

SECTION 00559 - STRUCTURAL CONCRETE OVERLAYS

(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 00559 of the Standard Specifications modified as follows:

00559.04(a) Supervisory Personnel - Replace this subsection, except for the subsection number and title, with the following:

Hold a pre-placement conference with all supervisory personnel, Subcontractors, Suppliers, the quality control technician, the concrete control technician, and all other personnel who are involved in the resurfacing Work. Meet at a mutually agreed time approximately 2 weeks in advance of the Work. Present and discuss all phases of the resurfacing Work.

00559.11 Class of Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish class HPC(IC)4500 - 3/4 inch according to Section 02001 unless otherwise shown.

00559.13 Acceptance of Concrete - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of concrete is according to Section 00165.

00559.21 Finishing Equipment - Replace the paragraph that begins "Furnish a concrete ..." with the following paragraph:

Provide a concrete finishing machine for all new surfaces that is:

00559.22 Miscellaneous Equipment - Replace this subsection, except for the subsection number and title, with the following:

(a) Hand Tools - Provide hand tools for placing and finishing concrete. Use manual type screeds with approved vibrators attached to consolidate and finish smaller areas where it is impracticable to use a finishing machine. Use spud vibrators when depths exceed 2 1/2 inches. Use supplemental vibration along the meet lines where adjacent pours come together at bulkheads, and along curb lines, unless it can be shown that vibration reaches the meet lines.

(b) Straightedge - Provide a 12-foot metal straightedge.

(c) Recording Thermometer - Provide a 24-hour recording thermometer accurate to ± 1 °F.

(d) Coring Equipment - Provide core cutting Equipment that can produce a core at least 3 inches in diameter.

(e) Bond Testing Equipment - Provide bond testing Equipment that:

- Is compatible with the core tested.
- Can exert a tensile load to the core sufficient to exceed 300 psi.
- Is equipped with a measuring device capable of reading tensile force exerted within 1 percent accuracy.

(f) Wet-dry Vacuum Equipment - Provide vacuum Equipment that can remove puddled water ahead of the concrete placement.

(Use the following .41 when hydrodemolition is required.)

00559.41 Surface Preparation - Replace this subsection, except for the subsection number and title, with the following:

Perform surface preparation according to Section 00505.

00559.43(c)(1) Preceding Placement - Replace this subsection, except for the subsection number and title, with the following:

Each Day before placing concrete operate the finishing machine, in the presence of the Engineer, over the deck to check that the required thickness of concrete overlay is achieved. Place concrete working up-grade, unless otherwise approved.

00559.43(c)(3) Placing - Replace the paragraph that begins "After the deck surface has ..."
with the following paragraph:

~~Add the following sentence to the end of the paragraph that begins "After the deck surface..."~~

After the deck surface has been cleaned and immediately before resurfacing, broom a thin coat of grout onto the prepared deck. Ensure that all parts of the prepared deck receive a vigorous brooming that scrubs the grout into the deck surface and results in an even coat with no excess grout collecting in pockets. Do not extend grout placement more than 15 feet ahead of the overlay being placed. Furnish a grout mixture of water and cement with a w/c ratio of between 0.45 and 0.50. Broom the grout at a rate to prevent drying before being covered by the overlay. If the grout does dry, stop the overlay, remove the dried grout, clean and prepare the affected area of the deck, and reapply grout according to this Subsection. A grout coat is not required on decks prepared with hydrodemolition.

00559.43(d) Roadway Finish - Replace this subsection, except for the subsection number and title, with the following:

After the deck has been struck off with a finishing machine, fog the surface horizontally with water according to 00540.28 and float it, only if necessary, to produce a smooth, uniform.

sealed surface. Do not spray water directly on the freshly placed concrete and do not allow water to puddle or pond. Hand finishing may be required along edges of concrete placement. Use a 12-foot straightedge during placement to verify deck grades and to correct defects in hand finished areas. Ensure the finished surface, when tested with a 12-foot straightedge, does not vary by more than 1/8 inch. If the concrete surface does not meet the surface tolerance, stop the operation until revised methods, changes in Equipment, or correction of procedures are proposed and approved.

00559.48 Crack Sealing - Replace the paragraph that begins "The surface will be ..." with the following paragraph:

The surface is inspected by the Engineer for cracks.

Replace the paragraph that begins "Perform all repair and sealing ..." with the following paragraph:

Perform all repair and sealing Work at no additional cost to the Agency. Complete all repair and sealing Work before opening to traffic. If the Bridge is opened to traffic at the Contractor's request before completing repair Work, all additional traffic control to complete the repair Work is at no additional cost to the Agency.

00559.60 Protection of Concrete - Replace the bullet that begins "The concrete attains a compressive strength..." with the following bullet:

- The concrete attains a compressive strength of at least 3000 psi as determined by testing at least three cylinders cured according to AASHTO R 100 (field cure) and tested according to AASHTO T 22. The maturity method, AASHTO T 325, may be used to estimate concrete strength for opening Pavement to construction traffic. Install at least two maturity thermocouples for each Day's placement in areas where the maturity method ~~will be~~ is used for early opening. Install the thermocouples near the Day's final placement for areas being evaluated for early opening. When the maturity method is used, the Engineer may verify the maturity method with strength specimens. Establish a new strength-maturity relationship if strength specimens deviate more than 10 percent from the maturity-estimated strengths. Suspend use of the maturity method for opening Pavements to traffic when the strength-maturity relationship deviates by more than 10 percent until a new strength maturity relationship is established.

00559.80(c) Sawcut Texturing - Replace this subsection with the following subsection:

00559.80(c) Surface Texturing - Surface texturing will be measured according to 00540.80.

00559.90 Payment - Delete the Pay Item Sawcut Texturing.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Add the following sentence to the end of this subsection:

Surface texturing will be paid for according to 00540.90.