

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

MATERIALS PROCEDURE

ACCEPTANCE CRITERIA FOR CORROSION RESISTANT STEEL REINFORCEMENT BARS
FOR CONCRETE

1. PURPOSE

- 1.1 To establish procedures for qualifying corrosion resistant steel reinforcement bars as acceptable for use on West Virginia Division of Highways (WVDOH) projects.
 - 1.2 To establish a procedure for maintaining a record of such information.
 - 1.3 To establish a procedure for transmitting such information to the districts and to contractors of WVDOH projects.
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2. SCOPE

- 2.1 This procedure shall apply to all manufacturers of hot drawn corrosion resistant low-carbon chromium steel bars to produce a finished product used in concrete reinforcement.
 - 2.2 This procedure shall apply to all corrosion resistant low-carbon chromium steel bars or stainless-steel bars furnished to West Virginia Division of Highways (WVDOH) projects and purchase orders. The Division may elect to use other control procedures when special conditions dictate.
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3. APPLICABLE DOCUMENTS

ASTM A1035 Standard Specification for Deformed and Plain, Low-Carbon, Chromium, Steel Bars for Concrete Reinforcement
ASTM A955 Standard Specification for Deformed and Plain Stainless-Steel Bars for Concrete Reinforcement
WVDOH standard specifications for roads and bridges

4. ACCEPTANCE PROCEDURE

- 4.1 With each shipment, the bar manufacturer shall provide shipping documents which contain either the steel bar approved source number, or the approval number that was assigned to the material as per Section 6 below.

5. ACCEPTANCE PROCEDURE (APPROVED SOURCE)

- 5.1 For a producer to be considered an approved source manufacturer of corrosion resistant steel reinforcement bar, the manufacturer must comply with the following requirements where applicable:
- 5.2 The manufacturer is to submit a written statement to the WVDOH Materials Control, Soils and Testing Division indicating intention to be included on the WVDOH approved source list as an approved source of corrosion resistant steel reinforcement bars for concrete.
- 5.3 If the prospective source produces "*low carbon chromium*" steel reinforcement, the prospective source shall submit a certified statement that all material shipped to the Division will conform to Specification ASTM A1035/1035M. The certified statement shall be signed by a representative of the manufacturer who has the authority to bind the company.
- 5.4 If the prospective source produces "*stainless-steel*" reinforcement, the prospective source shall submit a certified statement that all material shipped to the Division will conform to Specification ASTM A955/955M. The certified statement shall be signed by a representative of the manufacturer who has the authority to bind the company.
- 5.5 An evaluation and sampling of material at the manufacturing facility will be conducted by department personnel, or by its designee, for conformance to the appropriate ASTM specification to reinforce confidence in the ability of the facility to produce a quality product within WVDOH specifications. Five samples each two feet in length of different sizes or heats are to be tested in department laboratories annually to confirm WVDOH specification compliance.
- 5.6 All steel materials at the prospective source must be melted and manufactured domestically, and in accordance to section 106.1.1.5 of the WVDOH Standard Specifications for Roads and Bridges.
- 5.7 Once the above requirements are met, a laboratory approval number will be assigned to the manufacturer to indicate WVDOH requirement conformance. This approval number shall be active for one year. Acceptance of manufacturer's facility can be verified by accessing the WVDOH online approved source list.
- 5.8 Revocation of approved source status may result from tested material that does not comply with the specifications listed above.

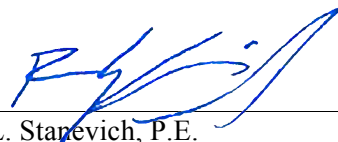
- 5.9 "Approved Source" status may be reinstated at the discretion of the Materials Control, Soils and Testing Division based on the findings of an investigation. The reinstatement process will commence upon the receipt of a letter of request from the manufacturer to the Materials Control, Soils and Testing Division. The letter of request should indicate reasons for reinstatement, and documentation to substantiate such reasons.

6. ACCEPTANCE PROCEDURES (NON-APPROVED SOURCE)

- 6.1 Corrosion resistant reinforcement steel bars used for concrete reinforcement will require testing and evaluation, on a lot-by-lot basis per grade and heat of material, provided the material meets the following requirements:
- 6.2 A two foot length sample of steel reinforcement representative of the grades and heats used in the concrete structure shall be obtained by WVDOH department personnel or its representatives to be tested in WVDOH laboratories. This sample(s) shall be from the same heats as those used in the concrete structure.
- 6.3 The physical components of the reinforcement bar shall be tested to conform to the requirements of ASTM A1035 for low carbon chromium steel reinforcement, or ASTM A955 for stainless steel reinforcement for yield, tensile, and reduction.
- 6.4 The material is melted and manufactured domestically conforming to section 106.1.1.5 of the WVDOH standard specifications for roads and bridges.
- 6.5 If the results of the testing reveal that the material complies with all applicable specifications, an approval number will be issued by the Division that shall be affixed to the shipping documents of the corrosion resistant steel reinforcement.

7. DOCUMENTATION REPORT

- 7.1 The approved source list for manufacturers of corrosion resistant steel bars for concrete reinforcement shall be updated once a year, this list can be updated at any time with the addition of a new manufacturing facility, or with the removal of a facility.
- 7.2 A current approved list of corrosion resistant steel reinforcement bars will be available to all contractors, fabricators, and suppliers by accessing the West Virginia Department of Transportation approved source list website.



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