

724-B-309 PRE-COMPRESSED FOAM JOINT

(Adopted 06-20-19)

Description

This work shall consist of removal of the existing expansion joint, if applicable, and furnishing and placing the new pre-compressed foam joint as shown on the plans and in accordance with 105.03.

Materials

Materials shall be in accordance with the following:

- Bridge Deck Patching Concrete.....722
- Rapid Set Patching Materials.....901.07

Pre-compressed foam joint and ancillary items associated with this item shall be supplied by one of the following:

EMSEAL
 25 Bridle Lane
 Westborough, MA 01581
www.emseal.com

FPT Infrastructure
 401 Old US 52 South
 Mount Airy, NC 27030
www.fptinfrastructure.com

LymTal International, Inc.
 4150 South Lapeer Road
 Lake Orion, MI 48359
www.lymtal.com

Silicone Specialties, Inc.
 P.O. Box 50009
 Tulsa, OK 74150
www.ssicm.com

Watson Bowman Acme Corporation
 95 Pineview Drive
 Amherst, NY 14228
www.wbacorp.com

Willseal, LLC
 34 Executive Drive
 Hudson, NH 03051
www.willseal.com

The joint shall be a micro cell, UV stable, hydrophobic or acrylic impregnated foam seal factory coated with traffic grade, fuel resistant silicone. The joint shall be rated as stable, per ASTM C 711, through a temperature range of -40°F to 185°F. The compatibility of the joint materials and the substrate materials shall be certified by the joint manufacturer.

The joint seal shall be sized to accommodate the anticipated thermal movement range shown on the plans. The nominal joint size shall meet or exceed the existing joint mean opening size at 60°F as shown on the plans.

The joint seal epoxy adhesive and silicone sealant shall be in accordance with the joint seal manufacturer's recommendations.

A Type C certification in accordance with 916, including the vendor name, product names, and a statement certifying the compatibility of the joint material and the substrate, shall be furnished for the joint.

Construction Requirements

The location and general appearance of the installed joint shall be as shown on the plans. The joint manufacturer shall prepare and submit working drawings in accordance with 105.02. Where bridge joint nosing is required, working drawings shall be submitted concurrently with the nosing working drawings. The working drawings shall include details of the assembly, the manufacturer's installation instructions, installation details, manufacturer's joint and adhesive specifications, and joint setting widths for ambient temperatures between 40°F and 100°F. For joints constructed in phases, the joint width for the initial phase shall be established in accordance with the joint setting table. The joint width for each subsequent phase shall be equal to the field measurement of the joint constructed in the initial phase taken at the time of the subsequent phase joint construction.

A qualified representative of the joint manufacturer shall be present at the beginning of the work to ensure adequate workmanship and inspection of the joint installation.

Where an existing joint is to be replaced, the existing joint and adjacent concrete shall be removed to the limits shown on the plans. Additional concrete removal to ensure sound concrete adjacent to the joint area shall be as directed. Patching of adjacent concrete shall use bridge deck patching concrete or rapid setting patching materials.

The Contractor shall measure the existing opening perpendicular to the centerline of the joint to determine the installation opening. Using this information and movement and mean opening size from the plans, the manufacturer shall select a specific joint model for the size.

The joint area shall be cleaned as specified herein and in accordance with the manufacturer's guidance. Existing surfaces that will be in contact with the new joint shall be sandblasted and cleaned of all old joint seals, old materials or devices, bituminous material, dirt, grease, and all other deleterious material over the total area of the opening to receive the new joint in accordance with the manufacturer's recommendations. All areas to be in contact with the new joint shall be sound, clean, dry, and frost free. The use of heat will not be allowed to dry the adjacent surfaces.

The joint shall be adhered to the substrate with a field applied epoxy adhesive. Adhesives shall be used in accordance with the joint manufacturer's recommendations. All excess adhesive shall be removed before it has set. The epoxy material shall be stored, mixed, and placed in accordance with the manufacturer's recommendations.

Joints shall be inspected for proper depth, width, alignment and preparation as shown on the plans. The joint shall be installed when the temperature is within the allowable range stated in the

manufacturer's instructions, but not less than 40°F. Final adjustment of the seal shall be made as directed at the time of installation. All movement due to such factors as shrinkage, creep and deflection shall be accounted for prior to this final adjustment.

Prior to the epoxy curing, the Contractor shall force the tip of the silicone sealant between the substrate and the joint, and inject a corner bead of silicone sealant along the entire length of the joint. The Contractor shall tool the silicone sealant to blend with the substrate and silicone coating of the joint.

Method of Measurement

The pre-compressed foam joint will be measured by the linear foot along the joint. Patching of existing concrete as shown on the plans and as required by the Engineer will be measured by the square foot of actual surface area of patching. Individual areas of less than 1 sq ft in area will be considered as 1 sq ft. Areas greater than 1 sq ft will be recorded as the actual measurement of the repaired area to the nearest 0.1 sq ft.

Removal of the existing joint, removal of the concrete adjacent to the joint, epoxy adhesive, silicone sealant, and all other materials used in the installation of the joint will not be measured for payment.

Basis of Payment

The accepted quantities of pre-compressed foam joint will be paid for at the contract unit price per linear foot, complete in place. The cost of concrete for patching structural expansion joint areas as shown on the plans and as directed by the Engineer will be paid for at the contract unit price per square foot.

Payment will be made under:

Pay Item	Pay Unit Symbol
Concrete for Patching Structural Expansion Joint.....	SFT
Pre-Compressed Foam Joint.....	LFT

Areas where patching concrete for structural expansion joints exceeds an average of 4 in. in depth will be paid for at a price calculated by means of multiplying the contract unit price for the respective item by the following factors:

- (a) for portions thereof whose average depth is greater than 4 in. but less than 6 in.....1.25
- (b) for portions thereof whose average depth is greater than or equal to 6 in. but less than 8 in.....1.50
- (c) for all portions thereof whose average depth is 8 in. or greater, the work shall be done as extra work. Payment will be made in accordance with 104.03.

The cost of existing joint removal, epoxy adhesive, silicone sealant, and all other materials shall be included in the cost of the pre-compressed foam joint pay item.

The cost of removing the existing concrete, furnishing, hauling, and placing all materials, preparing the surface, and all necessary incidentals shall be included in the pay items in this section.

The cost of replacing damaged reinforcement shall be included in the cost of patching concrete structures. The cost of supplemental reinforcing bars and mechanical anchors shall be included in the pay items in this section.
