

## **STRIP SEAL EXPANSION JOINTS**

### **I. General**

- A. This item consists of furnishing and installing strip seal expansion joints in accordance with the contract plans, this specification, and the manufacturer's recommendations.
- B. Acceptable manufacturers of the strip seal expansion joints and the appropriate model of the system shall be:
  - 1. Steelflex® SSCM2  
The D. S. Brown Company  
300 E. Cherry Street  
North Baltimore, OH 45872  
Tel: 419/257-3561
  - 2.
  - 3.

\*No other alternates will be allowed.

### **II. Steel Retainer Rails**

- A. All steel retainer rails shall be ASTM A 588 or A 36 steel.
- B. Retainer rails welded together in any manner to gain their final shape are not allowable. Only steel retainer rails of one-piece construction will be permitted under this condition.

### **III. Fabrication**

- A. Fabrication of the strip seal expansion joint shall be performed by an AISC certified fabricator. All welding shall be performed in accordance with the state standard specifications and D-1.5 of the AWS welding code. In the event of conflict between these two authorities, the AWS welding code shall govern.
- B. Welding procedures shall be submitted with shop drawings pursuant to Section IV of this specification. The welding procedures shall identify in detail the procedures to be performed in fabricating the joint.
- C. All steel surfaces not embedded in concrete shall be treated for corrosion protection in accordance with the standard state specification. Backer rod shall be placed in the rail's seal cavity if painting is required.

#### **IV. Shop Drawings**

- A. The strip seal expansion joint manufacturer shall submit shop drawings for approval prior to fabrication. The shop drawings shall detail all dimensions, anchorages, welding procedures, and other data necessary to fabricate the joint.

The shop drawings shall explicitly set forth the recommended means by which the strip seal expansion joint is to be aligned and set to grade. The contractor shall strictly follow the manufacturer's recommendation as set forth in the shop drawings for setting the joint.

#### **V. Shipment**

- A. The neoprene gland will be shipped concurrent with the steel retainer rails and will be clearly identified as to the joint location corresponding to the gland. The contractor shall be responsible for installing the neoprene gland in the field. A complete chart of physical properties is on Page 4.

#### **VI. Installation**

- A. The contractor shall follow the manufacturer's installation instructions as set forth in the shop drawings and other published literature.
- B. Polyurethane backer rod shall be placed in the seal cavity of the steel retainer rails by the contractor prior to pouring concrete. The backer rod will remain in place until such time as the joint has been placed and the final concrete pour has been made.

#### **VII. Measurement and Payment**

- A. Strip seal expansion joints shall be measured as the distance along the center line of the joint and paid for at the contract unit price per linear foot. The bid item shall include all necessary anchorage and coverplates as detailed in the plans, miscellaneous steel, hardware, and labor required to complete the item.

## VIII. Neoprene Gland

- A. The sealing element shall be an extruded synthetic rubber utilizing virgin polychloroprene (neoprene) as the only polymer. The gland shall be tested and certified by the manufacturer to obtain the following properties:

### Gland Specification

#### MATERIAL – POLYCHLOROPRENE

PROPERTY	REQUIREMENT	METHOD
Tensile Strength, Min., psi (Mpa)	2000 (13.8)	D-412-62T
Elongation at break, Min.	250%	D-412-51T
Hardness, Durometer A	60 ±5	D-2240 Modified
Ozone Resistance, 20% elongation 300 pphm 104°F (40°C) (70 hrs.) Wipe surfaces with solvent to remove contamination.	No cracks	D-1149
Heat Aging 70 hours @212°F (100°C) Tensile Strength, Max. % decrease Elongation, Max. % decrease Hardness, Max. change	20 20 + 10/-0	D-573
Oil Swell, ASTM Oil #3 70 hours @212°F (100°C) Max. weight increase	45%	D-471
Compression Set, 70 hours @212°F (100°C)	40% max.	D-395 (B)
Low Temperature	Not Brittle	D-746
Low Temperature Stiffening 7 Days @ +14°F (-10°C) Hardness Type A Durometer, Points Change	0 to + 15	

- B. The gland shall be prefabricated in the shop to fit the final dimensions of the joint as it occurs in the roadway. No field splices will be permitted.

Except as otherwise allowed in this paragraph, the neoprene gland shall be shipped from the factory as one continuous piece. Molded shop splices, if any, for horizontal and vertical turns will be at the discretion of the manufacturer of the strip seal expansion joint system.