbed	31	mix shot
3	by the aggregate, to the mass of	32	water is a
4	cementitious material in a mixture, stated	33	waterstop — a t
5	as a decimal. (See also water-cement	34	or other 1
6	ratio.)	35	obstruct
7	water pocket — see void, water.	36	joint.
8	waterproof — impervious to water in either liquid	37	watertight — in
9	or vapor state. (See also dampproofing .)	38	under hy
10	(Because nothing can be completely	39	produce
11	"impervious" to water under infinite	40	water void — se
12	pressure over infinite time, this term should	41	w/c — see water
13	not be used.)	42	w/cm — see wat
14	waterproofed cement — see water-repellant.	12	woolvoned plan
15	waterproofing — see dampproofing (preferred	43	ioint co
16	term).	44	joint, co
17	waterproofing compound — see compound,	45	wearing course
18	waterproofing.	46	to increas
19	water-reducing admixture — see admixture.	47	pavemen
20	water-reducing	48	weathering — c
20	water reducing admixture (high range)	49	chemical
21	water-reducing admixture (high-range) — see	50	a natural
22	admixture, water-reducing (nign-range).	51	action of
23	water-repellent — property of a surface that	52	web bar — see
24	resists wetting (by matter in either liquid or	53	term).
25	vapor state) but permits passage of water	54	web reinforcem
26	when hydrostatic pressure occurs. (See also	55	wedge — a piec
27	watertight.)	56	thin edge
28	water-resistant — see water-repellent (preferred	57	tighten fo
29	term).	58	wedge anchora

30	water ring — a device in the nozzle body of dry-
31	mix shotcrete equipment through which
32	water is added to the materials.
33	waterstop — a thin sheet of metal, rubber, plastic,
34	or other material inserted across a joint to
35	obstruct the seepage of water through the
36	joint.
37	watertight — impermeable to water except when
38	under hydrostatic pressure sufficient to
39	produce structural discontinuity by rupture.
10	water void — see void, water.
11	<i>w/c</i> — see water-cement ratio.
12	<i>w/cm</i> — see water-cementitious materials ratio.
13	weakened-plane joint — see joint, groove and
14	joint, contraction (preferred term).
15	wearing course — a topping or surface treatment
16	to increase the resistance of a concrete
17	pavement or slab to abrasion.
18	weathering — changes in color, texture, strength,
19	chemical composition or other properties of
50	a natural or artificial material due to the
51	action of the weather.
52	web bar — see reinforcement, web (preferred
53	term).
54	web reinforcement — see reinforcement, web.
55	wedge — a piece of wood or metal tapering to a

thin edge; used to adjust elevation ortighten formwork.

wedge anchorage — see anchorage, wedge.

59 weigh batching — measuring the constituent

60 materials for mortar or concrete by mass.

1	weight, dry-batch — the mass of the materials,
2	excluding water, used to make a batch of
3	concrete.
4	weight, dry-rodded — deprecated term; see
5	density, dry-rodded.
6	welded-butt splice — see splice, welded-butt.
7	welded reinforcement — see reinforcement,
8	welded.
9	welded-wire fabric — see fabric, welded-wire.
10	welded-wire fabric reinforcement — see
11	reinforcement, welded-wire fabric.
12	well-graded aggregate — see aggregate, well-
13	graded.
14	wet — covered with visible free moisture; not dry.
15	(See also damp and moist).
16	wet-cast process — see process, wet-cast.
17	wet process — see process, wet.
18	wet screening — screening to remove from fresh
19	concrete aggregate particles larger than a
20	certain size.
21	wet-mix shotcrete — see shotcrete, wet-mix.
22	wet sieving — use of water to facilitate sieving of
23	a granular material on standard sieves.
24	wettest stable consistency — see consistency,
25	wettest stable.
26	wetting agent — see agent, wetting.
27	wheel, feed — material distributor or regulator in
28	certain types of shotcrete equipment.
29	wheel load — see load, wheel.

30 white cement — see cement, white.

