
Standard Practice for

Qualification of Deformed and Plain Reinforcing Steel Bar, Welded Wire, and Wire Producing Mills

AASHTO Designation: R 53-10^{1,2}



1. SCOPE

- 1.1. This recommended practice shall apply to all producing mills that supply deformed and plain steel reinforcement bars, welded wire, or wire for use on State Transportation Agency projects.
- 1.2. The initial qualification and all subsequent qualifications of the producing mill's quality system and compliance testing will be in accordance with the procedure outlined herein.

2. REFERENCED DOCUMENTS

2.1. *AASHTO Standards:*

- M 31M/M 31, Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- M 32M/M 32, Steel Wire, Plain, for Concrete Reinforcement
- M 55M/M 55, Steel Welded Wire Reinforcement, Plain, for Concrete
- M 221M/M 221, Steel Welded Wire Reinforcement, Deformed, for Concrete
- M 225M/M 225, Steel Wire, Deformed, for Concrete Reinforcement
- M 227M/M 227, Steel Bars, Carbon, Merchant Quality, Mechanical Properties
- M 322M/M 322, Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
- R 18, Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories
- T 244, Mechanical Testing of Steel Products

2.2. *ASTM Standards:*

- A 82/A 82M, Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
- A 185/A 185M, Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
- A 496/A 496M, Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement
- A 497/A 497M, Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete
- A 615/A 615M, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- A 706/A 706M, Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement

- A 880, Standard Practice for Criteria for Use in Evaluation of Testing Laboratories and Organizations for Examination and Inspection of Steel, Stainless Steel, and Related Alloys (Withdrawn 2004)
- A 996/A 996M, Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement

3. TERMINOLOGY

- 3.1. *compliance testing*—testing performed in accordance with referenced AASHTO and ASTM standards and/or test methods.
- 3.2. *documented quality system*—the producing mill shall maintain documentation of its quality system by use of a Quality Manual (QM).
- 3.3. *nonconformance*—not meeting the requirements of this specification.
- 3.4. *producing mills (deformed and plain reinforcing steel bar, welded wire, or wire)*—locations where steel billets, rail steel, and axle steel are heated and rolled into finished steel bars or rods, or where welded wire or wire products are produced.
- 3.5. *test report*—information (test values, chemical analysis, etc.) as required by the referenced specification and contained in a report form generated by the producing mill. Origin of materials (steel billets, rail-steel, axle-steel, and rod) used to roll the bars or wire is also shown on this report.
- 3.6. *qualification agency*—The entity that performs this qualification procedure at the producing mill. AASHTO's National Transportation Product Evaluation Program's (NTPEP) Project Panel on Reinforcing Steel is responsible for oversight of the program and securing the services of the qualification agency.

4. PURPOSE

- 4.1. This document establishes a uniform procedure for the qualification of producing mills that supply deformed and plain steel reinforcement bars, welded wire, or wire for use on State Transportation Agency projects.
- 4.2. This document describes the procedures and conditions for producing mill qualification.

5. QUALIFICATION PROCEDURE

- 5.1. *General*—Qualification shall be based on satisfactory compliance to an audit of:
- 5.1.1. The producing mill's Documented Quality System, and
- 5.1.2. Compliance testing.
- Note 1**—Subsequent qualifications of producing mills that have demonstrated compliance to a recognized international/national quality program may have the Documented Quality System audit waived. In such cases, compliance testing will be the focus of qualification.