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**SECTION 07716**  
**ROOF [EXPANSION] [CONTROL][SEISMIC] JOINT ASSEMBLIES**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.02 SUMMARY**

- A. This Section includes the following:
  - 1. Elastomeric sheet-covered foam, bellow-type roof [expansion] [control] [seismic] joint assemblies.

**1.03 RELATED SECTIONS**

- A. Section 05812 – Wall Expansion Joint Assemblies: Elastomeric sheet-covered, bellow-type wall joint assemblies.
- B. Section [\_\_\_\_ - \_\_\_\_\_]: Wood curbs and nailers.
- C. Section [\_\_\_\_ - \_\_\_\_\_]: Roof system and base flashings.
- D. Section [07620 – Sheet Metal Flashing and Trim] [\_\_\_\_ - \_\_\_\_\_]: Metal flashings.

**1.04 PERFORMANCE REQUIREMENTS**

- A. General: Provide roof [expansion] [control] [seismic] joint covers that, when installed, remain watertight within movement limitations specified by manufacturer.
- B. Movement: Provide roof [expansion] [control] [seismic] joint covers that accommodates [ \_\_\_\_ ] in. ( \_\_\_\_ mm) of horizontal movement, [ \_\_\_\_ ] in. ( \_\_\_\_ mm) of vertical movement, and [ \_\_\_\_ ] in. ( \_\_\_\_ mm) of shear. (*Note: Insert amount of joint movement, provide schedule at the end of this section for different conditions or schedule/indicate joint movement on drawings.*)

**1.05 SUBMITTALS**

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product data for each type of roof joint cover specified.
- C. Shop drawings showing fabrication and installation of roof joint covers including plans, sections, details of components, anchorage details, intersections, transitions, and fittings and attachments to other units of Work.
- D. Furnish manufacturer's standard-size samples of proposed joint cover.

**1.06 QUALITY ASSURANCE**

- A. Installer Qualifications: Engage an experienced installer who has completed installation of roof joint covers similar in material, design and extent to that indicated for this project and with a record of successful in-service performance.
- B. Fabrications: Provide factory-fabricated corners, transitions, intersections and terminations, fully covered under the joint cover manufacturer's warranty. Field-fabricated corners, transitions, intersections and terminations not permitted.



1.07 COORDINATION AND SCHEDULING

- A. Coordinate delivery and installation of joint covers to prevent damage and provide timely integration of units with roofing membranes and flashings.

1.08 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

*Note: Include the following where JM Single Ply, Built-Up, or Modified Bitumen systems are specified to provide a total system guarantee.*

- B. Total System Guarantee: Roof [expansion] [control] [seismic] joint cover shall be included as part of the Johns Manville Roof System Guarantee. See Section [ \_\_\_\_ ].

**OR**

*Note: Include the following where multiple roof system manufacturers are specified.*

- C. Special Warranty: Submit a written warranty signed by the roof [expansion] [control] [seismic] joint cover manufacturer and installer agreeing to repair or replace roof [expansion] [control] [seismic] joint cover, including factory-fabricated intersections and terminations, and factory-furnished field splice materials that leak or deteriorate due to weathering so that they become incapable of performing their role in maintaining a watertight joint.
- D. Warranty Period: 10 years after date of Substantial Completion.

**PART 2 – PRODUCTS**

2.01 MANUFACTURER

- A. Johns Manville Expand-O-Flash.
- B. Section 01600 – Material and Equipment: Product options and substitutions. Substitutions not permitted.

2.02 SHEET METAL MATERIALS (Note: Other metals available; contact JM.)

- A. Stainless Steel: AISI Type 304, complying with ASTM A 167, 2D annealed finish, soft, except where harder temper is required for forming or performance; minimum 0.018 in. (0.46 mm) thick.
- B. Copper: ASTM B 370, temper as required for forming; minimum 16 oz (0.56 mm thick).
- C. Lead-coated Copper: ASTM B 370, temper as required for forming with lead coating of 0.06 PSF on exposed copper surfaces; minimum 16 oz (0.56 mm thick).
- D. Sheet Aluminum: ASTM B 209 (ASTM B 209M) alloy 3003-H14, mill finish; minimum 0.032 in. (0.81 mm) thick except as otherwise indicated.
- E. Zinc-coated Steel: ASTM A 924/A 924M lock-forming quality, hot-dipped galvanized according to ASTM A 525, G 60 (ASTM A 525M, Z 275) class coating; minimum 26 gauge (0.56 mm) thick.



