

Memorandum

*Serious drought
Help Save Water!*

To: DEPUTY DISTRICT DIRECTORS, Construction
DEPUTY DIVISION CHIEF, Structure Construction
CONSTRUCTION MANAGERS
SENIOR CONSTRUCTION ENGINEERS
RESIDENT ENGINEERS

Date: June 17, 2014

File: Division of Construction
CPD 14-4

From: MARK LEJA, Chief
Construction Division



Subject: COEFFICIENT OF FRICTION TESTING ON BRIDGE DECK METHACRYLATE RESIN TREATMENTS AND POLYESTER CONCRETE OVERLAYS

This directive provides guidance to resident engineers concerning coefficient of friction testing for bridge deck treatments. Caltrans has revised specification requirements concerning coefficient of friction testing in Sections 15-5.05, "Bridge Deck Methacrylate Resin Treatment," and 15-5.06, "Polyester Concrete Overlay," of the *Standard Specifications*. These revisions require test sections to be constructed, evaluated, and authorized prior to constructing production work. Evaluation includes coefficient of friction testing by California Test 342, "Method of Test for Surface Skid Resistance with the California Portable Skid Test." Related construction guidance can be located in Bridge Construction Memo 112-4.0, "Friction Testing of Bridge Decks," in *Bridge Construction Records and Procedures*, at <http://www.dot.ca.gov/hq/esc/construction/manuals/>.

The specification revisions require the resident engineer ensure that an acceptable test section is constructed as a predecessor to the production work. The contractor must provide a 15-day notice to the resident engineer prior to constructing the test section. The test section must be constructed using the same material, equipment, and construction methods to be used in production work. The test section must be constructed under similar conditions to those expected when production work will begin. Production work will not proceed until an acceptable test section is evaluated and authorized. The authorized test section is used as the standard of comparison for the production work.

The resident engineer uses the contractor-provided 15-day advance notice to arrange for coefficient of friction testing using California Test 342. The resident engineer is allowed 10 days for evaluation, including coefficient of friction testing, of the completed test section, and will evaluate the test section in a timely manner. The resident engineer will ensure the materials, equipment, and construction methods used in the authorized test section remain consistent throughout the production work. If the contractor proposes changes to the materials, equipment, or construction methods, the resident engineer will ensure an acceptable test section is constructed with the proposed changes prior to additional production work. During production work, the resident engineer will arrange for further coefficient of friction tests if production areas differ substantially from the test section.

If the test section meets all specified requirements, the resident engineer will authorize the test section and use the authorized test section as a standard of comparison for production work. If the test section does not meet specified requirements, the contractor must adjust their processes and construct an acceptable test section.

Projects with bid opening dates after April 24, 2014, with either bridge deck methacrylate resin treatments or polyester concrete overlays, should contain the revised specifications within the special provisions. Ongoing projects without the revised specifications, that have not started related production activities, should implement the specification change by change order where administratively feasible.

Sample change order memorandum, sample change order, and a Federal Highway Administration (FHWA) blanket prior approval for modifying each specification type are attached. This CPD serves as the delegation of authority from Division of Construction and approval from FHWA for these change orders, except when any of the following apply:

- The specification language is altered.
- The absolute value exceeds \$200,000.
- Contract time is extended by more than 19 working days or 10 percent of original working days, whichever is greater.

For additional information or assistance, please contact John Babcock, Structure Construction, at john.babcock@dot.ca.gov or (916) 227-8871, or Joe Peterson, Materials Engineering & Testing Services, at joe.peterson@dot.ca.gov or (916) 227-7303.

- Attachments:
1. Sample Change Order Memorandum (Bridge Deck Methacrylate Resin Treatment)
 2. Sample Change Order (Bridge Deck Methacrylate Resin Treatment)
 3. FHWA Form CA-358(c), "Record of Blanket Approval for Major Contract Change Order" (Bridge Deck Methacrylate Resin Treatment)
 4. Sample Change Order Memorandum (Polyester Concrete Overlays)
 5. Sample Change Order (Polyester Concrete Overlay)
 6. FHWA Form CA-358(c), "Record of Blanket Approval for Major Contract Change Order" (Polyester Concrete Overlay)