



****THIS IS A NEW IM. – PLEASE READ CAREFULLY.****

**GALVANIZED STEEL BARS FOR
CONCRETE REINFORCEMENT**

GENERAL

Acceptance of galvanized steel reinforcement shall be on the basis of certification from an approved steel manufacturer, fabricator, and / or distributor. Galvanized steel reinforcement shall meet the specified contract requirements for the type and grade and shall be supplied by an approved supplier.

Approval to furnish galvanized steel reinforcement on a certification basis may be withdrawn for deficient test results on monitor samples, inadequate documentation, improper identification of the materials and / or lack of identification such as mill test reports or galvanizing reports.

Approved fabricators, suppliers, and distributors of black bars are listed in [IM 451, Appendix B](#). Approved manufacturers of reinforcing steel (plain and deformed bars) are listed in [IM 451, Appendix D](#).

ACCEPTANCE REQUIREMENTS

- A. Quality Control
Fabricators, suppliers, and distributors shall be responsible to maintain records of mill test reports and records of quality control for monitoring and testing.
- B. Surface Preparation and Galvanizing
Reinforcing steel surfaces that are to be galvanized shall receive a thorough cleaning. Galvanizing is a factory controlled process of dipping properly cleaned steel bars into a bath of molten zinc. Prior to immersion in the bath, the steel bars shall be thoroughly cleaned in both alkaline and acid baths. Zinc will not adhere to unclean steel, therefore, the integrity of the coating will immediately be apparent as the steel bars are being removed from the galvanizing bath.

GENERAL REQUIREMENTS

- 1. Zinc coated (galvanized) steel bars for concrete reinforcement shall meet the requirements of ASTM A 767 Class I
- 2. The zinc coatings shall be applied by the hot dip process.
- 3. Zinc coating – Class I thickness requirements
 - a. Bar Designation size no. 3 is 3 oz / ft² or 3.0 mils
 - b. Bar designation size no. 4 and larger is 3.50 oz / ft² or 4.0 mils

A minimum of five recorded measurements shall be taken approximately evenly spaced along each side of the test bar (a total of 10 measurements per test bar)

4. The galvanized coating shall be chromate treated. The provided galvanizing certificate shall state the chromate treatment.

The chromate treatment is to preclude a reaction between the bars and the fresh Portland cement paste. The chromate treatment shall be performed immediately after the galvanizing process.

5. The steel reinforcing bars shall conform to either ASTM A 615 or ASTM A 706.
6. The zinc used for coating shall be any grade that conforms to the requirements of ASTM B6.
7. The zinc coating shall be free of blisters, acid or black spots, flux spots, or inclusions, dross (scum that forms on the surface of molten metal) and / or tears or sharp spikes. Bars that stick together after galvanizing shall be rejected.
8. Damaged to the coating shall be either rejected and / or repaired in accordance with the requirements of [IM 410](#) or with the requirements of ASTM A 780.
9. Sheared ends shall be coated with a zinc rich formula containing at least 65 – 69% zinc dust or above 92% in the dried film.
10. Samples – three random samples shall be secured and tested from each lot per project.

A lot shall be as follows: All bars of one or more sizes furnished to the same steel reinforcement bar specification that has been galvanized with a single production shift.