

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

SPEC WRITER NOTE:

1. Delete text between // _____ // not applicable to project. Edit remaining text to suit project.
2. Do not use aluminum, brass, or bronze for joints exceeding 100 mm (4 inches) wide, when wheel loads exceed 136 kg (300 lbs.), and for seismic joints.
3. Use stainless steel for seismic joints and joints exceeding 100 mm (4 inches) wide.
4. Use steel for joints in garages, service corridors, and other areas where wheel loads exceed 136 kg (300 lbs.) and appearance is not critical.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Prefabricated floor, wall, and ceiling // seismic and // building expansion joint assemblies.
 - a. Metal plate covers at // floor // wall // and ceiling // joints.
 - b. Elastomeric joint covers at // wall // and ceiling // joints.

SPEC WRITER NOTE: Preformed joint is for expansion and contraction joints, not building expansion joints.

- c. Preformed elastomeric sealant joint at interior // floor // and wall // control joints.
- d. Exterior wall joints.

1.2 RELATED REQUIREMENTS

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this Section.

- A. Steel Plate Expansion Joint Covers: Section 05 50 00, METAL FABRICATIONS.
- B. Sheet Metal Expansion Joint Seals: Section 07 60 00, FLASHING AND SHEET METAL.
- C. Roof Expansion Joint Cover Assemblies: Section 07 72 00, ROOF ACCESSORIES.

- D. Color of Elastomer Inserts, Filler Strips, Exterior Wall Seals and Metal Finishes: Section 09 06 00, SCHEDULE FOR FINISHES.

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this Section.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this Section.
- B. American Society of Civil Engineers (ASCE):
1. ASCE/SEI 7-10 - Minimum Design Loads For Buildings and Other Structures.
- C. ASTM International (ASTM):
1. A36/A36M-14 - Structural Steel.
 2. A240/A240M-15b - Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications.
 3. A283/A283M-13 - Low and Intermediate Tensile Strength Carbon Steel Plates.
 4. A786/A786M-05(2009) - Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy, and Alloy Steel Floor Plates.
 5. B36/B36M-13 - Brass, Plate, Sheet, Strip, and Rolled Bar.
 6. B121/B121M-11 - Leaded Brass Plate, Sheet, Strip and Rolled Bar.
 7. B209-14 - Aluminum and Aluminum-Alloy Sheet and Plate.
 8. B209M-14 - Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
 9. B221-14 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 10. B221M 13 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).
 11. B455-10 - Copper-Zinc-Lead Alloy (Leaded-Brass) Extruded Shapes.
 12. C864-05(2011) - Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
 13. D1187/D1187M-97(2011)e1 - Asphalt-Base Emulsions for Use as Protective Coatings for Metal.
 14. E1399/E1399M-97(2013)e1 - Standard Test Method for Cyclic Movement and Measuring the Minimum and Maximum Joint Widths of Architectural Joint Systems.
 15. E1966-15 - Standard Test Method for Fire-Resistive Joint Systems.
- D. National Association of Architectural Metal Manufacturers (NAAMM):
1. AMP 500-06 - Metal Finishes Manual.
- E. UL LLC (UL):

1. 2079-15 - Standard for Tests for Fire Resistance of Building Joint Systems.

1.4 PREINSTALLATION MEETINGS

- A. Conduct preinstallation meeting // at project site // minimum 30 days before beginning Work of this Section.

SPEC WRITER NOTE: Edit participant list to ensure entities influencing outcome attend.

1. Required Participants:
 - a. Contracting Officer's Representative.
 - b. // Architect/Engineer. //
 - c. // Inspection and Testing Agency. //
 - d. Contractor.
 - e. Installer.
 - f. // Manufacturer's field representative. //
 - g. Other installers responsible for adjacent and intersecting work, including // _____ //.

SPEC WRITER NOTE: Edit meeting agenda to incorporate project specific topics.

