

**SECTION 07 95 13**  
**EXPANSION JOINT COVER ASSEMBLIES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Section specifies floor, wall and ceiling seismic and building expansion joint assemblies.
- B. Types of assemblies:
  - 1. Preformed, Pre-Compresses, Self-Expanding, Sealant System with Silicone Pre-Coated Surface, Watertight, Energy-Efficient, Exterior Above Grade Wall Joints
  - 2. Watertight, Roof Expansion Joint System

**1.2 RELATED WORK**

- A. Membrane roofing: Section 07 53 23 ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING
- B. Sheet Metal Expansion Joint Seals: Section 07 60 00, FLASHING AND SHEET METAL.
- C. Metal roofing: Section 07 61 00 STANDING SEAM SHEET METAL ROOFING
- D. Roof Expansion Joint Cover Assemblies: Section 07 72 00, ROOF ACCESSORIES.
- E. Color of Elastomer Inserts, Filler Strips, Exterior Wall Seals and Metal Finishes: Section 09 06 00, SCHEDULE FOR FINISHES

**1.3 QUALITY ASSURANCE**

- A. Project Conditions:
  - 1. Check actual locations of walls and other construction, to which work must fit, by accurate field measurements before fabrication.
  - 2. Show recorded measurements on final shop drawings.
- B. Fire tests performed by Factory Mutual, Underwriters Laboratories, Inc., Warnock Hersey or other approved independent testing laboratory.
- C. Exterior Wall Expansion Joint Assemblies:
  - 1. All products shall be certified in writing to be: a) capable of withstanding 150°F (65°C) for 3 hours while compressed down to the minimum of movement capability dimension of the basis of design product (-50% of nominal material size) without evidence of any bleeding of impregnation medium from the material; and b) that the same material after the heat stability test and after first being cooled to room temperature will subsequently self-expand to the maximum of movement capability dimension of the basis-of-design

product (+50% of nominal material size) within 24 hours at room temperature 68°F (20°C).

D. Roof Expansion Joint Assemblies:

1. Roof expansion joints shall withstand exposure to weather, remain watertight, and resist the movements indicated without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
2. Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint seals, failure of connections, and other detrimental effects.

E. Expansion joints to be installed by the contractor responsible for installing the roof waterproofing system.

**1.4 DELIVERY STORAGE AND HANDLING**

- A. Take care in handling of materials so as not to injure finished surface and components.
- B. Store materials under cover in a dry and clean location off the ground.
- C. Remove materials which are damaged or otherwise not suitable for installation from job site and replace with acceptable materials.
- D. Deliver products to site in Manufacturer's original, intact, labeled containers. Handle and protect as necessary to prevent damage or deterioration during shipment, handling and storage. Store in accordance with manufacturer's installation instructions.

**1.5 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
  1. Submit copies of manufacturer's current literature and data for each item specified.
  2. Clearly indicate movement capability of cover assemblies and suitability of material used in exterior seals for ultraviolet exposure.
- C. Certificates: Material test reports from approved independent testing laboratory indicating and interpreting test results relative to compliance of fire-rated expansion joint assemblies with requirements specified.

D. Shop Drawings:

1. Showing full extent of expansion joint cover assemblies; include large-scale details indicating profiles of each type of expansion joint cover assembly, splice joints between sections, joiners with other type assemblies, special end conditions, anchorages, fasteners, and relationship to adjoining work and finishes.
2. Include description of materials and finishes and installation instructions.

E. Samples:

1. Samples of each type and color of flexible seal used in work.

**1.6 APPLICABLE PUBLICATIONS**

- A. Publications listed form part of this specification to extent referenced. Publications are referred to in text by basic designation only.

B. American Society for Testing and Materials (ASTM):

- B209M-07.....Aluminum and Aluminum-Alloy Sheet and Plate  
(Metric)
- B221M-08.....Aluminum and Aluminum-Alloy Extruded Bars,  
Rods, Wire, Shapes, and Tubes (Metric)
- C864-05.....Dense Elastomeric Compression Seal Gaskets,  
Setting Blocks, and Spacers
- C920-11.....Elastomeric Joint Sealants
- D1187-97 (R2002).....Asphalt Base Emulsions for Use as Protective  
Coatings for Metal
- D2287-96 (R2010).....Non-rigid Vinyl Chloride Polymer and Copolymer  
Molding and Extrusion Compounds
- E119-10.....Fire Tests of Building Construction and  
Materials
- E814-11.....Fire Tests of Through-Penetration Fire Stops
- C. Federal Specifications (Fed. Spec):
- TT-P-645B.....Primer, Paint, Zinc-Molybdate, Alkyd Type
- D. The National Association of Architectural Metal Manufacturers (NAAMM):
- AMP 500 Series.....Metal Finishes Manual.
- E. National Fire Protection Association (NFPA):
- 251-06.....Tests of Fire Endurance of Building  
Construction and Materials