## 2.03 FLEXIBLE SHEET MATERIALS AND INSULATION

- A. EPDM Membrane: Nonreinforced flexible [Black] [White] EPDM conforming to ASTM D 4637, 60 mil (1.3 mm to 1.6 mm) thick.
- B. Neoprene Membrane: Nonreinforced flexible, black neoprene, 60 mil (1.3 mm to 1.6 mm) thick. *(Note: Include where prolonged exposure to process oils or animal fats is an issue. EPDM has greater UV resistance.)*
- C. Bellow Supports: Closed cell foam, minimum thickness of  $\frac{3}{8}$  in. (9.5 mm) for 4 in. (10.1 cm) bellow widths,  $\frac{1}{2}$  in. (1.3 cm) for 6 in. and 8 in. (15.2 cm and 20.3 cm) bellow widths,  $\frac{5}{8}$  in. (1.6 cm) for 10 in. (25.4 cm) bellow widths and  $\frac{3}{4}$  in. (1.91 cm) for 12 in. (30.4 cm) bellow widths. *(Note: Widths greater than 12 in. available. Contact JM.)*
- D. [Insulation: Johns Manville Microlite® "L" specialty fiber glass insulation wrapped in 4 mil minimum thickness polyethylene sleeve and supported by continuous neoprene-coated nylon fabric vapor retarder.] *(Note: The bellow supports hold the membrane to the proper shape over the joint, and are not intended to be the joint insulation. Include this paragraph if the reduction of heat loss or sound through the joint is required.)*

## 2.04 MISCELLANEOUS ACCESSORIES

- A. [Termination Bar: 1 in. (2.5 cm) wide prepunched extruded aluminum bar.]
- B. Fasteners: Corrosion-resistant fasteners compatible with flange metal and equivalent in corrosion resistance, of proper length and type for substrate.

## 2.05 ROOF [EXPANSION] [CONTROL] [SEISMIC] JOINT COVER ASSEMBLIES

- A. General: Provide manufacturer's standard assemblies of sizes and types indicated, including prefabricated corner, transition, termination and joint-intersection units, splicing units, adhesives, coatings and other components as recommended by joint cover manufacturer for a complete installation. Fabricate assemblies specifically for required applications.
- B. Exposed Metal-flanged, Bellow-type Roof [Expansion] [Control] [Seismic] Joint Cover: Provide assemblies consisting of exposed elastomeric sheet over foam bellow supports, adhesively and mechanically combined to exposed metal flanges by bifurcation process, either flat or angle formed to fit detail.
  - 1. Style: [As indicated] [CF] [EJ] [CF-EJ] [-INS (Note: Include suffix for insulated system.)]
  - 2. Joint Bellow Widths: [As indicated.] [4 in. (10.1 cm)] [6 in. (15.2 cm)] [8 in. (20.3 cm)] [10 in. (25.4 cm)] [12 in. (30.4 cm)] [ \_\_\_\_ in. ( \_\_\_\_ mm)]. *(Note: Wider widths available; contact JM.)*
  - 3. Membrane Cover: [{Black} {White} EPDM] [Neoprene (Note: Include where prolonged exposure to process oils or animal fats is an issue. EPDM has greater UV resistance.)].
  - 4. Intersection Style(s): [PF-] [FF-] [EG-] [EW-] *(Note: Insert various style conditions and coordinate style number locations with the drawings where the drawings do not clearly detail.)*
  - 5. Transition Style(s): [PF-] [FF-] [EG-] [EW-] *(Note: Insert various style conditions and coordinate style number locations with the drawings where the drawings do not clearly detail.)*
  - 6. Metal Flanges: [Stainless steel] [Copper] [Lead-coated copper] [Sheet aluminum] [Zinc-coated (galvanized) steel].
  - 7. [Insulate joint with integrally attached insulation system, factory sized for width and depth of joint.]
- C. Membrane-covered, Bellow-type Roof [Expansion] [Control] [Seismic] Joint Cover with Concealed Attachment Flanges: Provide assemblies consisting of exposed elastomeric sheet adhesively attached to foam bellow supports and attachment flange fabric.
  - 1. Style: EJ/WC [-INS (Note: Include suffix for insulated system.)].
  - 2. Joint Bellow Widths: [As indicated.] [4 in. (10.1 cm)] [6 in. (15.2 cm)] [8 in. (20.3 cm)] [10 in. (25.4 cm)] [12 in. (30.4 cm)] [ \_\_\_\_ in. ( \_\_\_\_ mm)]. *(Note: Wider widths available. Contact JM.)*
  - 3. Membrane Cover: [{Black} {White} EPDM] [Neoprene (Note: Include where prolonged exposure to process oils or animal fats is an issue. EPDM has greater UV resistance.)]. Membrane Cover width per detail requirements.
  - 4. Intersection Style(s): [PF-] [FF-] [EG-] [EW-] *(Note: Insert various style conditions and coordinate style number locations with the drawings where the drawings do not clearly detail.)*
  - 5. Transition Style(s): [PF-] [FF-] [EG-] [EW-] *(Note: Insert various style conditions and coordinate style number locations with the drawings where the drawings do not clearly detail.)*
  - 6. Concealed Attachment Flanges:  $1\frac{3}{8}$  in. (3.5 cm) wide by .015 in. (0.4 mm) thick tin strip wrapped with neoprene-coated nylon fabric.
  - 7. [Insulate joint with integrally attached insulation system, factory sized for width and depth of joint.]



