

PART 1 – GENERAL

1.01 Summary

- A. The work shall consist of furnishing and installing expansion joints in accordance with the details shown on the plans and the requirements of the specifications. The joints are proprietary designs utilizing polyurethane foam impregnated with a waterproof polymer.
- B. Related Work
 - Masonry
 - Precast concrete
 - Cast-in-place concrete
 - Curtain Walls
 - Metal Cladding
 - Sealants and caulking
 - Exterior insulation and finish systems

1.02 Submittals

- A. Template Drawings - Submit typical expansion joint cross-section(s) indicating pertinent dimensioning of opening, profile recess and adjacent construction.

1.03 Product Delivery, Storage and Handling

- A. Deliver products in each manufacturer's original, intact, labeled containers and store under cover in a dry location until installed. Store off the ground, protect from weather and construction activities.

1.04 Acceptable Manufacturer

- A. All joints shall be as designed and manufactured by EMS, Inc., 13311 Main Road, Akron, New York 14001.
- B. Alternate manufacturers and their products will be considered, provided they meet the design concept and are produced of materials that are equal to or superior to those called for in the base product specification.
- C. Any proposed alternate systems must be submitted and receive approval 21 days prior to the bid. All post bid submittals will not be considered. This submission shall be in accordance with MATERIALS AND SUBSTITUTIONS.

Any manufacturer wishing to submit for prior approval must provide the following:

1. A working 6" sample of the proposed system with a letter describing how system is considered superior to the specified system.
2. A project proposal drawing that illustrates the recommended alternate system installed in the vertical/horizontal construction that is specific to the project. Typical catalog cut sections will not be considered.
3. Any substitution products not adhering to all specification requirements within will not be considered.

1.05 Quality Assurance

- A. Manufacturer: Shall have a minimum of ten (10) years of experience specializing in the design and manufacture of expansion joint systems.

PART 2 - PRODUCT

2.01 General

- A. Provide flexible profile manufactured from open-cell polyether urethane foam with a factory applied silicone coating designed to provide protection against moisture and water intrusion on vertical/horizontal surfaces. Profile shall be capable of providing a minimum of plus or minus 50% building movement and accommodate moderate variations in width of opening, complex directional change transitions, and resist ultraviolet degradation. Profile shall be installed with the use of supplied two-part epoxy adhesive.

Provide Pre-Compressed Foam Seal, Model CSPR as manufactured by EMS, Inc. and as indicated on drawings for vertical/horizontal expansion joint locations.

2.02 Materials

- A. Foam - Profile shall be pre-formed and manufactured from a polyurethane impregnated with a waterproof polymer sealing compound that meets ASTM 518, ASTM 283 and DIN 18542. The profile shall meet the requirements of the properties listed in the table below.

<u>Physical Properties</u>	<u>Test Method</u>	<u>Results</u>
Density, lb/ft ³		10
Thermal Conductivity		0.05
W/m.°C Temperature Stability Range		-40°F to
212°F Tensile Strength	ASTM 3574	21 psi Min.
Ultimate Elongation	ASTM 3574	ASTM 3574 125% ±20%
Resistance to Compression Set		Max
2.5% Shear Strength		Min.
8N/cm ²		
Mildew Resistance		Excellent
Staining		None
Flammability Self-Extinguishing	UL 94VO Meets CAL 117	Self Extinguishing
Flash Point		590°F/310°C
Durometer Hardness	ASTM D2240	Shore A5 pts.

- B. Coated Surface – Is a unique one part, non-sag, tamper resistant elastomeric STPU (silyl-terminated polyurethane) designed to achieve high tensile and tear strengths. As a result, this rugged but flexible sealant is ideally suited for use in institutional and correctional complex security installations but performs equally well in other public buildings and facilities where ordinary sealants are easily damaged or torn out by idle tampering and acts of vandalism. Meets Federal Specification TT-S-00230C, Type II, Class B and ASTM C-920-98, Type S, Grade NS, Class 12.5. The coated surface shall meet the requirements of the properties listed in the table below.

<u>Test Property</u>	<u>Value</u>	<u>Test Procedure</u>
1/4" Cure Through (hours)	48	Pecora Corporation
Adhesion to Concrete (pli)	35	ASTM C794
Elongation, ultimate (%)	225	ASTM D412
Hardness, Shore A Ultimate*	55+5	ASTM C661
Tack Free Time (minutes)	90	ASTM C679
Tear Strength (ppi)	40+5	ASTM D624
Tensile Strength, ultimate (psi)	250	ASTM D412
VOC Content (g/L)	15	ASTM D3960

2.03 Fabrication

- A. Seal profile shall be shipped in nominal five-foot standard lengths in manufacturer's standard shipping carton. Seals shall be cut to length on jobsite where required for straight lengths or directional change transitions utilizing appropriate tools, saws and miter boxes. All cuts shall be accurately measured and completed in a neat and workmanlike manner to ensure quality work.

2.04 Finishes

- A. Seals - Standard color offering: Limestone and Tru-White

PART 3 - EXECUTION

3.01 Installation

- A. Where indicated and noted on the contract drawings, install seal profiles in a neat workmanlike manner. All surfaces to receive seals shall be free from dirt, water, frost, and any loose foreign debris that may be detrimental to effective joint sealing.
- B. Installation contractor shall verify that seal profile is to be installed in the proper width opening for the appropriate temperature at time of installation. Variations in width or incorrect opening that may affect proper installation and product performance shall be brought to the attention of the architect and product manufacturer prior to installation.
- C. Install seal profiles in strict accordance with the manufacturer's typical details and installation procedure in conjunction with the advice of their qualified representative.

3.02 Clean and Protect

- A. Protect seal profile during construction. After work has been completed in adjacent areas, clean exposed surfaces with a mild cleaner that will not harm or attack the silicone coating.

END OF SECTION