



Iowa Department of Transportation

SPECIAL PROVISIONS FOR EXPANSION JOINT (IMPREGNATED FOAM)

Scott County
IMN-074-1(196)5--0E-82

Effective Date
January 21, 2015

THE STANDARD SPECIFICATIONS, SERIES 2012 ARE AMENDED BY THE FOLLOWING ADDITIONS AND MODIFICATIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120248.01 DESCRIPTION.

This item shall include furnishing and installation of watertight expansion joints in accordance with the details shown on the plans and these special provisions. Expansion joints shall consist of an impregnated expanding foam core with a factory applied silicone facing and an epoxy adhesive primer.

120248.02 MATERIALS.

A. Foam Sealant.

Provide a foam sealant consisting of micro-cell high density polyurethane foam impregnated with hydrophobic polymer. Foam sealant shall be pre-compressed prior to packaging. The pre-compressed dimension shall be as recommended by the sealant manufacturer to provide a watertight seal throughout a joint movement range of +/-25% (minimum) from the specified joint opening dimension. In no case shall the pre-compressed dimension exceed 75% of the nominal joint opening width.

Foam sealant shall be ultra-violet and ozone resistant, and meet the following physical requirements:

| <u>PROPERTY</u> | <u>TEST METHOD</u> | <u>REQUIREMENTS</u> |
|--|--------------------|--------------------------|
| Tensile Strength | ASTM D3574 | 21 PSI min. |
| Elongation, Ultimate | ASTM D3574 | 125% +/-20% |
| Density, Uncompressed | | 9 lb./cu.ft min. |
| Compressed Density at Joint Width | | 45 lb./cu.ft. min. |
| Compression Set | ASTM D3574 | 3% max. |
| Softening Point | ASTM D816 | 140°F. min. |
| Low Temperature Flexibility 32°F to -10°F | ASTM C711 | No Cracking or Splitting |

B. Silicone External Facing.

External facing shall be factory applied highway grade fuel resistant silicone.

C. Bonding Adhesive.

Provide a watertight epoxy adhesive primer that is compatible with concrete and steel and recommended by the manufacturer of the foam sealant.

D. Joint Splicing.

Splicing of foam joint segments shall per the manufacturer's recommendations and using a manufacturer approved adhesive.

E. Manufacturers.

The following manufacturers are capable of supplying Impregnated Foam Expansion Joints that meet these criteria. Requests for substitutions for the above shall be approved by the Engineer.

1. BEJS by EM Seal Joint Systems, Ltd.

25 Bridle Lane
Westborough, MA 01581
Tel.: 508-836-0280
Fax: 508-836-0281
www.emseal.com

2. Sealtite 50N by Schul International Co. LLC

One Industrial Road
Pelham, NH 03076
Tel.: 800-848-1120
Fax: 800-998-9105
www.schul.com

3. Wabo HSeal by Watson Bowman Acme Corp.

95 Pineview Drive
Amherst, NY 14228
Tel.: 716-691-7566
Fax: 716-691-9239
www.wbacorp.com

120248.03 CONSTRUCTION.

- A.** Prior to joint material installation, store foam joint material in a dry enclosed area, off the ground and out of direct sunlight.
- B.** Thoroughly clean the surfaces to be sealed. Surfaces shall be dry and free of oil, grease, rust and other foreign material.
- C.** Install the Impregnated Foam seals per the manufacturer's recommendations using the epoxy adhesive primer as a lubricant during installation and a bonding agent upon drying. A company representative shall be on site during the installation of at least one full joint to demonstrate surface preparation, installation and joint splicing procedures.

120248.04 METHOD OF MEASUREMENT.

The work of furnishing and installing Impregnated Foam Expansion Joints will be based on plan quantities and will not be measured.

120248.05 BASIS OF PAYMENT.

For the number of linear feet of Expansion Joint (Impregnated Foam) shown on the plans, the Contractor will be paid the contract unit price per linear foot. This payment shall be full compensation for all labor, materials, equipment, and incidentals necessary to perform the work of this section.