

SECTION 02690 – PCC AGGREGATES

(Follow all instructions and make all edits with “Track Changes” turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 02690 of the Standard Specifications modified as follows:

02690.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish PCC Aggregates consisting of natural or crushed Rock that is hard, strong, durable and free from adherent Coatings or other Detrimental Materials.

Produce, handle and store the Aggregates in a way that will maintain passing material properties and avoid introducing deleterious materials or segregation prior to its use in portland cement concrete.

02690.11 Alternate Grading - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may request approval to produce Coarse and Fine Aggregates in sizes other than those stated in 02690.20 and 02690.30. Submit the request in writing and state the proposed target value and specified tolerances for each of the individual sieve sizes of the materials the Contractor proposes to produce.

02690.12 Acceptance of Aggregate - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Aggregate is according to Section 00165 and based on the Contractor's quality control testing, if verified, according to Section 00165.

(a) Aggregate Gradation - A stockpile contains specification Aggregate gradation when the quality level for each sieve size calculated according to 00165.40 is equal to or greater than the quality level in Table 00165-2 for a PF of 1.00. Each required sample represents a subplot. When the quality level in Table 00165-2 yields a PF of less than 1.00 for any constituent, the material is non-specification.

(b) Non-specification Aggregate Gradation - Stockpiled Aggregates that contain non specification Aggregate gradation is rejected by the Engineer unless non specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non specification material is removed so that the quality level for each constituent is equal to or greater than the quality level in Table 00165-2 for a 1.00 PF.

Reprocessing of non-conforming material and the testing required for acceptance is at no additional cost to the Agency. Acceptance of reprocessed material is based on passing test results or accepted visually by the Engineer.

02690.20 Coarse Aggregate - Replace this subsection, except for the subsection number and title, with the following:

(a) Harmful Substances - Do not exceed the following harmful substances limits:

Test	Test Method		Percent (by Weight)
	ODOT	AASHTO	
Lightweight Pieces	–	T 113	1.0
Material passing No. 200 sieve	–	T 27 / T 11	1.0
Wood Particles	TM 225	–	0.05

(b) Soundness - Test Coarse Aggregates for concrete for soundness using sodium sulfate salt, according to AASHTO T 104. Do not exceed the weighted percentage loss of 12 percent by weight.

(c) Durability - Furnish Coarse Aggregates meeting the following durability requirements:

Test	Test Method		Requirements
	ODOT	AASHTO	
Abrasion	–	T 96	30.0% Max.
Oregon Air Aggregate Degradation:			
Passing No. 20 sieve	TM 208	–	30.0% Max.
Sediment Height	TM 208	–	3.0" Max.

(d) PCC Paving Aggregate - In addition to requirements above, comply with the following:

(1) Fracture - Furnish Aggregate with at least two fractured faces on at least 50 percent of the particles retained on the 3/8-inch, 1/2-inch, 3/4-inch, 1-inch, and 1 1/2-inch sieves, as determined by AASHTO T 335.

(2) Elongated Pieces - Furnish Aggregate with elongated pieces not exceeding 10 percent by weight of the material retained on the No. 4 sieve when tested according to ODOT TM 229 with the proportional caliper device set at a ratio of 5:1.

(e) Grading and Separation by Sizes - Sample according to AASHTO R 90. Perform sieve analysis according to AASHTO T 27 and AASHTO T 11. Furnish Aggregates meeting the gradation requirements of Table 02690-1 for structural concrete. Provide a CAqT to perform sampling and testing when required.

(Use the following lead-in paragraph and subsection .40 when lightweight coarse aggregate is specified.)

Add the following subsection:

02690.40 Lightweight Coarse Aggregate - Provide lightweight coarse aggregate from the QPL.

(Use the following lead-in paragraph and subsection .50 when lightweight fine aggregate is specified.)

Add the following subsection:

02690.50 Lightweight Fine Aggregate - Provide lightweight fine aggregate (LWFA) from the QPL. Maintain LWFA at or above saturated surface dry (SSD) condition by uniformly saturating and allowing drain down prior to batching and verify moisture condition by sampling and testing according to ODOT TM 249. Maintain the SSD condition during all batching operations.