SECTION 406

REINFORCING STEEL

I. GENERAL

1.1 DESCRIPTION OF WORK

The Contractor shall furnish, fabricate, place and protect all reinforcing steel or wire mesh (including all wires, ties, clips, supports, chairs, spacers, and other accessories), used in concrete operations and masonry construction, all in accordance with the Contract Documents.

1.2 MATERIALS

Materials shall be furnished by the Contractor in accordance with Section 200.

1.3 SUBMITTALS

A. Submittals shall be made by the Contractor in accordance with the procedures set forth in Section 105 and as described below:

The Contractor shall submit complete shop drawings of all material proposed to be furnished and installed under this Section. These drawings shall include:

1. Bar schedules, stirrup spacing, diagrams of bent bars, reinforcement arrangement and assemblies, bar splices and laps.

2. The drawings shall provide sufficient detail to permit placement of reinforcement without use of design drawings.

3. Shop drawings shall satisfy the requirements of ACI Standard 315.

B. Accompanying the shop drawings, the Contractor shall submit the steel producer's certificates of mill analysis, tensile, and bend tests for reinforcing steel.

C. Where mechanical couplers are required or permitted to be used to splice reinforcing steel, the Contractor shall submit manufacturer's literature which contains instructions and recommendations for installation for each type of coupler used; certified test reports which verify the load capacity of each type and size of coupler used; and shop drawings which show the location of each coupler with details of how they are to be installed in the formwork.

D. If reinforcing steel is spliced by welding at any location, the Contractor shall submit mill test reports that shall contain the information necessary for the determination of the carbon equivalent as specified in AWS D1.4. The Contractor shall submit a written welding procedure for each type of weld for each size of bar which is to be spliced by welding.

E. Welders shall be qualified per AWS and Contractor shall submit welder qualifications prior to beginning work.

II. EXECUTION

The Contractor shall execute the Work in accordance with the latest edition of the VDOT *Road and Bridge Specifications,* Section 406.03, Procedures. Any references to "Engineer" or VDOT personnel shall mean the "Owner".

III. MEASUREMENT FOR PAYMENT

A. Reinforcement steel, when a pay item, will be measured in pounds of steel placed in the structure as shown in the Contract Documents or Standard Details. The weight of welded wire mesh will be computed from the theoretical weight per square yard placed, including allowance for laps not to exceed 8 percent of the net area. Reinforcing steel or welded wire mesh will be paid for at the contract unit price per pound.

B. Epoxy-coated reinforcement steel, when a pay item, will be measured in pounds of uncoated steel and will be paid for at the contract unit price per pound. The weight will be computed from the theoretical weights of the nominal sizes of steel specified and placed in the structure. Measurement will not be made for epoxy-coating material.

C. When not a pay item, the cost of reinforcing steel shall be included as an incidental item in the bid price for other specified pay items.

D. Items considered incidental work will not be measured for payment or paid for as such. Incidental items are identified in Section 109.1.2 and also include the following:

Furnishing, applying, and repairs of epoxy-coating material.

E. No payment will be made for fastening devices that may be used by the Contractor for keeping reinforcing bars in their correct position. When the substitution of larger bars than those specified is allowed, payment will be made for only the amount of metal that would have been required if the specified size of bar had been used. When full-length bars are shown in the Contract Documents and the Contractor obtains approval to use short bars for convenience, the weight paid for will be based on the full-length dimensions with no allowance make for splices.

End of Section