State of Louisiana
Department of Transportation and Development (DOTD)
Materials and Testing Section Approved Materials Procedure
for

EPOXY COATINGS FOR REINFORCING BARS

MATERIAL SPECIFICATION REFERENCE:

DOTD Standard Specifications, Subsection 1009.01.7, ASTM A775, Supplemental Specifications and Special Provisions.

APPROVED MATERIAL EVALUATION SUBMITTAL:

The manufacturer shall submit a completed Approved Materials Evaluation Submittal to the DOTD Materials and Testing Section Coordinator listed below.

PRELIMINARY REQUIREMENTS:

The complete submittal must include:

- Complete Approved Materials Evaluation Form
- Letter requesting evaluation of the material
- Product Data Sheets
- Safety Data Sheet (SDS)
- Manufacturer's specifications
- Independent Laboratory Test Results
- Samples

NOTE: Evaluation will not begin until all required items listed above are received by the Materials Laboratory

Certifications and/or Test Reports

Certified Test Reports shall be submitted showing conformance with all the requirements of ASTM A775 for "Standard Specification for Epoxy-Coated Steel Reinforcing Bars." An Infrared Spectrophotometric Analysis (FTIR Curve) shall accompany the Certified Test Report along with a complete generic description of the epoxy powder and patching material.

All reinforcing steel to be epoxy coated shall be coated in a plant certified by the Concrete Reinforcing Steel Institute (CRSI) as a fusion bonded epoxy applicator.

Samples (to be furnished at no cost to the Department)

- Four (4) coated No. 6, Grade 60 bars, 4 feet in length
- One (1) uncoated No. 6, Grade 60 bar, 4 feet in length
- Four (4) Taber test panels 4 inches by 4 inches by 0.05 inch coated with 10 ± 2 mills of epoxy
- Eight (8) ounces of epoxy powder and patching material

TEST REQUIREMENTS:

Laboratory Testing

The qualification samples will be tested by the Materials and Testing Section in accordance with the test procedures shown in ASTM A775.

- Physical Testing:
  - Adhesion, Thickness, Continuity and Flexibility of coating
  - Impact and Taber Abrasion resistance

- Chemical Analysis:
  - Chemical resistance
  - Infrared spectrophotometric analysis (FTIR) on the epoxy powder and patching material

Evaluation Time (6 Months)

GENERAL:

Upon completion of the evaluation, the submitter will be notified in writing concerning the results of the evaluation and whether the material will or will not be added to the Approved Materials List (AML). The DOTD Materials and Testing Section Coordinator shall be notified in writing of any change from the original material submittal. The Department reserves the right to re-evaluate any material at any time. A Certificate of Analysis (CA) of the material shall be submitted every two (2) years to the DOTD Materials and Testing Section Coordinator to remain on the AML.

It is also the manufacturer's responsibility to supply the contact information of the representative responsible for the material to the Materials Section Coordinator to remain on the AML. This is done by completing the Approved Materials Evaluation Form every two (2) years or when there is a change in the manufacturing representative responsible for the material.

PROJECT ACCEPTANCE REQUIREMENTS:

The inclusion of any material on the AML is not blanket approval for its use. All materials, regardless of prior approval, shall be sampled in accordance to the Materials and Sampling Manual.

Once a material has been approved, it is the manufacturer's or applicator's responsibility to conduct the following minimum quality control tests on the epoxy coated bars intended for use on state projects:

- Film Thickness and Continuity: At least one bar representing each set of ten (10) coated bars shall be checked for film thickness in accordance with ASTM A775. All bars shall be checked visually and with an in-line 67-½ volt holiday detector after curing for continuity of coating.

- Adhesion and Flexibility of Coating: The epoxy coating shall be evaluated by conducting bend tests on at least one (1) bar per size from the total bars coated with a batch or lot of powdered epoxy resin or from the total bars coated per day, whichever results in the greater number of tests.

DISQUALIFICATION AND REMOVAL:

Any material may be removed from the AML at any time. Causes for removal from the AML may include, but are not limited to the following:

- Non-conformance with specifications
- Performance requirements
- Failure to notify the Department of any change in material formulation
- Failure of the supplier to provide proper certifications as required by this procedure
- Failing test results obtained by the Materials Section of project verification samples
- Failure to supply current contact information for the material representative in accordance with this procedure

REQUALIFICATION:

Any material which has been disqualified and/or removed from the AML will be considered for re-evaluation only after submission of a formal request along with acceptable evidence that the problems causing the disqualification and/or removal have been resolved.

DOTD MATERIALS AND TESTING SECTION COORDINATOR:

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Approved 05/24/17

BRIAN OWENS, P.E.
DOTD MATERIALS ENGINEER ADMINISTRATOR