

910-R-558 REINFORCING BARS AND DOWEL BARS

(Adopted 10-16-08)

The Standard Specifications are revised as follows:

SECTION 910, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

910.01 Reinforcing Bars and Dowel Bars

(a) General

Unless otherwise specified, bars for concrete reinforcement shall be deformed billet steel, grade 60 (420). Tie bar assemblies used in lieu of bent tie bars shall be in accordance with the minimum total ultimate strength and minimum total yield strength requirements specified for bent tie bars; bend test and elongation will not be required.

~~Reinforcing steel~~ *Reinforcement* used in precast or precast prestressed concrete structural members, including deck panels, shall be in accordance with ASTM A 615 grade 60 (A 615M, Grade 420) *or ASTM A 706 grade 60 (A 706M grade 420).*

Reinforcing bars shall be furnished by selecting bars made by a manufacturer on the list of Certified Uncoated Reinforcing Bar Manufacturers and in accordance with ITM 301. When shipped to the project site, the reinforcing bars shall be accompanied by the type of certifications specified in ITM 301 and in accordance with 916.

SECTION 910, BEGIN LINE 26, DELETE AND INSERT AS FOLLOWS:

2. Threaded Tie Bar Assembly

The threaded tie bar assembly shall be deformed billet steel, grade 60 (420) *or higher*, in accordance with 910.01(b)1 and a coupling device. The tie assembly shall achieve a minimum load of 76.144 kip/in.² (525 MPa). *Where epoxy coated threaded tie bar assemblies are specified, A an epoxy coating with a minimum film thickness of 6 mils (150 µm) shall be applied to the coupling device and epoxy coated reinforcing bars shall be provided in accordance with 910.01(b)9 with the exception that the epoxy coated bar is not required to be furnished from the list of Certified Reinforcing Bar Epoxy Coaters.*

SECTION 910, BEGIN LINE 77, DELETE AND INSERT AS FOLLOWS:

7. Uncoated 7 Wire Strand for Prestressed Concrete

Uncoated 7 wire strand for prestressed concrete shall be in accordance with ASTM A 416. The strand shall have the minimum tensile strength ~~of~~ and initial tension shown on the plans.

~~Low relaxation strand with a nominal diameter of 1/2 in. (12.70 mm) and a cross sectional area of 0.167 in.² (108 mm²) shall have a breaking strength of 45,000 lb (20,400 kg).~~

Uncoated 7 wire strand shall be covered by ~~the type of certification specified in the Frequency Manual and~~ *a type A certification* in accordance with 916. *The certification shall include the lot number, size, cross-sectional area, yield strength, breaking strength, strand composition, modulus of elasticity, and a load-elongation curve for each size of strand supplied.*

SECTION 910, BEGIN LINE 97 DELETE AND INSERT AS FOLLOWS:

9. Epoxy Coated Reinforcing Bars

Epoxy coated reinforcing bars shall be furnished by selecting bars coated from an applicator's plant on the list of Certified Reinforcing Bar Epoxy Coaters and in accordance with ITM 301. The epoxy coating material shall be selected from the list of approved Epoxy Coating for Steel.

Epoxy coated reinforcing bars shall be in accordance with ASTM A 775 (A 775M), except as follows.

- a. the ~~steel~~ bars shall be in accordance with 910.01(b)1;
- b. the coating color shall contrast with the color of iron oxide;
- c. tensile and bend tests shall be performed on the bars. If an examination of the bend test specimen suggests the need, the adhesion of the coating shall be checked by subjecting additional specimens to the 120° bend test. Hairline cracks without bond loss will be acceptable provided there are not more than two and the length of either crack does not exceed 1/4 in. (6 mm). The *average* coating thickness shall be 8 9 to 13 14 mils (~~200 to 325~~ 225 to 350 μ m) after cure. The thickness measurements shall be made in accordance with ASTM G 12. The ~~average shall be~~ *coating thickness shall be an average* based on 12 individual readings *with no individual reading below 9 mils (225 μ m)*. No specific correction for the base preparation process shall be applied to the thickness measurements.
- d. ~~epoxy coated reinforcing bars which will be jobsite sampled shall be accompanied by the types of certifications in the Frequency Manual and in accordance with 916.~~ Epoxy coated reinforcing bars furnished by coaters on the list of approved Certified Reinforcing Bar Epoxy Coaters shall be accompanied by the types of certifications specified in ITM 301 and in accordance with 916.
- e. repair and handling procedures shall be in accordance with 703.04. The coating material shall be in accordance with the Annex to ASTM D 3963 (D 3963M).

Epoxy coated support devices for epoxy coated reinforcing bars shall be in accordance with ASTM A 775 (A 775M), except as follows.

- a. the steel shall be in accordance with 910.01(b)1;
- b. the coating color shall contrast with the color of iron oxide;

- c. the coating thickness shall be 6 to 20 mils (150 to 500 μm) after cure. The thickness measurements shall be made in accordance with ASTM G 12.
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