F. Underwriters Laboratories Inc. (UL):

263-11.....Fire Tests of Building Construction and  
Materials

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Cellular Foam Seals: Extruded, compressible foam designed to function under compression
- B. Elastomeric Sealant:
  - 1. ASTM C920, polyurethane.
  - 2. Type.
  - 3. Class 25.
  - 4. Grade P or NS.
  - 5. Shore A hardness 25, unless specified otherwise.
- C. Thermoplastic Rubber:
  - 1. ASTM C864.
  - 2. PVC FlexAlloy for adhesion into thermoset-rubber roof membranes (EPDM).
- D. Accessories:
  - 1. Manufacturer's standard spaces, flexible secondary water stops or seals and filler materials, drain tubes, adhesive and other accessories as indicated or required for complete installations.
  - 2. Compatible with materials in contact.
  - 3. Water stops.

**2.2 FABRICATION**

- A. General:
  - 1. Coordination: Coordinate installation of exterior wall expansion control systems with roof expansion control systems to ensure that wall transitions are watertight.
    - a. Use roof and wall expansion joint cover assemblies of same design.
    - b. Transitions between roof expansion joint and joint systems in the vertical plane to be executed according to Manufacturer's details and to be warranted as watertight.
  - 2. Provide expansion joint cover assemblies of design, basic profile, materials and operation indicated required to accommodate joint size variations in adjacent surfaces, and as required for anticipated structural movement.

3. Deliver to job site ready for use and fabricated in as large sections and assemblies as practical. Assemblies identical to submitted and reviewed shop drawings, samples and certificates.
  4. Furnish units in longest practicable lengths to minimize number of end joints. Provide mitered corners where joint changes directions or abuts other materials.
  5. Include closure materials and transition pieces, tee-joints, corners, curbs, cross-connections and other assemblies.
  6. Fire Performance Characteristics:
    - a. Provide expansion joint cover assemblies identical to those of assemblies whose fire resistance has been determined per ASTM E119 and E814, NFPA 251, or UL 263 including hose stream test at full-rated period.
    - b. Fire rating: Not less than rating of adjacent floor or wall construction.
  7. Compression Seals: Prefabricate from thermoplastic rubber to sizes and approximate profiles shown.
  8. Include details indicating profiles of each type of expansion joint cover assembly, splice joints between sections, joinery with other types, special end conditions, fasteners, and relationship to adjoining work and finishes with specific reference to tie-in with deck waterproofing system through integration with expansion joint system dual-level flange.
- B. Exterior Wall Expansion Joint Assemblies:
1. Type: Preformed cellular foam
    - a. Foam Material: Manufacturer's standard open-cell polyurethane.
    - b. Color: Bronze.
  2. Variable movement with seal designed to prevent water and air infiltration in vertical-plane walls (above grade).
  3. Preformed sealant shall be silicone pre-coated, preformed, pre-compressed, self-expanding, sealant system. Expanding foam to be cellular foam impregnated with a water-based, non-drying, 100% acrylic dispersion. Seal shall combine factory-applied, low-modulus silicone and a backing of acrylic-impregnated expanding foam into a unified hybrid sealant system.
  4. Material shall be capable of movements of +50%, -50% (100% total) of nominal material size.

5. Silicone external color facing to be factory-applied to the foam while it is partially pre-compressed to a width greater than maximum joint extension and cured before final compression. When compressed to final supplied dimension, a bellow(s) to handle movement must be created in the silicone coating. Silicone coating to be provided in bronze color for coordination with typical building materials.
  6. Directional changes and terminations into horizontal plane surfaces to be provided by factory-manufactured universal-90-degree single units containing minimum 12-inch long leg and 6-inch long leg or custom leg on each side of the direction change or through field fabrication in strict accordance with installation instructions.
  7. To establish an acceptable level of quality for the Exterior Wall Expansion Joint Assemblies, the following manufacturers are listed as approved manufacturers for the purpose of identifying manufacturers that provide work and materials generally complying with these specifications. Their selection for this work does not relieve them from performing the work as specified.
    - a. EMSEAL Joint Systems Ltd.
    - b. Or Approved Equal.
  8. Available Products / Manufacturer: Subject to compliance with requirements, products / manufacturer that may be incorporated into the Work include, but are not limited to, the products / manufacturer specified (**BASIS-OF-DESIGN PRODUCT**):
    - a. Manufacturer: EMSEAL Joint Systems Ltd., 25 Bridle Lane, Westborough, MA 01581-2603, 800-526-8365
    - b. Product: SEISMIC COLORSEAL Cavity-Wall Closure
    - c. Description: Preformed, Pre-Compressed, Self-Expanding, Sealant System with Silicone Pre-Coated Surface for Watertight, Energy-Efficient, Exterior Above Grade Wall Joints.
    - d. Movement Capability: +50 percent/-50 percent (1200% Total).
    - e. Type of Movement: Thermal and Seismic.
    - f. Nominal Joint Width: As noted on drawings.
    - g. Color: Bronze.
- C. Roof Expansion Joint Assemblies:
- A. Provide watertight, expansion joint for expansion joints in roof decks and isolation joints in non-traffic, high-movement and seismic structural joint in roof decks. Typical locations include, but are not limited to the following: joints across roof lines. System shall

