

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

ACCEPTANCE CRITERIA FOR STEEL WIRE
REINFORCEMENT USED IN CONCRETE

1. PURPOSE

- 1.1. Establish a procedure to qualify approved and non-approved manufactures that produce drawn bright finish wire reinforcement for use on 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 contractors of projects.
-

2. SCOPE

- 2.1. This procedure shall apply to all producers who “manufacture” from a rough casted steel rod material to a drawn smooth bright finish wire product or produce a welded wire reinforcement product “WWR” from smooth bright finish wire.
 - 2.2. This procedure shall apply to all steel wire reinforcement for concrete furnished to projects and purchase orders. The WVDOH may elect to use other control procedures when special conditions dictate.
-

3. REFERECES AND DEFINITIONS

- 3.1. ASTM A1064 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - 3.2. MP 106.00.02 - Procedure for Evaluation of New Products for Use in Highway Construction
 - 3.3. [AASHTO Product Evaluation and Audit Solutions \(APEAS\)](https://transportation.org/product-evaluation-and-audit-solutions/)¹
 - 3.4. WVDOH Specifications – Sections 709.4, 709.5, and 709.6
-

4. ACCEPTANCE PROCEDURE

- 4.1. With each shipment, the wire manufacturer shall provide shipping documents which contain either the steel wire approved source number, or the approval number that was assigned to the material as per Section 6.1 of this document.
-

5. ACCEPTANCE PROCEDURE (APPROVED SOURCE LIST)

- 5.1. For a producer to be considered an approved source manufacturer of steel reinforcement wire, either welded or non-welded, the manufacturer must comply with the following requirements:

¹ <https://transportation.org/product-evaluation-and-audit-solutions/>

- 5.2. The manufacturer must submit a completed [HL-468](#)² as per MP 106.00.02. This must include a statement to the WVDOH Materials Control, Soils and Testing (MCS&T) indicating intention to be included on the WVDOH Approved Product List (APL) as an approved source of steel wire reinforcement for concrete.
- 5.3. The prospective source shall produce a certificate indicating the prospective source is an active member in compliance with the APEAS program.
- 5.4. The prospective source shall additionally submit a certified statement that all material shipped to the MCS&T will conform to Specification ASTM A1064 by a representative of the manufacturer that has the authority to bind the company shall sign the certified statement.
- 5.5. An evaluation and sampling of the material at the manufacturing facility shall be conducted by MCS&T personnel or by their designee for conformance to ASTM A1064. This shall be to reinforce confidence in the ability of the facility to produce a quality product within Specifications.
- 5.5.1. Five samples each, five-foot in length, each of different sizes or lots are to be tested by MCS&T or their designee (as determined by the active date as discussed in Section 5.6) to confirm Specification compliance.
- 5.6. 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 manufacturers facility can be verified by accessing the MCS&T online approved source list.
- 5.7. Revocation of approved source status may result from non-conformance to APEAS or tested material that does not comply with the specifications listed above.
- 5.8. "Approved Source" approval may be reinstated at the discretion of the MCS&T 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 MCS&T. The letter of request should indicate reasons for reinstatement, and documentation to substantiate such reasons.

6. ACCEPTANCE PROCEDURES (NON-APPROVED SOURCE)

- 6.1. Steel wire used for concrete reinforcement will require testing and evaluation on a lot-by-lot basis by direct coverage, provided the material meets the following requirements:
- 6.2. The wire source shall produce a certificate indicating the manufacturing source of basic bright finish wire is an active member in compliance with the APEAS.
- 6.3. A five-foot length of basic bright finish steel reinforcement representative of the sizes and heats used in the concrete structure shall be obtained by MCS&T personnel or its designee to be tested in MCS&T laboratories or their designee's laboratories.
- 6.4. The metallic components of the wire shall be tested to conform to the requirements of ASTM A1064 for yield, tensile, and reduction.
- 6.5. If the results of the testing reveal that the material is in compliance with the Specifications, an approval number will be issued by the MCS&T that shall be affixed to the shipping documents of the basic bright finish steel reinforcement.

² <https://transportation.wv.gov/highways/mcst/Pages/MP-100s.aspx>

7. DOCUMENTATION REPORT

- 7.1. An updated list of steel wire reinforcement for concrete shall be conducted once a year, but no longer than two, and can be updated at any time with a new facility, or with a removal of a facility.
- 7.2. A current approved list of steel wire reinforcement is available by accessing the current WVDOH [Approved Source Webpage](#)³.

Michael Mance Digitally signed by Michael Mance
Date: 2024.07.25 15:22:37 -04'00'

Michael A. Mance PE,
Interim Director
Materials Control, Soils & Testing Division

MP 709.04.22 Steward - Metals Section
MAM:H

³ https://transportation.wv.gov/highways/mcst/Pages/APL_By_Number.aspx