2. Meeting Agenda: Distribute agenda to participants minimum 3 days before meeting.
 - a. Installation schedule.
 - b. Installation sequence.
 - c. Preparatory work.
 - d. Protection before, during, and after installation.
 - e. Installation.
 - f. Terminations.
 - g. Transitions and connections to other work.
 - h. Other items affecting successful completion.
3. Document and distribute meeting minutes to participants to record decisions affecting installation.

1.5 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:

1. Include large-scale details indicating profiles of each type of expansion joint cover, splice joints between joint sections, transitions to other assemblies, terminations, anchorages, fasteners, and relationship to adjoining work and finishes.
2. Show size, configuration, and fabrication and installation details.
3. Include composite drawings showing work specified in other Sections coordinated with expansion joints.

C. Manufacturer's Literature and Data:

1. Description of each product specified.
2. Show movement capability of each cover assembly // and suitability of material used in exterior seals for ultraviolet exposure //.
3. Description of materials and finishes.
4. Installation instructions.

D. Samples: Submit 300 mm (12 inch) long samples.

1. Each type and color of metal finish for each required thickness and alloy.
2. Each type and color of flexible seal.

E. Sustainable Construction Submittals:

SPEC WRITER NOTE: Retain sustainable construction submittals appropriate to product.

1. Recycled Content: Identify post-consumer and pre-consumer recycled content percentage by weight.
2. Low Pollutant-Emitting Materials:
 - a. Identify volatile organic compound types and quantities.

F. Qualifications: Substantiate qualifications comply with specifications.

1. Installer // with project experience list //.

G. Certificates: Indicate products comply with specifications.

1. Fire rated expansion joint cover assemblies.

H. Operation and Maintenance Data:

1. Care instructions for each exposed finish product.

1.6 QUALITY ASSURANCE

A. Installer Qualifications:

1. Regularly installs specified products.
2. Installed specified products with satisfactory service on five similar installations for minimum five years.

- a. // Project Experience List: Provide contact names and addresses for completed projects. //

1.7 DELIVERY

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, // color, // and manufacture date.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.8 STORAGE AND HANDLING

- A. Store products indoors in dry, weathertight facility.
- B. Protect products from damage during handling and construction operations.

1.9 FIELD CONDITIONS

- A. Field Measurements: Verify field conditions affecting expansion joint cover assembly fabrication and installation. Show field measurements on Submittal Drawings.
 - 1. Coordinate field measurement and fabrication schedule to avoid delay.

1.10 WARRANTY

SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Provide joint cover assemblies that permit unrestrained movement of joint without disengagement of cover, and, where applicable, maintain moisture, watertight and fire-rated protection.
- B. Provide templates to related trades for location of support and anchorage items.

2.2 SYSTEM PERFORMANCE

- A. Design expansion joint cover assemblies complying with specified performance.

SPEC WRITER NOTE: Specify movement here when same criteria apply to each joint. Specify movement with individual joints when criteria differ between joints.

- B. Joint Movement: ASTM E1399.
 - 1. Nominal Joint Width: // _____ // mm (// _____ // inches).
 - 2. Minimum Movement Capability: // 25 // 50 // percent.
 - 3. Movement Type: Thermal and wind // and seismic //.
- C. Floor Joints: Live loads, including rolling loads.
 - 1. Load Resistance: ASCE/SEI 7; Design criteria as indicated on Drawings.
 - 2. Maximum Deflection: // 1/360 // of span, maximum.
- D. Fire Rated Joints: ASTM E1399, ASTM E1966, or UL 2079, including hose stream test at full-rated period.
 - 1. Fire rating: Match adjacent floor, wall, and ceiling construction.
 - 2. System: Capable of anticipated movement while maintaining fire rating.
 - 3. Coverless Applications: Maintain fire rating without joint cover system.

SPEC WRITER NOTE:

- 1. Make material requirements agree with applicable requirements specified in applicable publications.
- 2. Update and specify only what applies to the Project.

