

**KANSAS DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION TO THE  
STANDARD SPECIFICATIONS, 2007 EDITION**

**SECTION 812**

**PERMANENT SIGNING**

**Page 800-30, subsection 812.1, add the following bid items:**

<u>BID ITEM</u>	<u>UNITS</u>
Sign Post Square Coupler (*)	Each
Sign Post Footing (Sign Post Square Coupler) (*)	Each

\*Size: 2 ¼ inches

**Page 800-30, subsection 812.2a.(1). Add the following:**

If allowed, provide expanded foam foundations according to **DIVISION 1700**.

**Page 800-31, subsection 812.2b.(3). Replace the first paragraph with the following:**

(3) Flat Sheet Sign Blank and Reinforced Panel Preparations. After fabrication, prepare the metal for sheeting application using a Class 2 conversion coating according to ASTM B 921, "Standard Specification for Non-hexavalent Chromium Conversion Coatings on Aluminum and Aluminum Alloys".

**Page 800-31, subsection 812.2. Delete subsection 812.2b.(7) and replace with the following:**

(7) Sign Identification. Install a clear or light colored, pressure sensitive decal with a printed (not handwritten) black legend on the back of each sign, including the following information:

Sign Number .....(by sign fabricator)  
Erection Date .....(by sign installer) (month-day-year)\*  
\*A punch-out-the-date option may be used.

Locate the legend horizontally, vertically or diagonally along the bottom or right edge of the sign in a position that is not covered up when the sign is installed.

On a sign with an area of less than 16 square feet, the legend shall be a minimum of ½ inch in height. On a sign with an area of 16 square feet or more, the legend shall be a minimum of 1 inch in height.

**Page 800-32, add the following subsection 812.2b.(12):**

(12) Fabrication of Sign Post Square Couplers. Fabricate the sign post square coupler as shown in the Contract Documents.

**Page 800-33, add the following subsection 812.3d.(1)(d):**

(d) Install the sign post square coupler footings plumb as shown in the Contract Documents and according to the manufacturer's instructions. Do not damage the galvanized coating during installation or alter the cross-sectional dimensions of the anchor extension. Remove and replace any footing damaged during the sign post square coupler or the perforated square steel tube installation.

**Page 800-33, add the following subsection 812.3d.(1)(e).**

(e) Expanded Foam Foundations. Expanded Foam Foundations may be used on Sign Post (4" x 6"), Sign Post (4" x 6" Wood) (\*2), and Sign Post (\*5 Perforated Square Steel Tube). The post hole must be dry or damp with no standing water. Install the foam foundation and post according to the manufacturer's instructions.

**Page 800-33, add the following subsection 812.3d.(2)(f):**

(f) Assemble the sign post square couplers according to the manufacturer's instructions.

**Page 800-34, subsection 812.4, add the following after the 4<sup>th</sup> paragraph:**

The Engineer will measure each sign post square coupler and sign post coupler footing.

**Add a new SECTION in DIVISION 1700:**

**EXPANDED FOAM FOUNDATION MATERIAL FOR SIGN POSTS**

**1.0 DESCRIPTION**

This specification covers expanded foam backfill used for setting sign posts. The rigid polyurethane foam is shipped in two parts and mixed on site. Soon after mixing the two components, the product expands in volume and conforms to the shape of the excavation. Reaction and cure times vary with component temperature.

**2.0 REQUIREMENTS**

- a. Store, handle, and mix according to the manufacturer's instructions.
- b. Provide material complying with **TABLE 1**:

<b>TABLE 1: PROPERTIES OF CURED PRODUCT</b>		
<b>Property</b>	<b>Test Method</b>	<b>Requirement</b>
Shear Strength, min.	ASTM D 732	70 psi
Compressive Strength, min.	ASMT D 1621	165 psi
Density <sup>1</sup> , min.	ASTM D 1622	8.5 pcf
Tensile Strength <sup>1</sup> , min.	ASTM D 1623, Type A	150 psi

<sup>1</sup>minimum of five test specimens

**3.0 TEST METHODS**

Test as specified in **subsection 2.0**.

**4.0 PREQUALIFICATION**

a. Manufacturers interested in prequalifying material must submit the following to the Bureau of Materials and Research:

- (1) A complete description, literature, and set of instructions and recommendations,
- (2) A copy of test results performed as outlined in **subsection 2.0**,
- (3) Certificate stating results comply with the values outlined in **subsection 2.0** and are from tests of material that has essentially the same chemistry and mechanical properties as that submitted for FHWA acceptance,
- (4) A copy of the Federal Highway Administration (FHWA) letter accepting the product as foundation material for use with certain sign post systems,
- (5) Material Safety Data Sheets (MSDS).

**b.** The Bureau of Materials and Research will maintain a list of qualified materials. Products will remain on the list as long as field performance is satisfactory.

**5.0 BASIS OF ACCEPTANCE**

Prequalification as specified in **subsection 4.0**.

Receipt and approval of a Type C certification as specified in **DIVISION 2600**.

Receipt and approval of a certification from the manufacturer stating the furnished material has essentially the same chemistry and mechanical properties as that submitted for FHWA acceptance, and complies with the crashworthiness requirements of FHWA and National Cooperative Highway Research Program (NCHRP) Report 350.

Visual inspection by the Field Engineer.

03-29-11

Jul-11 Letting