

SECTION 16 TRAFFIC SIGNS

16-1 GENERAL - Any permanent traffic control sign as required on the Contract Plans or in the specifications shall conform with the provisions of Section 56 of the State Standard Specifications and the manual on Uniform Traffic Control Devices for Streets and Highways, and the following provisions.

16-2 BASE METAL - The thickness of the aluminum sheet shall be .080 gauge unless otherwise specified. The material shall be subject to inspection prior to installation.

The fabrication of all signs shall be accomplished in a uniform and workmanlike manner. The sign panels are to be cut as shown on the size specification sheets. The dimensional tolerance of the panels shall be plus or minus one-sixteenth (1/16) inch. Metal panels shall be cut to size and shape and shall be free of buckles, wrap, dents, cockles, burrs, sharp edges and any other defects resulting from fabrication.

All possible fabrication, including shearing, cutting and punching of holes, shall be completed prior to the base metal preparation.

16-3 BASE METAL PREPARATION - The aluminum base metal shall be thoroughly cleaned and anodized as per State Standard Specifications.

16-4 REFLECTIVE SHEETING - Reflective sheeting shall be Scotchlite brand high intensity grade or approved equal unless otherwise indicated on the Contract Plans.

Vendors shall present proof that the type of reflective sheeting they intend to use in the manufacture of the signs has been used on highway signs located on California highways for a period of at least two (2) years and has proven entirely satisfactory to the State.

The surface of the reflective sheeting shall be of a flexible, transparent plastic material and shall be smooth. The backing medium shall be of synthetic sheet resin or other suitable non-cellulose material. The bonding adhesive shall have no staining effect and shall be mildew resistant. The sheeting shall permit cutting and color processing at temperatures of 60 to 100° F at a relative humidity of twenty (20) to eight (80) percent. The sheeting shall be heat resistant and permit force curing of unapplied sheeting at temperatures up to 150° F and up to 200° F on applied sheeting. The sheeting surface shall be solvent resistant to gasoline, naphtha, mineral spirits, turpentine and methanol.

The reflective sheeting shall be applied to the face of the sign by an approved vacuum applicator using a combination of vacuum and heat, as recommended by the reflective sheeting manufacturer. After aging for forty-eight (48) hours, the adhesive shall produce a durable bond equal to or greater than the strength of the reflective sheeting. No air pocket or bubbles shall exist between the sheeting and the base material.

Repairs to damaged reflective sheeting due to poor workmanship or defective material will not be allowed. Defective items shall be replaced at no expense to the City.

Reflective sheeting screening coats shall be oven cured as recommended by the reflective sheeting manufacturer.

16-5 SPLICES - There shall be no splices in the reflective sheeting on panels with a minor dimension of forty-eight (48) inches or less. On all rectangular signs with a minor dimension of more than forty-eight (48) inches, the splice shall be horizontal.

No finished sign shall have more than one splice and no splice shall fall within two (2) inches of the sign edge. When splices do occur, the adjoining reflective sheeting shall be color matched under both incident and reflected light.

16-6 EDGE SEALING - The edges of each completed reflective sheeting sign face and of all cutout letters, numbers, arrows, symbols and borders shall be sealed in a manner and with a sealing solution as recommended by the manufacturer of the reflective sheeting.

16-7 FINISH - The finished sign shall be flat within a ratio of 0.04 inches per linear foot when measured across the plane of each panel from the opposite corners, or at any location on the panel. All finished signs shall have smooth flat surfaces without defects or objectionable marks of any kind on either the front or back faces.

All letters and designs shall be clearly cut and sharply defined, meeting State Standard Specifications.

16-8 LEGENDS - The legend shall be of high intensity cutout reflective sheeting applied in the same manner as the reflective sheeting specified herein.

16-9 MANUFACTURER'S IDENTIFICATION - The manufacturer's identification shall be according to the State of California Standard Specifications unless otherwise approved by the Engineer.

16-10 SIGN POSTS - Except as shown on the Contract Plans, all traffic signs shall be mounted at a height meeting State Specifications and traffic code standards and as shown on the Contract Plans. Sign posts shall be galvanized 1-2/4" Ulti-Mate square post systems or approved equal. Posts shall be installed using an Anchor-Mate anchor system, or approved equal, and driven into the ground a depth of 27 inches. Sign brackets shall have a twelve (12)-inch long channel, and signs shall be held in place using set screws. Posts and anchor systems may be available from Western highway Products, 714-761-4811 x254.

Unless otherwise shown on the Plans or specified in the Special Provisions, signs to be located in existing sidewalk or otherwise paved area may be placed by core-drilling the existing concrete or pavement. The drilled hole shall be six (6) inches minimum, and shall be backfilled with concrete or asphalt concrete to match the existing adjacent surface.

16-11 INSPECTION - All materials and finished signs are subject to inspection by the Engineer. The finished signs shall be clean and free from all router chatter marks, burrs, sharp edges, loose rivets, delaminated reflective sheeting and aluminum marks. Signs with any defects or damage that would affect their appearance or serviceability will not be accepted. No repairs shall be made to the face sheet without the approval of the City. All signs not conforming in all respects to the requirements of these specifications will be rejected and replaced at Contractor's cost.

16-12 REMOVAL AND RELOCATION OF EXISTING SIGNS - Traffic signs to be removed and reinstalled at a new location shall be as shown on the Contract Plans.

Existing mountings may be used; however, the Contractor shall furnish, at no additional expense to the City, additional mountings necessary to complete the reinstallation. Relocated signs shall be installed on new signposts unless shown otherwise on the Contract Plans. Unless otherwise directed by the Engineer, relocated signs shall be installed at the new location on the same day that they are removed from the existing location.

Any damage to an existing traffic control sign during removal and reinstallation shall be repaired by the Contractor at no expense to the City.

16-13 MEASUREMENT - The quantity of each type of sign shown in the bid proposal will be measured in units determined from actual count in place.

16-14 PAYMENT - The contract unit prices paid for the types of traffic signs shown in the bid proposal shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in furnishing and placing signs complete in place, including adhesives, backing, bolts, frames, posts, caps, concrete, and all other work as shown on the Contract Plans, as specified in these Specifications, and the Special Provisions, and as directed by the Engineer, and no additional payment shall be made therefor.