31	width, effective flange — width of slab adjoining
32	a beam stem where the slab is assumed to
33	function as the flange element of a T-beam
34	section.
35	wind load — see load, wind.
36	wing pile — see pile, wing.
37	wire —
38	wire, alignment — see wire, ground.
39	wire, cold-drawn — wire made from rods
40	that are hot-rolled from billets and
41	then cold-drawn through dies. (See
42	also reinforcement, cold-drawn
43	wire.)
44	wire, crimped — wire deformed into a
45	curve that approximates a sine
46	curve as a means of increasing the
47	capacity of the wire to bond to
48	concrete; also welded wire fabric
49	crimped to provide an integral chair
50	(See also reinforcement, deformed
51	and wire, indented.)
52	wire, ground — small-gage high-strength
53	steel wire used to establish line and
54	grade as in shotcrete work; also
55	called alignment wire and screed

wire.

1	wire, indented — wire having machine-	32	wrapping — see strand wrapping and wire
2	made surface indentations intended	33	wrapping.
3	to improve bond; depending on type	34	wrecking strip — see strip, wrecking.
4	of wire, used for either concrete	35	wythe (leaf) — each continuous vertical section of
5	reinforcement or pretensioning	36	a wall that is one masonry unit or grouted
6	tendons.	37	space in thickness.
7	wire mesh — see fabric, welded-wire.	38	
8	wire wrapping — application of high tensile wire,	20	Y
9	wound under tension by machines, around	39	
10	circular concrete or shotcrete walls, domes,	40	X-brace — paired set of crossing sway braces.
11	or other tension-resisting structural	41	(See also brace, cross bracing, and sway
12	components.	42	brace).
13	wobble coefficient — a coefficient used in	43	xonotlite — calcium silicate monohydrate
14	determining the friction loss occurring in	44	$(Ca_6Si_6O_{17}(OH)_2)$, a natural mineral that is
15	post-tensioning, which is assumed to	45	readily synthesized at 302 to 662 F (150 to
16	account for the secondary curvature of the	46	350 C) under saturated steam pressure; a
17	tendons.	47	constituent of sand-lime masonry units.
18	wobble friction — see friction, wobble.	48	X-ray diffraction — the diffraction of X-rays by
19	wood block — see block wood	49	substances having a regular arrangement of
		50	atoms; a phenomenon used to identify
20	workability — that property of freshly mixed	51	substances having such structure.
21	with which it can be mixed, placed	52	X-ray emission spectroscopy — see X-ray
22	with which it can be mixed, placed,	53	fluorescence.
23	consolidated, and finished to a homogenous	54	X-ray fluorescence — characteristic secondary
24	condition.	55	radiation emitted by an element as a result
25	working load — see load, working.	56	of excitation by X-rays, used to yield
26	working stress — see stress, working.	57	chemical analysis of a sample.
27	working-stress design — see design, working-	58	
28	stress.	59	— Y —
29	woven-wire fabric — see fabric, woven-wire.	٤٥	vellowing development of vellow color or cost
30	woven-wire reinforcement — see fabric,	0U 41	in white or clear coatings as a consequence
31	welded-wire (preferred term).	۱ ن ۲۵	of aging
		187	01 upmp.

1	yield — the volume of freshly mixed concrete
2	produced from a known quantity of
3	ingredients; the total mass of ingredients
4	divided by the density mass of the freshly
5	mixed concrete; also the number of units
6	produced per bag of cement or per batch of
7	concrete.
8	yield point — the first engineering stress in a test
9	in which stresses and strains are determined
10	for a material that exhibits the phenomenon
11	of discontinuous yielding, of which an
12	increase in strain occurs without an
13	increase in stress.
14	yield strength — see strength, yield.
15	yoke — a tie or clamping device around column
16	forms or over the top of wall or footing
17	forms to keep them from spreading because
18	of the lateral pressure of fresh concrete;
19	also part of a structural assembly for
20	slipforming which keeps the forms from
21	spreading and transfers form loads to the
22	jacks.
23	Young's modulus — see modulus of elasticity
24	(preferred term).
25	
26	—z—
27	zero-slump concrete — see concrete, zero
28	slump.

- 29 **zone, anchorage** in post-tensioning, the region
- 30 adjacent to the anchorage subjected to
- 31 secondary stresses resulting from the
- 32 distribution of the prestressing force; in
- 33 pretensioning, the region in which the
- 34 transfer bond stresses are developed.
- 35 **zone, precompressed** the area of a flexural
- 36 member that is compressed by the
- 37 prestressing tendons.