- perform waterproofing and movement-accommodation functions as the result of a single installation and without the addition of gutters, vapor barriers, bladders, or other devices suspended beneath or within the system in any way.
- B. Directional changes and terminations into vertical plane surfaces (walls, parapets, ends of decks, etc) as well as to transition the material through curbs or other in-slab plane changes to be provided by factory-manufactured assemblies that preserve continuity of seal.
- C. System shall be comprised of: 1.) a heat weldable, PVC FlexAlloy extrusion with dual-level flange and, 2.) manufacturer supplied termination bar and anchors and, 3.) factory welded downturn transition in the roof expansion joint gland that is sealed at a ship lapped 45-degree angle to mate with an interlocking factory-fabricated transition piece.
- D. To establish an acceptable level of quality for the Roof Expansion Joint Assemblies, the following manufacturers are listed as approved manufacturers for the purpose of identifying manufacturers that provide work and materials generally complying with these specifications. Their selection for this work does not relieve them from performing the work as specified.
- a. EMSEAL Joint Systems Ltd.
  - b. Or Approved Equal.
8. Available Products / Manufacturer: Subject to compliance with requirements, products / manufacturer that may be incorporated into the Work include, but are not limited to, the products / manufacturer specified **(BASIS-OF-DESIGN PRODUCT)**:
- a. Manufacturer: EMSEAL Joint Systems Ltd., 25 Bridle Lane, Westborough, MA 01581-2603, 800-526-8365
  - b. Product: RoofJoint
  - c. Description: Preformed, dual-seal, double-flanged, extruded thermoplastic rubber system for adhesion into thermoset-rubber roof membranes (EPDM) for Watertight, Roof Joints.
  - d. Movement Capability: +50 percent/-50 percent (1200% Total).
  - e. Type of Movement: Thermal and Seismic.
  - f. Nominal Joint Width: As noted on drawings.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Manufacturer's representative shall make a thorough examination of surfaces receiving work of this section.
- B. Before starting installation, notify prime contractor of defects which would affect satisfactory completion of work.

#### **3.2 PREPARATION**

- A. Verify measurements and dimensions at job site and cooperate in coordination and scheduling of work with work of related trades.
- B. Give particular attention to installation of items embedded in concrete and masonry so as not to delay job progress.
- C. Provide templates to related trade for location of support and anchorage items.

#### **3.3 INSTALLATION**

- A. Install in accordance with manufacturers installation instructions unless specified otherwise.
- B. Install joint cover assemblies in true alignment and proper relationship to expansion joint opening and adjoining finished surfaces measured from established lines and levels.
- C. Maintain continuity of expansion joint cover assemblies with end joints held to a minimum.
- D. Sealants:  
Install to prevent water and air infiltration.
- E. The contractor shall clean the joint opening of all contaminants immediately prior to installation of expansion joint system. Repair spalled, irregular or unsound joint surfaces using accepted industry practices for repair of the substrates in question. Remove protruding roughness to ensure joint sides are smooth. Ensure that there is sufficient depth to receive the full depth of the size of the Preformed, Pre-Compressed, Self-Expanding, Sealant System with Silicone Pre-Coated Surface being installed plus at least ¼-inch (6mm) for the application of corner beads. Follow Manufacturers Installation Guide for detailed step-by-step instructions.

#### **3.4 PROTECTION**

- A. Take proper precautions to protect the expansion joint covers from damage after they are in place.



- B. After work is complete, clean exposed surfaces with a suitable cleaner that will not harm or attack the finish.

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DAYTON NATIONAL CEMETERY  
PUBLIC RESTROOMS ADDITION

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