



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 22-20

October 6, 2022

TO: All Design, Operations, and District Personnel, and Consultants

FROM: /s/Stephanie J. Wagner
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Director of Bridge Engineering

SUBJECT: Surface Seal for Concrete Structural Members

REVISES: *Indiana Design Manual (IDM) Chapter 17-5.01(03)*

EFFECTIVE: Stage 3 submittals on or after November 1st, 2022

IDM Chapter 17, Quantity Estimating, has been revised for consistency with recently approved revisions to the *Standard Specifications*. Changes to Section 707 were approved during the September 2022 Standards Committee meeting that will waive the surface sealing requirements for concrete structural members if the Fabricator elects to use self-consolidating concrete, SCC. Notes related to surfacing sealing of concrete structural members shall not be included on the plans, as they could inadvertently supersede the specification requirements in accordance with 105.04.

For questions related to this design memo, please contact the Bridge Engineering Division at Bridgedesignoffice@indot.in.gov

Revisions

17-5.01(03) Surface Seal [Rev. April 2021, Oct. 2022]

The limits of surface seal should be shown on the plans, and the **estimated** quantity of surface seal should be determined based on the total area of surfaces to be sealed. The concrete surfaces of pier and bent caps, front face of mudwalls, and concrete bridge railings should be sealed. Concrete bridge decks and approach slabs contain pozzolans that reduce permeability, so it is not necessary to seal these elements during initial construction. Sealers approved for use require the concrete to be completely dry and at least 28 days old prior to application. Therefore, the use of surface sealers on newly constructed bridge decks and approach slabs may delay opening to traffic. The quantity in square feet (square meters) should be shown where appropriate on the Bridge Summary of Quantities.

For a bridge with concrete structural members, the tops of all such members, and the outside faces of the fascia members are required by the *Standard Specifications* to be surface sealed unless the Fabricator elects to use self-consolidating concrete, SCC. The performance requirements for SCC result in a very low concrete permeability which minimizes the need for surface seal. Requiring surface seal on concrete structural members can also cause undesirable delays in shipping members. If required, the surface seal quantity is included in the concrete-structural-member quantities. It should not be calculated, called out anywhere on the plans, nor included in the surface-seal quantity shown on the Bridge Summary of Quantities.