

Highlighting Guide for

Concrete License

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Selections From 2007 Standard Specifications For *SCDOT*: Highway Construction

305.2.3	Recycled Portland Cement Concrete Base Course. Four weeks for base course approval.
307.4.11	Curing Coat – within 12 hours, coat must be applied @ what rate (gal./sq. yd.)?
501.1	Description – Specifications for the materials, equipment, construction, measurements, and payment.
501.2.1	Portland Cement, Fly Ash, and Water-Granulated, Blast Furnace Slag
501.2.2	Air-Entraining Admixtures
501.2.6	Joint Fillers
501.2.6.1	Performed Expansion Joint Fillers – Position filler on or below base while upper surface ½” below slab ... 100% scrap tire rubber.
501.2.6.3	Bond Breaker – backer rod or minimum 0.005” thick tape.
501.2.7	Reinforcing Steel – Grade 40 or 60. Sleeves for dowels bars @ expansion joints must be 1-34” minimum.
501.2.8.1	Burlap Cloth Made from Jute or Kenaf – class 3 (10 oz./yd.) or class 4 (12 oz./yd.)
501.2.8.2	Sheet Materials for Curing Concrete – white burlap-polyethylene or waterproof paper
501.2.9.1	General – Concrete with portland cement, fine & coarse aggregate, fly ash, water-granulated blast-furnace slag, water and chemical admixtures to produce workability.
501.2.9.3	Re-tempering and Admixtures
501.3.2	Subbase Planer – Scratch planers with spikes or teeth are NOT permitted.
501.3.3	Batching Plant & Equipment
501.3.3.3	Scales, Meters, and Dispensers – Required accuracy of scales
501.3.4	Mixers – blades to not be worn more than 1” from their original dimension.
501.3.6	Slipform Paver – characteristics and capabilities ... listed on pages 42 & 43 of 89.
501.3.7	Concrete Spreaders – self-propelled, adjustable blades, cleaning devices.
501.3.8	Forms – must have characteristics found on page 43 of 89.

501.3.9.2	Vibrators – frequency > 3,500 impulses for internal type & > 5,000 for tube type.
501.4.1	Preparation of Subgrade, Subbase, & Base – construct 18” in width beyond concrete pavement & 2’ in width beyond back of curb.
501.4.3.2	Placing Concrete – Slumping of concrete not to exceed 3/8” from cross-section, slump @ longitudinal construction joint not to exceed ¼” from cross-section.
501.4.4.2	Form Setting – 3 pins for each 10-foot section.
501.4.4.3	Removing Forms – 8 hours of curing.
501.4.6	Weather & Lighting Conditions – undertake no concrete < 35°F and rising.
501.4.8	Placing Reinforcing Steel – minimum width is 16’ & the maximum length is 20’.
501.4.12	Protection of Pavement – exclude all vehicle traffic < 14 days
501.4.13.2	Longitudinal Joints are for concrete pavement 16’ or more in width.
501.4.13.5	Transverse Construction Joints – whenever placing of concrete is suspended more than 30 minutes.
504.2.1	General – Table silicone, non-sag used for concrete joints & shoulders
701.4.4.2	Batching & Mixing in Cold Weather – what needs to be in <i>Cold Weather Batching and Mixing Plan</i> (5 items listed on page 63 of 89).
702.3.2	Tremie – metal tube (not aluminum) not less than 10”.
702.4.2	Handling and Placing Concrete – inspection by the RCE before pour are listed on pg. 71 of 89 (six items).
702.4.2.6	Depositing Concrete Underwater (A – E)
703.2.4.3	Material Information and Certification – couplers develop at least 125% of yield strength

Construction Planning, Equipment, and Methods 8th or 9th Editions

Note: This reference does not have an index; therefore highlight keywords in the T.O.C.

<u>Keyword(s):</u> Topics in your Index & /or Table of Contents	<u>Pages 8th Edition</u>	<u>Pages 9th Edition</u>
Compaction and Stabilization Equipment	118 – 138	122 – 146
Compactors,	502 – 508	499 – 505
Concrete Placing	533 – 545	531- 544
Concrete Pavements	552 – 559	550 – 560
Construction joints	553	554
Smoothness / Slump	556	555
Paving Production	558	558
Placing Concrete in Cold Weather	560	560
Safety (1 – 8)		562
Site lay-out	696 – 703	698 – 704

Contractor's Guide to Quality Concrete Construction

Note: This reference does not have an index; therefore highlight keywords in the T.O.C.

