1092-3 CERTIFICATION

Provide a Type 6 material certification in accordance with Article 106-3 for all retroreflective sheeting used in the manufacture of signs certifying that the sheeting meets Section 1092.

SECTION 1094
GROUND MOUNTED SIGNS

1094-1 GROUND-MOUNTED SIGN SUPPORTS

(A) Breakaway or Simple Steel Beam Sign Supports

Fabricators of breakaway or simple steel beam sign supports shall be AISC Category I certified.

Steel supports for Type A and B ground mounted signs shall be galvanized rolled steel sections, either breakaway or simple design, as required by the contract. Fabricate supports from plates, W shapes, and S shapes, as required by the contract, and they shall conform to ASTM A36. Splices in the supports will not be permitted. Perform galvanizing before assembly that conforms to ASTM A123. Cutting steel supports to length after they have been galvanized will not be permitted in new construction. The support(s) shall be uniformly straight to within 1/8 inch tolerance for pieces less than 20 feet in length, and 1/4 inch tolerance for pieces over 20 feet in length.

Fabricate high strength bolts, nuts and washers required for breakaway supports from steel in accordance with ASTM A325 and galvanize in accordance with ASTM B695, Class 55.

(B) 3 lb Steel U-Channel Posts

Make 3 lb steel U-channel posts out of rerolled rail steel or new billet steel, conforming to the mechanical requirements of ASTM A499, Grade 60, and the chemical requirements of ASTM A1, for rails having nominal weights of 91 lbs. per yard or greater. Proportion the cross section so a moment of 1,450 ft-lb, applied to the cross section normal to the flanges, will produce an extreme fiber stress no greater than 39,500 psi. Use posts that weight 3 lbs/lf. Punch or drill all posts with 3/8 inch diameter holes on the centerline, spaced 1 inch on centers, starting 1 inch from the top and extending to the bottom of the posts. Galvanize these posts after fabrication for the full length and total area in accordance with ASTM A123. The zinc coating inside of the 3/8 inch diameter holes shall not exceed Specification requirements enough to prevent a 5/16 inch diameter bolt from freely passing through.

Use U-channel post sections of the same general configuration as that shown in the contract, however minor variations may be considered acceptable by the Engineer provided all other requirements are met.

(C) 2 lb Steel U-Channel Posts

Use 2 lb steel U-channel posts that are variable length galvanized steel, U-shaped channel posts.

Fabricate the U-channel posts from steel meeting ASTM A1008 or ASTM A499, or an approved alternate. The posts shall weigh 2 lbs/lf, and be of the length necessary to meet the erection requirements of the contract. Before galvanizing, punch or drill 3/8 inch diameter holes on 1 inch centers, beginning 1 inch from the top of the post, for a minimum distance equal to the vertical dimension of the respective sign or mile marker. Galvanize these posts after fabrication in accordance with ASTM A123. The zinc coating inside of the 3/8 inch diameter holes shall not exceed Specification requirements enough to prevent a 5/16 inch diameter bolt from freely passing through.

U-channel post sections shall be of the same general configuration as that shown in the contract, however, minor variations may be considered acceptable by the Engineer, provided all other requirements are met.

(D) Steel Square Tube Posts

Use steel square tube posts of variable length galvanized steel. The post shall be a minimum 14 gauge steel square tube. Before galvanizing punch or drill all posts with 3/8 inch diameter holes on the centerline, spaced 1 inch on centers, starting 1 inch from the top and extending to the bottom of the posts.

Galvanize these posts after fabrication for the full length and total area in accordance with ASTM A123. G90 zinc coating shall not be accepted. The zinc coating inside of the 3/8 inch diameter holes shall not exceed Specification requirements enough to prevent a 5/16 inch diameter bolt from freely passing through.

Steel square tube sections shall be of the same general configuration as that shown in the contract, however, minor variations may be considered acceptable by the Engineer, provided all other requirements are met.

(E) Wood Supports

Wood supports shall conform to Articles 1082-2 and 1082-3.

1094-2 RIVETS FOR SIGN OVERLAYS

Rivets for sign overlays shall be 1/8 inch diameter aluminum rivets of the pull through type, and be approved by the Engineer. Submit for approval several samples of rivets, along with adequate descriptive catalog literature.

SECTION 1096
OVERHEAD SIGN STRUCTURES

1096-1 ALUMINUM OVERHEAD SIGN STRUCTURES

Materials for aluminum overhead sign structures shall conform to Article 1092-1 and *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*. Where the Contractor proposes to use materials that are not covered by these references, such use will be contingent on the Engineer's approval of these materials.

1096-2 STEEL OVERHEAD SIGN STRUCTURES

Use Category I certified by the American Institute of Steel Construction Fabricators for steel overhead sign structures as required by Subarticle 1072-1(A). Use either structural carbon steel or structural low-alloy steel for steel overhead sign structures meeting *AASHTO LRFD Bridge Design Specifications*. Other steel may be used, subject to the approval of the Engineer. Structural steel that has been cold-rolled to increase the yield strength will be permitted. Mechanically galvanize all fasteners. Hot-dip galvanize all other components of the structural assembly after fabrication has been completed. The galvanizing shall meet ASTM B695, Class 55, for fasteners and ASTM A123 for other structural steel.

1096-3 WELDING

Perform all welding in the fabrication of the supports by AWS certified welders. Furnish a copy of the AWS certification for each welder used for fabrication. All welds shall be free of cracks, blow holes, slag, and other irregularities, and be wire brushed, sandblasted or otherwise cleaned. Refer to Article 1076-3 for additional requirements for galvanizing.

Aluminum welding processes and procedures, shielding gases, preparation, weld quality, inspection and correction of welds, and the qualification of welding procedures, welders and welding operators will be governed by the AWS Structural Welding Code, D1.2.