

# Highlighting Guide for

## Asphalt Paving License

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## Selections From 2007 Standard Specifications

### 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.)?
401.1	Description – Specifications for the materials, equipment, construction, measurements, and payment.
401.2.1	Binder & Additives – Use polymer modified binder that is heat and storage stable.
Table on page 23 of 89 lists performance graded binders for type facilities, intermediate & surface	
401.2.2.1	Aggregate retained on a #4 sieve is considered coarse, passing is considered fine.
401.2.2.4	Course Aggregate – When using dry slag it must not be less than 75 pounds /cubic foot.
401.2.2.6	Recycled Asphalt Pavement (RAP) – which Category comes from milled Interstates?
401.2.2.6.2	Stockpile Approval – tests rates @ 1 per 1,000 tons of RAP passing a 2” screen.
406.3.1	Distributors – tachometer, pressure gauges, & accurate volume measuring devices or Calibrated tank, and a thermometer for determining the temperature of the contents.
406.3.3.1	Steel Wheel Rollers – minimum 8 tons.
406.3.3.2	Pneumatic-Tire Rollers – Rolling width of 60”, tire pressure is 90 psi, must have ¼” overlap.
406.4.1	Weather & Seasonal Limitations – October 15 -March 15 <sup>th</sup> no surface treatment.
406.4.4	Sequence of Operations – see table on page 35 of 89. Single treatment with CRS-2P
406.4.5	Application of Asphalt Materials – Spray binder between 300 and 350°F ...
406.4.7	Rolling not to exceed 7 mph.

## 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.

<b><u>Keyword(s):</u></b> Topics in your Index & /or Table of Contents	<b><u>Pages 8th edition</u></b>	<b><u>Pages 9<sup>th</sup> editions</u></b>
Glossary of Asphalt Terms	467 - 469	460 - 462
Flexible Pavements	470	464
Superpave	471	464
Porosity	472	465
Viscosity Grades of Asphalt Cement	474	468
Asphalt Concrete	477	471
Performance Grades of Asphalt	474 - 477	468 - 471
Hveem	477	471
Asphalt Plants (Batch & Drum)	478 - 491	472 - 486
Reclaiming & Recycling, asphalt pavement	489 - 492	484 - 486
Paving Equipment	492 - 506	486 – 504
Compactors,	502 – 508	499 – 505
Concrete Placing	533 – 545	531- 544
Concrete Pavements	552 – 559	550 – 560

## Contractor's Guide to Quality Concrete Construction

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

<b>Keyword(s)</b> Topics in your Table of Contents	<b>Pages 3<sup>rd</sup> edition</b>	<b>Pages 4<sup>th</sup> edition</b>
<b>Slump</b> test – consistency	13	11
<b>Air-content</b> – for freezing weather	14	20
Concrete breaks in lab (7 days old) – 70% ultimate strength	16	13
<b>Mixing water</b> , water decreases concrete strength	18	17
<b>High-Range Water Reducers</b> Superplasterizer used in increase the slump without water addition	20	19
<b>Air-entrainment Agents</b> used for freeze-thaw	21	20
<b>Mat, Raft, or Floating Foundation</b> Poor soils for load bearing – use floating foundation	36	48
<b>Form Material</b> Double head nails, for pulling nails from concrete forms	47	66
Concrete weight – 150 pcf	52	70
<b>Welded Wire Reinforcement</b> Purpose of WWM hold down crack separation	68	126
<b>Concrete cover</b> for steel, see figure 6.11	72	100
<b>Splicing Reinforcing Steel</b> – 12"	75	128
Saw concrete – 1/4 thickness or min. 1" to create a weakened plane	88	121
<b>Pumping concrete</b> mixes, use river gravel as it is rounded	123	176
<b>Vibration</b> of concrete until air bubbles seen, segregation occurs when over vibrate.	124	178
<b>Surface Finishes</b> , Sequence for concrete slabs - screed, float, or trowled	126	
<b>Hot weather Placement</b> – concrete strength is less	127	181
Never pour on frozen ground	129	181
<b>Fresh Concrete</b> , Prevention of concrete segregation, maximum slump 6"	133	179
Prevent surface scaling – add air entrainment	139	199

## Excavation and Grading Handbook *Revised 2010*

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

<b><u>Keyword(s) Topics in your Index &amp; /or Table of Contents</u></b>	<b><u>Pages 2010 edition</u></b>
<b>Hinge Point</b>	9, 13, & 24
<b>Guinea Hopper</b>	73 & 493 (glossary)
<b>Subgrade</b> , highway	213 – 216
<b>Utilities</b> , Backfilling around	264 – 267
<b>Compaction Test</b> , nuclear testing	274-275
<b>Scrappers</b> , Slobber bits	299
<b>Compaction</b> , aggregate base, highway	324
<b>Asphalt Paving</b> , compaction, equip, mix, patching, setting string lines	347 – 389
<b>Paving Machines</b> , rubber-tire paver, screed auger, self-propelled, ski	356 - 360
<b>Paving</b> , Concrete, Highway, Patch, Trench	384 – 386
<b>Loot</b>	385
<b>Chip Seal</b>	388 - 389

## MS – 5 Eight Edition

1.04	Asphalt from Petroleum – asphalt cement, semisolid form, is the basic material.
Figure 1-2 – Emulsified and cutback products	
Water & emulsifier, Gasoline or Naphtha, Kerosene, Slowly volatile & non-volatile oils mixed with asphalt cement produces emulsified asphalts, rapid curing (RC), medium curing (MC) and slow curing cutbacks (SC) Road oils.	
Tables on pages 4 – 5 Guide For Use Of Asphalt	
<b>Chapter II Terms Relating To Asphalt And Uses page 9</b>	
2.05	A.C. Asphalt Cement - Its penetration is usually between 40 and 300.
2.10	Asphalt, Mineral Filled – Asphalt containing finely divided mineral matter passing # 200 sieve.
2.19	Asphalt, Semi-Solid – between 10 and 300 penetration
2.20	Asphalt, Solid or Hard – less than 10 penetration
2.22	Cutback Asphalt a. Rapid cure, b. Medium cure, c. Slow-Curing, d. Road-Oil
2.25	Gilsonite
2.48	Asphalt Seal Coat
Chapter III Tests –	
Viscosity, page 17; Penetration page 20; Flash Point page 22; Thin Film Oven page 23; Ductility page 25;	
Abrasion (wear) page 40; Marshall Test page 42; Hveem Method page 44; Swell page 50	
INDEX page 67-71	

South Carolina Call 811 Before You Dig  
Excavation Manual 2018

<b>Pages</b>	<b>SC 811 does <u>NOT</u> mark any underground facilities</b>
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
<b>Obtain <u>Call 811</u> booklet from Dutch Square Mall Columbia, SC 1-888-721-7877</b>	