

# INDIANA

## DEPARTMENT OF TRANSPORTATION

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### STANDARD SPECIFICATIONS

# 2018

The cost of grout for grouting reinforcing bars in place, the length of grouted hole recommended by the grout manufacturer in excess of the length shown on the plans, and the additional length of reinforcing bars required shall be included in the cost of field drilled hole in concrete.

- 1450 The cost of furnishing and installing polychloroprene sheeting shall be included in the cost of concrete, A, substructure.

The cost of high density plastic bearing strips shall be included in the cost of concrete, A, substructure.

## **SECTION 703 – REINFORCING BARS**

### **703.01 Description**

This work shall consist of furnishing and placing reinforcing bars and threaded tie bar assemblies with reinforcing bars in accordance with 105.03.

### **703.02 Materials**

Materials shall be in accordance with the following:

- |    |  |            |
|----|--|------------|
| 10 | Reinforcing Bars, Plain or Epoxy Coated..... | 910.01     |
|    | Reinforcing Bar Splicing System .....        | 910.01(b)3 |
|    | Support Devices .....                        | 910.01(b)9 |
|    | Threaded Tie Bar Assembly .....              | 910.01(b)2 |

The sizes and lengths of reinforcing bars shall be marked plainly to facilitate inspection and checking.

### **703.03 Bar List**

- 20 The Contractor shall verify the quantity and size of reinforcing bars against the structure drawings prior to ordering. Errors in the bar list and bending schedule will not be cause for adjustment of the contract unit price.

### **703.04 Protection of Materials**

- 30 Plain and epoxy coated reinforcing bars shall be protected from damage during storage, handling, installation and concrete placement. Plain and epoxy coated reinforcing bars shall not be stored in direct contact with the ground. Epoxy coated reinforcing bars shall be protected from exposure to ultraviolet light and moisture during storage. Once placed into the work, epoxy coated reinforcing bars shall not be exposed to ultraviolet light for a total of more than 21 days prior to placement of concrete. At the time of concrete placement, reinforcing bars shall be free of dirt, loose rust or scale, grease, oil, or other foreign substance. If the Engineer suspects the epoxy coating has been damaged by exposure to ultraviolet light, a sample will be obtained and will be tested in accordance with 910.01(b)9.

- Damage to the epoxy coating of epoxy coated reinforcing bars shall be repaired or the bars shall be replaced. Repairs to the epoxy coating shall be performed on all damaged areas larger than 1/4 by 1/4 in. A bar will be rejected if the accumulated area of damaged coating exceeds 2% of the nominal surface area of the bar or if the total area of repaired coating exceeds 5% of the nominal surface area of the bar. All damaged areas shall be cleaned and the repair shall be performed before visible oxidation appears. Coating repair material shall be in accordance with 910.01(b)9.

## CONSTRUCTION REQUIREMENTS

### 703.05 Bending

Reinforcing bars required to be bent shall be accurately cold bent in a bending machine to the shapes shown on the plans. All bars in which cracks or splits occur at bends will be rejected.

### 50 703.06 Placing and Fastening

Reinforcing bars shall not be ordered for piers or bents to be founded on soil or rock until the foundation conditions have been investigated. The bottom elevations of such footings will then be determined. Written permission will then be given to order such reinforcing bars. Sufficient excavation and all necessary soundings shall be made as directed so that exact bottom elevations of footings may be determined.

- All dimensions shown on the plans for spacing of reinforcing bars apply to centers of bars unless otherwise noted. All bars shall be accurately placed and, during placing of the concrete, held firmly in the position as shown on the plans. Distances from the forms shall be maintained by means of chairs, ties, hangers, or other approved support devices. All reinforcing bars shall be wired rigidly or fastened securely at sufficient intervals to hold the bars in place. Chairs and supports holding upper layers of reinforcing bars shall support the transverse bars. The upper layer of reinforcing bars in bridge floors shall be tied or fastened at such intervals as necessary to prevent an upward or a lateral movement of a bar from the planned position.

- Layers of reinforcing bars shall be separated by spacers. Reinforcing bars shall be separated from horizontal surfaces by being suspended or supported on approved chairs and spacers capable of supporting the designed loads. Supports and spacers shall be of such shape as to be easily encased in concrete. That portion which is in contact with the forms shall be non-corrosive and non-staining material. They shall be of an approved type. Vertical stirrups shall always pass around main tension members and shall be securely attached thereto. The use of pebbles, pieces of broken stone or bricks, metal pipe, wooden blocks, and similar devices for holding bars in position will not be allowed.

- After being placed, reinforcing bars will be inspected and approved before the concrete is deposited. The positions of the reinforcing bars shall not be disturbed both during and after depositing the concrete. All concrete placed in violation of this