

SECTION 604 BAR REINFORCEMENT, EPOXY COATED

604.01 Description. This work consists of furnishing and placing epoxy coated bar reinforcement.

MATERIALS.

604.02 Bar Reinforcement. Epoxy coated bar reinforcement shall conform to the requirements of Section 824.

604.03 Repair Material. The Contractor shall furnish a certification from the coating manufacturer that the repair material is compatible with the coating material.

604.04 Working Drawings. Working drawings shall be submitted in accordance with [Subsection 603.03](#). In addition, the working drawings shall indicate to the fabricator and coater that the spacing between bands around bundled bars shall not exceed 13M (4 m).

CONSTRUCTION METHODS.

604.05 Storage and Protection. Epoxy coated bar reinforcement shall be stored on wooden or padded supports that will keep the Epoxy coated bars that have been exposed to sunlight for 90 days shall be covered. This requirement includes partially embedded bars. The cover shall be opaque to block sunlight and shall be placed to allow air circulation around the bars.

In order to protect the coated bar reinforcement from damage during movement, the Contractor shall ensure that bands used to secure rebar in bundles are spaced no more than 13M (4 m) apart. The Contractor shall also use padded or non-metallic slings and padded straps to handle bundled bars. Bundles of epoxy coated bars shall be lifted by spreader bars or multiple supports from a platform bridge that will prevent bar-to-bar abrasion from sags. Bundles shall not be picked up by the banding material. Bars and bundles shall not be dropped, dragged, or driven over. The Contractor may propose alternate precautionary measures for the Engineer' s approval.

604.06 Placing.

- a. Bridge Decks. The bottom layer of bar reinforcement in bridge decks shall be supported from the forms on continuous type bar supports placed parallel to the beams and spaced with the lines of supports, as measured between beam centers, at approximately the 1/4 and 3/4 points for beam spacing less than 9M (2.7 m) and at approximately the 1/6, 1/2, and 5/6 points for beam spacing 9M (2.7 m) and over. Additional individual chairs may be required outside the fascia beam to securely support the bar reinforcement along and near the fascia. The continuous type bar supports and individual chairs in contact with epoxy coated bars shall be either epoxy or plastic coated, as approved. The Contractor may propose other devices for the Engineer' s approval. Coated chairs fabricated with straight legs shall also be equipped with plastic or rubber tips. Coated chairs fabricated with turned-up legs do not require tips

The upper layer of bar reinforcement in bridge decks shall be supported with rows of approved, continuous, steel bar supports consisting of a minimum of three longitudinal wires acting as spacers at the proper height. The longitudinal wires shall be securely tied to the structural steel, stud shear developers, or other structural components at intervals not greater than 5M (1.5 m) along each beam or girder. Tie-downs shall consist of loops of 12 gage (2.7 mm) coated wire, or equivalent devices meeting the approval of the Engineer.

- b. *Other Structures.* The method of placement for structures other than bridge decks shall conform to the requirements of [Subsection 603.05](#). The wire, chairs, and metal supports in contact with epoxy coated bars shall, at the Contractor' s option, be either epoxy or plastic coated. Epoxy coated bar reinforcement shall not come in contact with any materials to be embedded in the concrete which are not epoxy or plastic coated.

604.07 Splicing Reinforcement. Splicing shall conform to the requirements of [Subsection 603.07](#).

604.08 Repair of Epoxy Coating. If, in the opinion of the Engineer, the coating on bar reinforcement has been damaged, the damaged bar will be rejected and shall be properly repaired or replaced.

Repair material shall be compatible with the coating, inert in concrete, and supplied by the epoxy resin manufacturer. The material shall be suitable for repairing areas of the coating that have been damaged and shall be applied at the point of application, fabrication, or installation, as may be required. Sheared ends and other cut or exposed areas shall be repaired promptly before detrimental oxidation occurs. These areas shall be clean and free from all surface contaminants.

The sum of the damaged areas of coating in each 1 yd (1 m) of length of bar reinforcement shall not exceed 6% of the surface area in that 1 yd (1 m) length of bar. All visible damage of the epoxy coating shall be repaired. The total bar surface area covered by patching material shall not exceed 2%.

604.09 Method of Measurement. The quantity of epoxy coated bar reinforcement will be measured according _____ to _____ Subsection 603.08.

604.10 Basis of Payment. The quantity of epoxy coated bar reinforcement will be paid for at the Contract unit price per pound (kilogram) based upon metric designation as shown in the [Table 603-A](#). Price and payment will constitute full compensation for furnishing and placing all materials, including the epoxy resin, clips, wire, chairs, and other material used for fastening the bar reinforcement in place; for preparing the bar reinforcement surfaces for epoxy coating; for applying the epoxy coating; for bending, splicing, and repairing; and for all labor, equipment, tools, and incidentals required to complete the work.