



Standard Specifications for
HIGHWAY
CONSTRUCTION

**ARKANSAS STATE HIGHWAY AND
TRANSPORTATION DEPARTMENT**
————— 2014 Edition —————

Payment will be made under:

| Pay Item | Pay Unit |
|--------------------------------------|-------------------------------|
| Class 1 Protective Surface Treatment | Gallon (Liter) |
| Class 2 Protective Surface Treatment | Square Yard (Square Meter) |
| Class 3 Protective Surface Treatment | Linear Foot (Meter) |

SECTION 804

REINFORCING STEEL FOR STRUCTURES

804.01 Description. This item shall consist of reinforcing steel and miscellaneous accessories of the quality, type, size, and quantity designated, which shall be furnished and placed in concrete structures according to these specifications and in conformity with the details shown on the plans, or as directed.

804.02 Materials. (a) Bar Reinforcement. Bar reinforcement for concrete in sizes up to and including #18 (No. 57) shall conform to the requirements of AASHTO M 31 or M 322 Type A. Mill test reports shall be submitted for reinforcing steel.

(b) Wire and Wire Fabric. Wire, when used as reinforcement in concrete, shall conform to the requirements of AASHTO M 32 or M 225.

Wire fabric, when used as reinforcement in concrete, shall conform to the requirements of AASHTO M 55 or M 221. All wire fabric shall meet the weld shear requirements for AASHTO M 55. The type of wire fabric shall be approved by the Engineer.

(c) Bar Mat Reinforcement. Bar mat reinforcement for concrete shall conform to the requirements of AASHTO M 54.

(d) Epoxy Coating. When specified, reinforcing steel bars shall be coated according to ASTM A775 using a coating material that meets the requirements of Annex A1 of ASTM A775.

The Contractor shall supply to the Engineer a written certification that properly identifies the number of each batch of coating material used in the order; the material, quantity represented, date of manufacture, and name and address of the manufacturer; and a

or cut ends of bars, end areas left bare during the coating process, and any areas where the entire coating is removed. All repairs shall be completed as soon as practicable and, in the case of bare end areas and sheared ends, before visible oxidation of the surface occurs. Epoxy coated bars shall not be flame cut.

The Contractor shall exercise caution when placing and vibrating concrete to prevent any damage to epoxy coated bars. In order to prevent the vibrator from damaging the coated bars, the head shall be covered with a sheet of rubber or a similar material as approved by the Engineer.

804.06 Placing and Fastening. Steel reinforcement shall be accurately placed in the positions shown on the plans and firmly held during the placing and setting of concrete. Bars shall be tied at all intersections except where spacing is less than 12" (300 mm) in each direction, in which case alternate intersections shall be tied.

Bundled bars shall be tied together at not more than 6' (2 m) centers.

Bar positions or clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices. Reinforcing steel shall not be welded unless detailed on the plans or authorized in writing by the Engineer. Any authorized welding shall comply with Subsection 807.26. Metal bar supports that are in contact with the exterior surface of the concrete shall have protection conforming with the CRSI Specifications, Class 1 for Plastic Protected Bar Supports or Class 2 for Stainless Steel Bar Supports, with the further provision that the plastic protection may be applied either by a dipping operation or by the addition of premolded plastic tips to the legs of the supports. Epoxy Coated Bar Supports that are coated according to the provisions of CRSI "Manual of Standard Practice" with a minimum coating thickness of 5 mils (127 μm) may be substituted for Plastic Protected Bar Supports or Stainless Steel Bar Supports. All high chairs and bar bolsters shall be metal.

Plastic bar supports shall not be used.

When concrete is to rest on an excavated surface, layers of bars shall be supported above the surface by metal chairs or by precast mortar or concrete blocks. The use of rocks, pieces of stone or brick, pipe, wooden blocks, or chunks of concrete will not be permitted as bar supports or spacers.