2.3 MATERIALS

- A. Stainless Steel: ASTM A240/A240M, Type 302 or 304.
- B. Structural Steel Shapes: ASTM A36/A36M.
- C. Steel Plate: ASTM A283/A283M, Grade C.
- D. Rolled Steel Floor Plate: ASTM A786/A786M.
- E. Aluminum:
 - 1. Extruded: ASTM B221M (ASTM B221), alloy 6063-T5, 6063-T6, or 6061-T6.
 - 2. Plate and Sheet: ASTM B209M (ASTM B209), alloy 6061-T6.
- F. Bronze: Manufacturer's standard alloy.
 - 1. Extruded: ASTM B455.
 - 2. Plate: ASTM B121.
- G. Brass: ASTM B36/B36M.
- H. Elastomeric Sealant: As specified in Section 07 92 00, JOINT SEALANTS.

- I. Elastomeric Seals:
 - 1. Flexible extruded polyvinyl chloride, meeting a Shore A hardness of 75 with UV stabilizer. Manufacturer's standard colors.
- J. Thermoplastic Rubber:
 - 1. ASTM C864.
 - 2. Dense Neoprene or other material standard with expansion joint manufacturers having the same physical properties.
- K. Compression Seals: Pre-compressed secondary sealant using preformed expanding foam sealant; open-cell polyurethane foam impregnated with polymer-modified acrylic adhesive.
- L. Water Barrier Sheets: Neoprene or EPDM flexible sheet materials minimum 45 mils thick.
 - 1. Provide with drain tubes for horizontal applications.
- M. Vinyl Invertor Sealant Waterstops: Manufacturer's standard shapes and grade.
- N. Moisture Barrier: Fabric reinforced clear vinyl sheet material sized to accommodate opening.
- O. Flexible Membrane: 1.5 mm (60 mil) EPDM sheet, with manufacturer's standard support foam.
- P. Fire Barrier: Labeled by an approved independent testing laboratory for fire resistance // rating // ratings // indicated for maximum joint width.
 - a. Thermal Insulation: Manufacturer's standard with factory cut miters and transitions.
 - b. Fire Barrier Lengths:
 - 1) Joint widths up to and including 150 mm (6 inches): Maximum 15 m (50 feet) to minimize field splicing.
 - 2) Other Joint widths: 3 m (10 foot) with overlapping ends for field splicing.
- Q. Ceramic Blanket: Manufacturer's standard joint filler to achieve fire rating indicated.
- R. Butyl Caulk Tape: Self adhering double sided butyl rubber sealant tape with easy-release silicone coated paper.

2.4 PRODUCTS - GENERAL

- A. Basis of Design: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Provide each product from one manufacturer.

1. Provide ceiling and wall expansion joint cover assemblies design matching floor to wall and floor to floor expansion joint cover design.
2. Provide expansion joint cover assembly designs, profiles, materials and configuration indicated, as required to accommodate joint size variations in adjacent surfaces, and anticipated movement.

C. Sustainable Construction Requirements:

SPEC WRITER NOTE: Specify product recycled content when known to be achievable for Project location. Section 01 81 13 sets overall project recycled content requirements.

1. Steel Recycled Content: 30 percent total recycled content, minimum.

SPEC WRITER NOTE: Specialty Steel Industry of North America (SSINA) reports average 75 - 85 percent recycled content for stainless steel.

2. Stainless Steel Recycled Content: 70 percent total recycled content, minimum.

SPEC WRITER NOTE: Aluminum Association (AA) reports 2008 industry average 85 percent recycled content for aluminum in building construction industry.

3. Aluminum Recycled Content: 80 percent total recycled content, minimum.

SPEC WRITER NOTE: Edit list showing VOC content to retain only those products required for Project.

4. Low Pollutant-Emitting Materials: Maximum VOC content by weight.
 - a. Non-Flooring Adhesives and Sealants.

2.5 FABRICATION

A. Fabricate Expansion Joint Cover Assemblies:

1. As complete assembly ready for installation.
2. In longest practicable lengths to minimize number of end joints.
3. With factory mitered corners where joint changes directions or abuts other materials.

- a. With closure materials and transition pieces, tee-joints, corners, curbs, cross-connections and other assemblies.

