

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENTAL SPECIFICATION 949
PREFORMED POLYCHLOROPRENE ELASTOMERIC
JOINT SEALS FOR STRUCTURAL STEEL JOINTS**

June 14, 1995

949.01 Description. This specification covers the materials for elastomeric compression seals for bridge deck joints either armored with or composed of structural steel.

949.02 Materials. Compression seals shall be composed of an extruded vulcanized elastomeric virgin polychloroprene material and shall conform to the pertinent provisions of ASTM D 3542 except that specimens for the low temperature recovery test shall be lightly dusted with talc on the outside surfaces only. Adhesive shall be Sikastix 323 by the Sika Chemical Corporation of Lyndhurst, New Jersey; Fel-Poxy FP-101 by the Felt Products Manufacturing Company of Skokie, Illinois; Mark-184 by Poly-Carb of Solon, Ohio; or an approved equivalent.

949.03 General Requirements. Seals shall be high compression type elastomeric compression seals with internal webbing and a single 'V' notch in the bottom. The Contractor shall indicate on the shop drawing the manufacturer and part number of the seal to be furnished.

Seals for bridge deck joints shall be furnished in one continuous piece unless a shop fabricated splice, field splice, or field butt joint is indicated on the plans or approved by the Director.

The seal fabricator shall furnish closure devices vulcanized to the ends of all deck joint seals. These devices shall be designed to prevent the entrance of precipitation, surface drainage and roadway debris into the seals. Such devices shall not be detrimental to the compressive behavior of the seals. The closure devices shall be designed to ventilate all seal compartments.

When required, the adequacy of closure devices shall be established by a simulation test. A sample compression seal with a closure device attached to each end shall be capable of withstanding 500 cycles of compression at $21^{\circ}\text{C} \pm 6^{\circ}\text{C}$ ($70 \pm 10^{\circ}\text{F}$), within a 24-hour period, without visible distress to the seal, closure devices or the bond between them. In each cycle, the sample shall be compressed from 20 to 60 percent of the nominal seal width.

Compression seals for deck joints having sharp changes in alignment shall be made by mitering and splicing. However, subject to the approval of the Director, sharp changes in the vertical alignment may be made by a combination of cutting and hole

drilling the seal. Where seals are miter-spliced to fit deck joints, seal dimensions shall be verified by templates which match the dimensions of the steel portions of the joint or by shop assembly of the seals with the steel portions of the joints.

At each seal miter splice, a sufficient length of internal webbing on each side of the splice shall be removed and replaced with a single snug fitting piece of closed cell foam reinforcement. Foam inserts and the adhesive used for bonding the inserts and seal elements together shall be as recommended by the seal manufacturer. The splicing adhesive and the closed cell foam shall be compatible with the other materials specified herein, and they shall be compounded to furnish similar compressive resistance and durability characteristics.

Completed splices shall have no offsets on exterior surface. After installation there shall be no evidence of bond failure at the splices.

Seals other than straight seals without intermediate splices shall be shop fabricated in accordance with approved shop drawings. Shop drawing dimensions for existing joints, or for joints which are being modified, shall be based on field measurements provided by the Contractor.

949.04 Sampling and Testing. Each lot of compression seals shall be tested by an independent laboratory to ensure compliance with these provisions. Two certified copies of the qualification test data indicating that the tested materials comply with these provisions shall be submitted to the Laboratory. Sampling, when requested, shall be in accordance with 106.03 except that where compression seals are to be fabricated according to plan requirements, seal samples shall be made available prior to fabrication. The sample from each lot and for each project shall be one piece, one meter (three feet) long.

Material acceptance will be based upon Laboratory evaluation of certified test data, Laboratory test of sampled material, or the evaluation of both certified test data and tested samples.