Keyword(s) Topics in your Table of Contents	Pages 3rd Edition	Pages 4th Edition
Slump test – consistency	13	11
Air-content – for freezing weather	14	20
Concrete breaks in lab (7 days old) – 70% ultimate strength	16	13
Mixing water , water decreases concrete strength	18	17
High-Range Water Reducers Superplasterizer used in increase the slump without water addition	20	19
Air-entrainment Agents used for freeze-thaw	21	20
Mat, Raft, or Floating Foundation Poor soils for load bearing – use floating foundation	36	48
Form Material Double head nails, for pulling nails from concrete forms	47	66
Concrete weight – 150 pcf	52	70
Welded Wire Reinforcement Purpose of WWM hold down crack separation	68	126
Concrete cover for steel, see figure 6.11	72	100
Splicing Reinforcing Steel – 12"	75	128
Saw concrete – 1/4 thickness or min. 1" to create a weakened plane	88	121
Pumping concrete mixes, use river gravel as it is rounded	123	176
Vibration of concrete until air bubbles seen, segregation occurs when over vibrate.	124	178
Surface Finishes , Sequence for concrete slabs - screed, float, or trowled	126	
Hot weather Placement – concrete strength is less	127	181
Never pour on frozen ground	129	181
Fresh Concrete , Prevention of concrete segregation, maximum slump 6"	133	179

Prevent surface scaling – add air entrainment	139	199
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Excavation and Grading Handbook *Revised 2010*

Note: This reference does not have an index; therefore highlight keywords in the T.O.C.

Keyword(s) Topics in your Index & /or Table of Contents	Page 2010 edition
Hinge Point	9, 13, & 24
Reading Station Numbers	23
Crows Feet	71
Guinea Hopper	73 & 493 (glossary)
Contour Plan	84
Balancing the Site	192
Subgrade , highway	213 – 216
Utilities , Backfilling around	264 – 267
Compaction Test , nuclear testing	274-275
Scrappers , Slobber bits	299
Compaction , aggregate base, highway	324
Asphalt Paving , compaction, equip,, mix, patching, setting string lines	347 – 389
Paving Machines , rubber-tire paver, screed auger, self-propelled, ski	356 - 360
Paving , , Concrete, Highway, Patch, Trench	384 – 386
Loot	385
Chip Seal	388 - 389

Code of Federal Regulations – 29 CFR Part 1926

<u>Sect. 1926.</u>	<u>Keyword(s)</u> Topic
104(d)	belt , not allow a fall greater than 6 feet; ½" min. dia.; 5,400 psi
105(c)(1)	net , extends out 8 feet working over water 25' below
150	Fire protection , types of fire extinguishers
200	Signs , signage colors
300(d)(3)	Tools , circular saws shall have a constant pressure switch
350(a)(10)	Oxygen and fuel manifolds separated – 20 feet
451(a)	Scaffold , Safety Factor of 4 times its' intended load
451(c)(2)	Mud sills, used to support scaffolds
451(c)(1)(ii)	Scaffold Restraints, (20' vertical & 30' for end of scaffold horizontal)
651(c)(2)	Means of access & egress from an excavation , in excavations over 4' deep & travel distance less than 25'
652(b)	Appendix A to Subpart P, soils classification for excavations (Type A, B, & C)
	Appendix B to Subpart P, Tables used determine max. allowable slopes
754(b)(2)	Structural steel assembly , four floors or 48' unfinished bolting or welding above permanent floor
754(b)(3)	Structural steel assembly , fall, net placement, 2 stories or 30' vertically below work
1053(b)(1)	Side rails of a portable ladder extend above deck – 3 feet
1904.39	Recording and Reporting Occupational Injuries and Illnesses , reporting fatalities 8 hours & multiple hospitalizations three or more
1904.40	Providing records to gov't. representatives , within four hours

South Carolina Call 811 Before You Dig
Excavation Manual 2018

Pages	SC 811 does <u>NOT</u> mark any underground facilities
12	Required information on a locate request (1) – (6).
13-14	Notification Time Period
16	Length of a locate
22-23	Positive Response ‘Open’ & ‘Closed’ Codes
27	Tolerance Zone
31	Enforcement/Penalties
Obtain <u>Call 811 booklet</u> from Dutch Square Mall Columbia, SC 1-888-721-7877	