

SECTION 079500 - EXPANSION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Interior expansion control systems.
- 2. Exterior wall expansion control systems.

- B. Related Requirements:

- 1. Division 07 Section "Joint Sealants" for liquid-applied joint sealants and for elastomeric sealants without metal frames.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: For each expansion control system specified. Include plans, elevations, sections, details, splices, blockout requirement, attachments to other work, and line diagrams showing entire route of each expansion control system. Where expansion control systems change planes, provide isometric or clearly detailed drawing depicting how components interconnect.

- B. Samples for Initial Selection: For each type of expansion control system indicated.

- 1. Include manufacturer's color charts showing the full range of colors and finishes available for each exposed metal and elastomeric seal material.

- C. Samples for Verification: For each type of expansion control system indicated, full width by 6 inches long in size.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. General: Provide expansion control systems of design, basic profile, materials, and operation indicated. Provide units with capability to accommodate variations in adjacent surfaces.

- 1. Furnish units in longest practicable lengths to minimize field splicing. Install with hairline mitered corners where expansion control systems change direction or abut other materials.

2. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion control systems.
- B. Coordination: Coordinate installation of exterior wall expansion control systems with wall construction to ensure that wall transitions are watertight.

2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Expansion control systems shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
1. The term "withstand" means "the system will remain in place without separation of any parts when subjected to the seismic forces specified and the system will be fully operational after the seismic event."
 2. Component Importance Factor is 1.0.

2.3 INTERIOR EXPANSION CONTROL SYSTEMS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated or a comparable product by one of the following:
1. Construction Specialties, Inc.
 2. Nystrom, Inc.
- B. Source Limitations: Obtain expansion control systems from single source from single manufacturer.
- C. Wall-to-Wall:
1. Basis-of-Design Product: MM Systems Corporation, VFW-100
 2. Design Criteria:
 - a. Nominal Joint Width: 1".
 - b. Type of Movement: Seismic.
 3. Type: Glide plate.
 - a. Metal: Aluminum.
 - 1) Finish: Color anodic, Class I.
 - b. Seal Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.
- D. Ceiling-to-Ceiling:
1. Basis-of-Design Product: MM Systems Corporation, DX-100
 2. Design Criteria:
 - a. Nominal Joint Width: 1".
 - b. Type of Movement: Seismic.

3. Type: Accordion.
 - a. Metal: Aluminum.
 - 1) Finish: Manufacturer's standard.
 - b. Seal Material: Manufacturer's standard.
 - 1) Color: White.

2.4 EXTERIOR WALL EXPANSION CONTROL SYSTEMS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated or a comparable product by one of the following:
 1. Construction Specialties, Inc.
 2. Nystrom, Inc.
- B. Source Limitations: Obtain expansion control systems from single source from single manufacturer.
- C. Wall-to-Wall:
 1. Basis-of-Design Product: MM Systems Corporation, Elastoprene Compression Seal Systems – Vertical Application CS-175 Seal.
 2. Design Criteria:
 - a. Nominal Joint Width: 1”.
 - b. Type of Movement: Seismic.
 3. Type: Preformed cellular foam.
 - a. Foam Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.

2.5 ACCESSORIES

- A. Moisture Barriers: Manufacturer's standard moisture barrier consisting of a continuous, waterproof membrane within joint and attached to substrate on sides of joint below the primary cover.
 1. Drain-Tube Assemblies: Equip moisture barrier with drain tubes and seals to direct collected moisture to drain.

2.6 MATERIALS

- A. Aluminum: ASTM B 221, Alloy 6063-T5 for extrusions; ASTM B 209, Alloy 6061-T6 for sheet and plate.
 1. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious materials.

- B. Cellular Foam Seals: Extruded, compressible foam designed to function under compression.
- C. Moisture Barrier: Flexible elastomeric material, PVC, minimum 30 mils thick.
- D. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.
- E. Accessories: Manufacturer's standard anchors, clips, fasteners, set screws, spacers, and other accessories compatible with material in contact, as indicated or required for complete installations.

2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

- A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
 - 1. Color: As selected by Architect from full range of industry colors and color densities.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces where expansion control systems will be installed for installation tolerances and other conditions affecting performance of work.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to expansion control system manufacturer's written instructions.
- B. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion control systems. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of expansion control systems.

3.3 INSTALLATION

- A. Comply with manufacturer's written instructions for storing, handling, and installing expansion control systems and materials unless more stringent requirements are indicated.
- B. Metal Frames: Perform cutting, drilling, and fitting required to install expansion control systems.
 - 1. Install in true alignment and proper relationship to joints and adjoining finished surfaces measured from established lines and levels.
 - 2. Adjust for differences between actual structural gap and nominal design gap due to ambient temperature at time of installation. Notify Architect where discrepancies occur that will affect proper expansion control system installation and performance.
 - 3. Cut and fit ends to accommodate thermal expansion and contraction of metal without buckling of frames.
 - 4. Repair or grout blockout as required for continuous frame support using nonmetallic, shrinkage-resistant grout.
 - 5. Install frames in continuous contact with adjacent surfaces.
 - a. Shimming is not permitted.
 - 6. Locate anchors at interval recommended by manufacturer, but not less than 3 inches from each end and not more than 24 inches o.c.
- C. Foam Seals: Install with adhesive recommended by manufacturer.
- D. Terminate exposed ends of expansion control systems with field- or factory-fabricated termination devices.
- E. Moisture Barrier: Provide at all exterior joints and where indicated on Drawings. Provide drainage fittings at a maximum of 50 feet or where indicated on Drawings.

3.4 PROTECTION

- A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.
- B. Protect the installation from damage by work of other Sections. Where necessary due to heavy construction traffic, remove and properly store cover plates or seals and install temporary protection over expansion control systems. Reinstall cover plates or seals prior to Substantial Completion of the Work.

END OF SECTION 079500