

ITEM 16556.02 M - REINFORCING STEEL FOR CONCRETE STRUCTURES- STAINLESS CLAD

The requirements of §556 - Reinforcing Steel for Concrete Structures shall apply with the following modifications:

1. All reinforcing shall meet the requirements of §709-12 - STAINLESS CLAD BAR REINFORCEMENT, GRADE 420.
2. The reinforcing shall be shipped and handled in such a manner that carbon steel does not come in contact with the stainless steel cladding. Padding shall be used to separate carbon steel bundling bands from the stainless steel. Wire rope shall not be used in lifting or handling the reinforcing.
3. The reinforcing shall not be cut by abrasive wheel.
4. Tie wire shall be stainless steel, 16 gauge or larger.
5. All chairs shall be non-metallic.
6. Welded splices are not allowed.
7. Mechanical splices shall be made of stainless steel.
8. The ends of the reinforcing bars shall be capped so the mild steel core is not exposed. Permissible capping methods include:
 - i. Stainless steel seal weld.
 - ii. Stainless steel cap epoxied in place.
 - iii. Heat shrink tubing cap.
 - iv. Neoprene cap adhered with silicon or epoxy sealant.
9. Table 556-1 Unit Mass of Deformed Bars will be used to calculate the quantity approved for payment.

March 27, 2002

ITEM 16556.02 M - REINFORCING STEEL FOR CONCRETE STRUCTURES- STAINLESS CLAD

709-12 - STAINLESS CLAD BAR REINFORCEMENT, GRADE 420

SCOPE

This specification covers composite bar reinforcement consisting of a mild steel core with a bonded exterior layer of stainless steel.

MATERIAL REQUIREMENTS

MECHANICAL PROPERTIES

The composite bar reinforcement shall meet the mechanical property requirements of ASTM A615M Grade 420 or A996M Grade 420 Deformed Rail Steel including Supplementary requirement S1.

STAINLESS STEEL CLADDING

The stainless steel cladding shall meet the requirements of ASTM A959 UNS S31600.

The completed composite bar reinforcement shall have a minimum stainless steel cladding thickness of 180 μm .

QUALITY CONTROL

The manufacturer shall provide a plan for review and approval by the Director, Materials Bureau a minimum of thirty (30) days prior to delivery. The plan shall clearly demonstrate the ability to manufacture, test, certify, maintain and assure the identity of bars from manufacture to placement.

INSPECTION

The receipt of the manufacturer's quality control plan will serve as Department notification of the manufacturer's intention to supply reinforcing bars to Department work. The Materials Bureau will arrange for the inspection and sampling of bars by a Department representative. Department representatives shall have free access to the plant for inspection and/or sampling to verify specification compliance. Work done while any Department representative has been refused access shall be automatically rejected.

Randomly selected lengths of clad bars will be taken by the representative from the production run for test, to assure specification compliance. The manufacturer shall allow fourteen (14) days from the receipt of the samples in the Materials Bureau's laboratory for evaluation to verify the acceptability of the bars and subsequent authorization for shipment.

BASIS OF ACCEPTANCE

Subsequent to the review and approval of the manufacturer's Quality Control Plan, stainless clad reinforcing bars will be considered for acceptance in mill banded, stock lot quantities at manufacturing sites in accordance with procedural directives of the Materials Bureau.