

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

ACCEPTANCE CRITERIA FOR EPOXY COATED REINFORCEING STEEL

1. PURPOSE

- 1.1 To provide the procedures for the quality assurance of coating manufacturers of epoxy coated reinforcing steel bars for the certification of epoxy coated reinforcing steel bars.
-

2. SCOPE

- 2.1 To establish a procedure to qualify approved and non-approved coating manufacturers of epoxy coated reinforcing steel bars for use on West Virginia Division of Highways (WVDOH) projects.
- 2.2 To establish a procedure for maintaining a record of such information.
- 2.3 To establish a procedure for transmitting such information to the Districts and to the Contractors of WVDOH projects.
- 2.4 This procedure shall apply to epoxy coated reinforcing steel bars furnished to WVDOH projects and purchase orders.
-

3. REFERENCED DOCUMENTS

- 3.1 *AASHTO Standards:*
- 3.1.1 AASHTO M 31, Deformed and Plain Carbon and Low-Alloy Steel Bars for Concrete Reinforcement
- 3.2 *ASTM Standards:*
- 3.2.1 ASTM A775/A775M, Standard Specification for Epoxy-Coated Steel Reinforcing Bars
-

4. ACCEPTANCE PROCEDURE

- 4.1 With each shipment, the coating manufacturer shall provide shipping documents which contain either the coating manufacturer's "Approved Source" number or the approval number that was assigned.
-

5. ACCEPTANCE PROCEDURE FOR APPROVED SOURCE

- 5.1 For a manufacturer to be considered as a source of epoxy coated reinforcing steel bars, the manufacturer must submit a certification statement indicating their intention to be included on the WVDOH Approved Product List (APL) as an approved source of epoxy coated reinforcing steel bars.

- 5.2 The prospective source shall submit a certified statement that all material shipped to Division projects will conform to WVDOH specifications. This certified statement shall be signed by a representative of the manufacturer who has the authority to bind the company. The certified statement shall be submitted with the completed HL-468 form in Section 5.2.1.
- 5.2.1 The manufacturer shall complete form HL-468, attainable from the WVDOH [webpage](#)¹ and submit it to the WVDOH Materials Control, Soils and Testing (MCS&T) Division New Products email address, DOHNewProducts@wv.gov, indicating intention to be included on the WVDOH APL as an approved product manufacturer of epoxy coated reinforcing steel bars.
- 5.3 All plain steel reinforcement to be coated shall be selected from an approved product source list of plain reinforcing steel bars maintained by the WVDOH.
- 5.4 All epoxy powders used shall be selected from an Approved Product List of epoxy powders for rebars maintained by the WVDOH.
- 5.5 A copy of the coating manufacturer's Concrete Reinforcing Steel Institute (CRSI) certificate must be submitted indicating conformance to CRSI specifications. The CRSI certificate shall be submitted with the completed HL-468 form in Section 5.2.1.
- 5.6 Samples of epoxy coated reinforcing steel shall be obtained by WVDOH Division authorized personnel and shall have the epoxy component tested to ASTM A775 in the WVDOH laboratories.
- 5.6.1 The Division may elect to use other methods of verification, such as material certifications or third-party laboratory testing.
- 5.7 An inspection of the coating facility shall be conducted every two years to reinforce confidence in the ability of the facility to produce a quality product.
- 5.7.1 The Division may conduct additional inspections at any time.
- 5.8 Once all the requirements of Section 5 are met, a laboratory approval number will be assigned to the coating facility to indicate WVDOH requirement conformance. This approval number shall be active for up to two years. Acceptance of a coater's facility can be verified by accessing the WVDOH online Approved Product Lists.
- 5.9 Revocation of approved source status may result from revocation or expiration of CRSI certification or furnishing material that does not comply with WVDOH Specifications.
- 5.10 The Division will annually obtain three rebar samples from different production lots from each manufacturer listed on the WVDOH APL. These samples will be tested by the Division and used to evaluate whether the manufacturer shall remain on the APL.

¹ https://transportation.wv.gov/highways/mcst/Pages/newproduct_evaluationprocedure.aspx

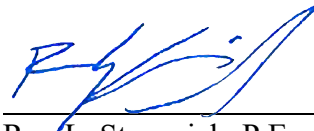
- 5.10.1 If all three of the samples meet specification requirements, the manufacturer shall remain on the APL.
- 5.10.2 If one of the three samples fail to meet specification requirements, the Division shall obtain three additional rebar samples from the manufacturer. The Division shall then test those three samples, and if any of those three additional samples fail to meet specification requirements, the manufacturer will be removed from the APL.
- 5.10.3 If two of the three annual samples fail to meet the specification requirements, the manufacturer will be removed from the APL.

6. ACCEPTANCE PROCEDURE FOR NON-APPROVED SOURCE

- 6.1 Epoxy coated reinforcing steel that have been coated by a non-approved coating manufacturer shall require evaluation on a lot-by-lot basis under direct coverage, provided the material meets the following requirements.
- 6.2 A copy of the coating manufacturer's CRSI certificate must be submitted indicating current conformance to CRSI specifications. The CRSI shall be submitted with the completed HL-468 form in Section 5.2.1.
- 6.3 Samples of epoxy coated reinforcement steel shall be obtained by WVDOH Division authorized personnel to be tested in WVDOH laboratories, unless other methods of verification such as material certifications are used.
- 6.4 The metallic component of epoxy coated steel bars shall meet AASHTO M31.
- 6.5 The epoxy component of the epoxy coated steel bars shall be tested to conform to the requirements of ASTM A775.
- 6.6 If the results of the testing reveal that the material is in full compliance with the Specifications, an approval number will be issued by the Division that shall be affixed to the shipping documents
- 6.7 The metallic component of epoxy coated steel bars shall meet AASHTO M31.
- 6.8 The epoxy component of epoxy coated steel bars shall be tested to conform to the requirements of ASTM A775.
- 6.9 If the results of the testing reveal that the material is in full compliance with Specifications, an approval number will be issued by the Division that shall be affixed to the shipping documents.

7. APPROVED PRODUCT LIST

- 7.1 An updated approved list of epoxy coated reinforcing steel bars, shall be issued once a year. The list may be updated at any time with the addition of a new facility or with a removal of a facility.
- 7.2 A current approved list of epoxy coated reinforcing steel shall be available to all contractors, fabricators, and suppliers by accessing the West Virginia Department of Transportation [Approved Source](#).²



03/15/2023

Ron L. Stanevich, P.E.
Director
Materials Control, Soils & Testing Division

MP 709.01.51 Steward – Environmental & Coatings Section
RLS:P

² http://transportation.wv.gov/highways/mcst/Pages/Listings_Sorted.aspx