

**KANSAS DEPARTMENT OF TRANSPORTATION
 SPECIAL PROVISION TO THE
 STANDARD SPECIFICATIONS, EDITION 2015**

Delete SECTION 1621 and replace with the following:

SECTION 1621

STEEL SIGN POSTS

1621.1 DESCRIPTION

This specification governs steel posts intended for sign support and other various applications.

1621.2 REQUIREMENTS

a. General.

(1) Channel or ‘U’ Type. Provide posts that have the symmetrical cross section profile of a channel with flared and extended flanges as displayed in AASHTO M 281 for the channel or 'U' type post cross section with a cross section that is uniform throughout the post length. The post length(s), weight per unit length, and specific fabrication requirements are as specified in the Contract Documents.

Perforate the web center of the post with 3/8-inch diameter holes on one-inch centers initiating at one inch from one end of the post relative to the first hole center. Perforate the post not less than 36% of the post length for posts up to 11 feet in length and not less than 50% of the length for posts of 11 feet or greater in length. Perforating the total length of the post is permitted. The method of perforation is at the discretion of the post manufacturer; however, the holes must be uniform in diameter, de-burred, and smooth sided. Perform all perforating and machining operations prior to application of the corrosion protection coating.

Provide posts with steel weight per unit length for posts of either 2.0 lb/ft or 3.0 lb/ft, as specified in the Contract Documents. The tolerance on this requirement is -3, +10%. It is preferable that the weight per unit length be determined on non-perforated, non-coated posts. If this is not possible or practical, the unit length mass may be near the lower end of the tolerance band. Compensate for any coating that is present during determination of the unit length weight.

(2) Perforated Square Steel Tube (PSST). Provide posts, post anchors and anchor sleeves that have a square cross section which is uniform throughout the post length and having dimensions shown on the Contract Documents.

Perforate the total length (all four sides) of sign posts, post anchors, and anchor sleeves with 7/16-inch diameter holes on one-inch centers initiating one inch from one end of the post relative to the first hole center. Embossed rings or die-cut knockouts are an acceptable substitute for perforated holes. The method of perforation is at the discretion of the post manufacturer; however, the holes must be uniform in diameter, de-burred, and smooth sided. Perform all perforating, cutting, and machining operations prior to application of the clear, colorless corrosion protection coating.

b. Material Specifications.

(1) Channel or ‘U’ Type. The selection of the steel for production of the posts is at the discretion of the post manufacturer. However, the finished product must comply with **TABLE 1621-1**. The moment of inertia values shown in **TABLE 1621-1** assume an uncoated section measured about the “X-X” centroidal axis and oriented either Π or Π .

TABLE 1621-1: MOMENT OF INERTIA REQUIREMENTS – CHANNEL OR ‘U’ TYPE		
Post Weight per Unit Length (lbs/ft)	Moment of Inertia (in⁴) Range of Acceptable Values	
	Perforated	Non-Perforated
2.0	0.095 to 0.185	0.100 to 0.205
3.0	0.160 to 0.380	0.175 to 0.420

After all production operations have been completed, protect posts from corrosion by application of a zinc coating using a hot-dip galvanizing (HDG) process conforming to ASTM A 123, Coating Grade 85.

(2) Perforated Square Steel Tube (PSST). Manufacture 12 and 14 gauge posts, post anchors and anchor sleeves sized from 1 3/4" through 2 1/2" square, from zinc-coated steel sheet that conforms to the requirements of ASTM A 653 SS Grade 50 Class 1, coating designation G90 (total both sides). Manufacture 7 gauge, 3' square post anchors from zinc-coated steel sheet that meets or exceeds the requirements of ASTM A446 Grade A with galvanizing conforming to ASTM A525 designation G-90.

1621.3 TEST METHODS

Conduct all tests required through **subsection 1621.2** and by the applicable ASTM specifications of **subsection 1621.2**. Coating thickness may be measured by any one of the methods specified in ASTM B 633 and by eddy current methods, ASTM B 244, provided that appropriate calibration procedures and standards have been applied. The magnetic induction and eddy current methods are nondestructive in nature and are preferred. Destructive techniques, i.e., coating removal, may be utilized as referee methods.

1621.4 PREQUALIFICATION

Not applicable.

1621.5 BASIS OF ACCEPTANCE

Channel or 'U' type. Submit for approval a Type A certification, as specified in **DIVISION 2600**, that show compliance with the physical and chemical requirements of A 1075, Grade 60 and the coating requirements of A 123, Coating Grade 85. In addition, provide product literature which shows conformance with the unit weight requirements of **subsection 1621.2a.(1)** and the moment of inertia values shown in **TABLE 1621-1**. The literature must clearly state whether the values are based on a perforated or non-perforated section.

Perforated Square Steel Tube (PSST). Submit for approval a Type A certification, as specified in **DIVISION 2600**, covering the steel and the zinc coating referenced in **subsection 1621.2b.(2)**.

Inspection of posts, including applicable anchor pieces, by field personnel for compliance with dimensional requirements and for the quality of the zinc and clear corrosion protection coatings.

The final disposition of all posts will be completed at the final destination as the result of inspection for the quality of workmanship and the delivery condition.