

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
 (Concrete Shrinkage Reduction)

502.05 Composition and Proportioning Revise Table 1 of this Subsection by adding a row for Class A1 concrete.

Concrete CLASS	Compressive Strength (PSI)	Permeability as indicated by Surface Resistivity (KOhm-cm)	Entrained Air (%)		Notes
	LSL	LSL	LSL	USL	
A1	4000	Information Only	5.0	8.0	1,4,5,6

Remove Note #5 in its entirety and replace with the following:

NOTE #5 Coarse aggregate for concrete shall meet the requirements of Section 703.02 for Class "A" or "AA" or, with Department approval, SP1 or SP2 (refer to Standard Specification Section 518, Structural Concrete Repair) or a combined coarse and fine aggregate gradation meeting the "Tarantula Curve" gradation requirements of Special Provision Section 703.031.

Add the following note to Table 1:

NOTE #6 A shrinkage reducing admixture shall be added at the minimum rate of 0.75 gallons per cubic yard. This admixture shall be listed on the Department's Qualified Products List.

The following shall be added to the end of the paragraph starting with "Cast-in-place concrete shall contain..."

Class A1 concrete shall have a maximum paste content of 27.0 percent, by volume. Paste content shall include volume of water and cementitious materials. Trial batches will be required to verify design requirements are met.

The Department may elect to take, for information only, drying shrinkage samples per AASHTO T 160 (ASTM C157). These samples will be moist cured for 7 days prior to testing for drying shrinkage. Drying shrinkage values will be measured at 7, 14, 21, and 28 days.

502.14 Curing Concrete Remove the first paragraph and replace with the following:

Concrete surfaces for the superstructure, including deck, wearing surface, sidewalks, and curbs shall be kept wet with clean, fresh water for a curing period of at least 14 days after placing concrete. All other concrete surfaces shall be kept wet with clean, fresh water and for at least 7 days after placing concrete, with the exception of vertical surfaces, as provided for in Section 502.09(D) – Removal of Forms and False work, and sidewalks, as provided for in this section. For concrete wearing surfaces and all concrete containing fly ash or slag, the temperature of the concrete shall be kept above 50°F for the entire curing period. All other concrete and its surfaces shall be kept above 50°F for the first four (4) days of the curing period and above 32°F for the remainder of the period.

502.15 Loading Structures and Opening to Traffic Replace paragraph three with the following:

Neither traffic nor fill material shall be allowed on superstructures of concrete bridges or culverts until concrete cylinders cured with the slab establish that design strength has been reached and curing period has been completed, dependent upon conditions as specified in Section 502.09 and with the approval of the Resident.

502.192 Pay Adjustment for Permeability, Methods A and B Add the following paragraph after paragraph two:

For Class A1 concrete, the Department will take, for information only, Permeability samples. Class A1 Permeability PF value will be 1.05.

502.195 Pay Adjustment Method C Add the following sentence to the end of paragraph one:

Class A1 concrete shall follow TABLE 6, “Class A” Method C pay reductions. There shall be no pay reductions of Class A1 concrete for Surface Resistivity values.