SPEC WRITER NOTE: Larger sized joints and seismic joints may require sheet metal and EPDM for fire rated conditions.

- 4. Joints within enclosed spaces such as chase walls, include 1 mm (0.04 inch) thick galvanized steel cover where conventional expansion joint cover is not used.
- 5. Where floor slab is fire rated provide ceramic blanket at joints.
- 6. Seal Strip: Factory-formed and bonded to metal frames and anchor members.
- 7. Compression Seals: Fabricate from expanding foam as secondary seal and elastomeric sealant to sizes and profiles shown.

SPEC WRITER NOTE:

- 1. Verify details show various type of assemblies.
- 2. Do not use sole source details.
- 3. Use joints designed for three-way movement where possible.
- 4. Use metal cover plate over seal on joints that are accessible from walks or other pedestrian traffic.

B. Floor-to-Floor Metal Plate Joints:

- 1. Frames: Metal, continuous on both sides of joint designed to support cover plate.
 - a. Flush Design: Seating surface and raised floor rim to accommodate adjacent flooring.
 - b. Anchorage: Concealed bolt and steel anchors for embedment in concrete.
- 2. Cover Plate: Metal, matching frames where exposed.
 - a. Supported Load: 19.2 MPa (400 psf), minimum.
 - b. Rattle-free due to traffic.
- 3. Fillers: Resilient material between raised rim of frame and edge of cover plate, where shown.
 - a. No gaps or bulges over full design range joint movement.
- 4. Fire Barrier: As required for fire resistance rating.
- 5. Water Stop: Manufacturer's standard, continuous, full length of joint.
- 6. Seismic: As required by Code.

7. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

C. Floor-to-Wall Metal Plate Joints:

1. Frames: Metal, continuous on floor side of joint only.
 - a. Provide wall side frame where required by manufacturer's design.
2. Cover Plates: Angle cover plates with countersunk flat-head exposed fasteners for securing cover plate to wall unless shown otherwise.
 - a. Fastener Spacing: As recommended by manufacturer.
3. Joint Design: Match adjacent floor to floor design.
4. Fire Barrier: As required for fire resistance rating.
5. Water Stop: Manufacturer's standard, continuous, full length of joint.
6. Seismic: As required by Code.
7. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

SPEC WRITER NOTE: Use cover plates at wall to wall joints to protect seals behind plates.

D. Interior Wall Joint Cover Assemblies:

1. Frame: Metal, surface mounted, concealed fastening to wall on one sides of joint.
2. Cover Plate: Metal, smooth surface, lap both sides of joint and permitting free movement on one side.
 - a. Fabricate with concealed attachment of cover to frame when cover is in close contact with adjacent wall surface finish.
 - b. Use angle cover plates at intersecting walls.
3. Joint Design: Match adjacent floor to floor design.
4. Fire Barrier: As required for fire resistance rating.
5. Seismic: As required by Code.
6. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

E. Exterior Wall Joint Assemblies:

1. Design seal for variable movement and prevention of water and air infiltration.
2. Frame: Metal, concealed, for fastening to wall on one side of joint.
3. Cover Plate: Metal, surface mounted, lap both sides of joint, permitting free movement on one side.
 - a. Fabricate with concealed attachment of cover to frame for cover with cover in close contact with adjacent finish surfaces.
 - b. Use angle cover plate at intersecting walls.
4. Water Seal: Vinyl seal strip as secondary seal behind primary seal.

5. Seismic: As required by Code.
 6. Finish: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.
- F. Extruded Thermoplastic Rubber Joint Assemblies:
1. Frames: Aluminum, both sides of joint.
 2. Primary Seal: Flexible rubber on exposed face after frame installation with factory welded watertight miters and transitions.
 - a. Anchor spaced at ends and not over 600 mm (24 inches).
 - 1) Variable movement extruded rubber primary seal designed to remain in aluminum frame, throughout movement of joint.
 - b. // Flush mounted seal minimum 3 mm (0.12 inch) thick with dual movement grooves designed for plus or minus 50 percent, movement of joint width. //
 - c. // Seismic seal minimum 3 mm (0.12 inch) thick with multi-movement grooves designed for plus or minus 100 percent movement of joint width. //
 - d. // Recessed front face seal minimum 3 mm (0.12 inch) thick with no movement grooves, designed for plus or minus 50 percent movement of joint width. //
 - e. Provide pantographic wind load supports, maximum 2400 mm (8 feet) on center to support seal systems of 300 mm (12 inches) wide and greater.
 3. Secondary Seal: Continuous vinyl sheet seal.
 4. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

SPEC WRITER NOTE:

1. Considering insert type with acoustical ceilings, not fire rated.
2. Do not use for walls.

G. Ceiling and Soffit Assemblies:

1. Frames: Metal, continuous on both sides of joint, flush mounted with no exposed fasteners.
2. Flexible Insert: Variable movement semi-rigid vinyl locked into frame.
 - a. Face Style: Flush or accordion, as shown, to span joint width without sagging.
3. Seismic: As required by Code.
4. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

SPEC WRITER NOTE:

1. Design plate for span of joint and for wheel loads of minimum 1360 kg (3000 pounds), for garage floor covers.
2. Coordinate with Section 05 50 00, METAL FABRICATIONS if steel expansion joints are specified there for garage floors having joints over 50 mm (2 inches) wide.

H. Garage Floor Joint Cover Plate:

1. Frame: Angle edge frame on both sides of joint, size as shown.
 - a. Anchors: Stud bolts minimum 100 mm (4 inches) long and 10 mm (3/8 inch) diameter welded to angle spaced maximum 600 mm (24 inches) on center.
 - b. Drill and top one frame for cover plate fasteners.
2. Cover Plate: Aluminum or steel cover plate minimum 10 mm (3/8 inch) thick with edges beveled, smooth finish, drilled for countersunk fasteners at ends and maximum 600 mm (24 inches) on center.
3. Seismic: As required by Code.
4. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

SPEC WRITER NOTE: Joint application is for expansion and contraction joints of interior floor and wall substrates. This is not a building expansion joint. Typical size is 10 mm (3/8 inch) with maximum joint width of 38 mm (1-1/2 inches).

I. Preformed Sealant Joint: Factory installed elastomeric sealant between extruded aluminum angle frame both sides.

1. Frames: Extruded aluminum angle on both sides of joint.
2. Filler: Elastomeric sealant.
3. Anticipated movement: 25 percent maximum.
4. Finishes: As specified in Section 09 06 00, SCHEDULE FOR FINISHES.

2.6 FINISHES

- A. Carbon Steel: NAAMM AMP 500, Galvanized G90.
- B. Stainless Steel: NAAMM AMP 500, No. 2B bright finish.
- C. Aluminum Anodized Finish: NAAMM AMP 500.
 1. Clear Anodized Finish: AA-C22A41; Class I Architectural, 0.018 mm (0.7 mil) thick.

SPEC WRITER NOTE:

1. Use of colored coatings on floor covers is not recommended.
2. Choose the type of color anodized finish or leave both for the contractor to decide.

2. Color Anodized Finish: AA-C22A42 or AA-C22A44; Class I Architectural, 0.018 mm (0.7 mil) thick.

D. Aluminum Paint Finish:

SPEC WRITER NOTE: Use first finish for extrusions and second for coil coated sheet.

1. Fluorocarbon Finish: AAMA 2605; 70 percent fluoropolymer resin, 2-coat system.
 2. Fluorocarbon Finish: AAMA 605; 70 percent fluoropolymer resin, 2-coat system.
- E. Bronze Finish: NAAMM-AMP 500, M32 mechanical finish, directional textured, natural medium satin.

2.7 ACCESSORIES

- A. General: Manufacturer's standard anchors, fasteners, set screws, spaces, protective coating, and filler materials, adhesive and other accessories required for installation.

SPEC WRITER NOTE: Retain barrier coating to separate dissimilar metals and to separate metals from cementitious materials.

- B. Barrier Coating: ASTM D1187/D1187M.
- C. Adhesives: Low pollutant-emitting, water based type recommended by adhered product manufacturer for each application.
- D. Fasteners: Type and size recommended by expansion joint cover assembly manufacturer.
1. Exterior Applications: Stainless steel.
 2. Fasteners for Aluminum: Stainless steel.
 3. Other Applications: Galvanized steel or stainless steel.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify substrate suitability for product installation.

1. Provide items embedded in concrete and masonry in time for building into work without delaying work.

SPEC WRITER NOTE: Edit barrier coating for metals specific for project; and whether to separate dissimilar metals and - or to separate metals from cementitious materials.

- B. Protect existing construction and completed work from damage.
- C. Apply barrier coating to // aluminum // brass // bronze // steel // surfaces in contact with // dissimilar metals // and cementitious materials // to minimum 0.7 mm (30 mils) dry film thickness.

3.2 INSTALLATION

- A. Install products according to manufacturer's instructions // and approved submittal drawings //.
 1. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.
- B. Install anchorage devices and fasteners for securing expansion joint assemblies to in-place construction where anchors are not embedded in concrete and masonry.
 1. Secure with metal fasteners, type and size to suit application.
- C. Perform cutting, drilling and fitting required for installation of expansion joint cover assemblies.
- D. Install joint cover assemblies aligned and positioned in correct relationship to expansion joint opening and adjoining finished surfaces measured from established lines and levels.
 1. Allow for thermal expansion and contraction of metal to avoid buckling.
 2. Accommodate joint opening size at time of installation.
- E. Set floor covers at elevations flush with adjacent finished flooring, unless shown otherwise.
- F. Grout floor frames set in prepared recesses.
- G. Locate wall, ceiling and soffit covers in continuous contact with adjacent surfaces. Secure with required accessories.
- H. Locate anchors at interval recommended by manufacturer, but minimum 75 mm (3 inches) from each end, and, maximum 600 mm (24 inches) on centers.

- I. Maintain continuity of expansion joint cover assemblies with end joints held to a minimum and metal members aligned mechanically using splice joints.
- J. Cut and fit ends to accommodate thermal expansion and contraction of metal to avoid buckling of frames and cover plates.
- K. Flush Metal Cover Plates:
 - 1. Secure flexible filler between frames to allow compression and expansion.
 - 2. Adhere flexible filler materials to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.
- L. Waterstops:
 - 1. Install in conjunction with floor joints, and where shown.
 - 2. Install continuously to prevent water damage to finish spaces.
 - 3. Seal waterstop to frames to prevent water leakage.
 - 4. Install drainage tubes from waterstops to discharge collected water in nearest plumbing air gap drain.
- M. Fire Barriers:
 - 1. Install in compliance with tested assembly.
 - 2. Install at joints in floors and in fire rated walls.
 - 3. Use fire barrier sealant furnished with expansion joint assembly.
- N. Apply sealant where required to prevent water and air infiltration.
- O. Vertical Exterior Extruded Thermoplastic Rubber.
 - 1. Install side frames mounted on sealant or butyl caulk tape with appropriate anchors 600 mm (24 inches) on center complete with secondary seal.
 - 2. Install primary seals retained in extruded aluminum side frames.
- P. Extruded Thermoplastic Rubber or Seals:
 - 1. For straight sections, install preformed seals in continuous lengths.
 - 2. Vulcanize or heat-seal field spliced joints to provide watertight joints as recommended by manufacturer.
- Q. Preformed Elastomeric Sealant Joint:
 - 1. Locate joint directly over joints in wall and floor substrates.
 - 2. Fasten full length to substrate using construction adhesive.
 - 3. Install flush or slightly below finish material.

3.3 CLEANING

- A. Remove excess adhesive before adhesive sets.
- B. Clean exposed metal surfaces. Remove contaminants and stains.

3.4 PROTECTION

- A. Cover floor joints with plywood where wheel traffic occurs before Substantial completion.
- B. Remove protective covering when adjacent work areas are completed. Clean exposed surfaces in compliance with manufacture's printed instructions.

- - E N D - -