

## **Section 1015**

### **Signs and Pavement Markings**

**1015.01 GENERAL REQUIREMENTS.** Signs and pavement markings materials shall comply with these specifications, the plans and the MUTCD. When directed, the contractor shall furnish and prepare samples for testing in accordance with Department instructions.

#### **1015.02 METALS.**

##### **1015.02.1 Ferrous Metals:**

**1015.02.1.1 Structural Steel:** Structural steel for posts, stringers, framing and miscellaneous steel shall comply with AASHTO M 270, Grade 36. Steel shall be galvanized in accordance with 811.12.

**1015.02.1.2 Steel Pipe:** Steel pipe or tubing for structures shall be Schedule 40 (STD) complying with ASTM A53, Type E or Type S Grade B, or hot formed tubing complying with ASTM A36 and ASTM A501.

**1015.02.1.3 U-Channel Steel Posts for Small Signs, Markers, and Delineators:** Posts shall be steel of the flanged channel type shown on the plans, galvanized after fabrication in accordance with 811.12. Before fabrication, posts shall be within 3.5 percent of the specified weight.

Posts shall be fabricated from steel complying with either ASTM A499, Grade 60 with chemical properties conforming to ASTM A1 for 91 lb/yd or heavier rail steel, or ASTM A576, Grade 1080 with 0.10 to 0.20 percent silicon. Holes 3/8 inch in diameter shall be drilled or punched through the middle of each post on one inch centers for the full length of the post.

**1015.02.1.4 Square Tubing for Small Signs, Markers, and Delineators:** Use 2 inches x 2 inches square tubing.

The square tubing shall conform to ASTM A1011, Grade 50 for hot rolled carbon steel, structural quality. The average minimum tensile strength after cold-forming is 60,000 psi. The cross section of the square tubing shall be a square tube formed and carefully rolled to size and shall be welded by high frequency resistance welding and externally scarfed to agree with corner radii and dimensional tolerances shown in the DOTD Roadside Traffic Sign Standard Details. It shall be manufactured from hot-dipped galvanized steel conforming to ASTM A653, G90, Structural Quality, Grade 50, Class 1. The weld shall be hot zinc coated after the scarfing operation. The steel shall be coated with a chromate conversion coating and a clear organic polymer topcoat.