### **PART 3 – EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that deck, curbs, roof membrane, base flashing and other items affecting work of this Section are in place and positioned correctly.
- B. Substrate Conditions: Do not begin installation until substrates have been inspected and are determined to be in satisfactory condition, with blocking fully anchored at proper location and elevation. All surfaces shall be smooth, dry, clean and free of fins or sharp edges, loose or foreign materials, oil or grease. No work shall proceed when moisture is present on the roof or in the materials that require adhesive attachment.

#### **3.02 INSTALLATION**

- A. Comply with manufacturer's instructions for handling and installing roof joint covers and materials, except where more stringent requirements are indicated.
- B. Coordinate installation of roof joint covers and associated work so that complete assemblies comply with assembly performance requirements.
- C. Extend roof joint covers over curbs, parapets, fascia and other elements in the construction profile, with factory-fabricated corners, transitions, intersections and terminations to provide continuous, uninterrupted, waterproof assemblies.
- D. Provide uniform profile throughout length of each installation; do not stretch elastomeric sheets.
- E. Nail anchorage flanges securely to curbs, cant strips and other substrates as recommended by manufacturer. Coordinate installation of joint covers with adjacent construction for weathertight assembly.
- F. Flash flanges into roof system per roof system manufacturer's requirements.
- G. Splice adjoining sections, corners, transitions, intersections, terminations and expansion slots using expansion joint manufacturer-furnished splice kit. Clean splice area to assure proper adhesion of splice strip. Adjacent sections shall be aligned and uniform in profile.
- H. [Exposed Metal-flanged, Bellow-type Roof [Expansion] [Control] [Seismic] Joint Cover: Allow ½ in. (1.3 cm) spacing at splices and flange cuts for longitudinal expansion of flanges. Prime metal flanges to assure proper adhesion of splice strip. Follow joint manufacturer's requirements for type of roofing system used for the project.]
- I. [Membrane-covered, Bellow-type Roof [Expansion] [Control] [Seismic] Joint Cover with Concealed Attachment Flanges: Allow ½ in. (1.3 cm) spacing at splices. Adhere membrane cover to substrate with compatible adhesive or mastic. Set termination bar in mastic for water cut-off, secure with termination bar fasteners.]

#### **3.03 PROTECTION OF ROOF JOINT COVERS**

- A. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer that ensures that roof joint cover assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION

