SECTION 07 95 13.13 - INTERIOR EXPANSION JOINT COVER ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Floor expansion joint cover assemblies **EJ-50A**, **EJ-50B**, **EJ-50C**, **EJ-50D**.
2. Wall expansion joint cover assemblies **EJ-54**.
3. Floor to wall expansion joint cover assemblies **EJ-51**, **EJ-52**.
4. Ceiling to wall expansion joint cover assemblies **EJ-53**.

B. Related Work:

1. Division 06, Section 06 40 00 “Architectural Woodwork” for phenolic wall panels to which expansion joint covers are abutted.
2. Division 09, Section 09 66 23 “Resinous Matrix Terrazzo Flooring” for technical requirements associated with flooring to which expansion joint covers are abutted.
3. Division 09, Section 09 68 13 “Tile Carpeting” for technical requirements associated with flooring to which expansion joint covers are abutted.

1.2 DEFINITIONS

A. Maximum Joint Width: Widest linear gap a joint system tolerates and in which it performs its designed function without damaging its functional capabilities.

B. Minimum Joint Width: Narrowest linear gap a joint system tolerates and in which it performs its designed function without damaging its functional capabilities.

C. Movement Capability: Value obtained from the difference between widest and narrowest widths of a joint.

D. Nominal Joint Width: The width of the linear opening specified in practice and in which the joint system is installed, per UL 2079.

1.3 ACTION SUBMITTALS

A. Product data for each type of interior expansion joint cover assembly specified, including manufacturer's product specifications, installation instructions, details of construction relative to materials, dimensions of individual components, profiles, and finishes.

B. Shop drawings showing fabrication and installation of expansion joint cover assembly including plans, elevations, sections, details of components, joints, splices, and attachments to other units of Work.

1. Placement Drawings: Include line diagrams showing plans, elevations, sections, details, splices, blockout requirement, entire route of each joint system, and attachments to other work. Where joint systems change planes, provide isometric or clearly detailed drawing depicting how components interconnect with specific references and dimension of actual in-place concrete, and other materials specific to the Project.
2. The placement drawings shall include specific setting instructions for joint maximum width, minimum width, movement capability and nominal joint width based on temperature and movement requirements for the project so that joints retain full functional capability to accommodate design movement.

C. Certificates – Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of fire-rated expansion joint assemblies with requirements indicated.

D. Sustainable Design Action Submittals:

1. Indoor Environmental Quality, Low Emitting Materials: Building Products must be tested and compliant with the California Department of Public-Health (CDPH) Standard Method v1.2 2017, using the applicable exposure scenario.

a. Adhesives and Sealants: For wet applied on-site products, submit printed statement showing compliance with the applicable chemical content requirements of SCAQMD Rule 1168, effective July 1, 2005, and rule amendment date of January 7, 2005.

1.4 INFORMATIONAL SUBMITTALS

A. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain interior expansion joint cover assemblies specified in this Section from one source from a single manufacturer. Coordinate compatibility with expansion joint cover assemblies specified in other sections.

B. Installer Qualifications: Approved by manufacturer and having experience installing joint systems that are similar in design complexity with no fewer than ten (10) installations in the prior two years.

C. Product Options: Drawings indicate size, profiles, and dimensional requirements of architectural joint systems and are based on the specific systems indicated.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

D. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockup of each typical expansion joint cover type.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 WARRANTY

A. Manufacturer shall provide five (5) year warranty for all joint covers. Warranty provisions shall define failures to include the following elements of the joint systems:

1. Surface metal finish.
2. Anchorage and loss of holding capacity.
3. Failure of elastomeric or flexible integrity of seal components.
4. Interior mechanical springs, bars, anchorages, fasteners and other mechanisms.
5. Failure or breech of fire-seal components, adhesives, attachments and membranes.
6. Displacement of dislocation which is not the result of seismic movements.
7. Loss of performance integrity of the joints, including deformation, deflection or other displacement of the joint cover or mounting attachment.

8. Failure of fillers, grouting materials, and their attachment to the setting extrusion, its anchorage to underlying substrate, including concrete flooring or structural members.

PART 2 - PRODUCTS

2.1 GENERAL – EXPANSION JOINTS

A. General: Provide architectural joint systems of design, basic profile, materials, and operation indicated. While specified joint systems establish the function and aesthetic intent, it may be necessary for the manufacturer to modify the joint systems to accommodate the movement requirements as scheduled in the contract documents. Such modifications should be made without significant changes to the aesthetic or functional intent of the joint systems. Provide units with capability to accommodate variations of alignment, nominal height changes and attachments in adjacent surfaces.

1. Modifications include offsets at columns, wall-components and interior materials, angled joints, pre-fabricated concealed components and other custom conditions.

B. Expansion Joint Covers: Acceptable products meeting the technical performance requirements of this specification may be considered

2.2 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Expansion joint cover assemblies shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

B. Fire-Resistance Ratings: Provide expansion joint cover assemblies with fire barriers identical to those of systems tested for fire resistance according to UL 2079 or ASTM E1966 by a qualified testing agency. Fire rating not less than the rating of adjacent construction.

1. Hose Stream Test: Wall-to-wall and wall-to-ceiling assemblies to be subjected to hose stream testing.

2.3 MATERIALS:

A. Aluminum ASTM B 221, Alloy 6063-T5, 6063-T6, 6063-T52, 6061-T5, 6061-T6, 6061-T51, 6105-T5, 6105-T6, 6005-T5, 6005A-T5, 6005A-T61 for extrusions; ASTM B 209, Alloy 6061-T6, 3003-H14, 5005-H34 for sheet and plate.

B. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304 for plates, sheet, and strips.

C. Elastomeric Seals: Preformed elastomeric membranes or extrusions to be installed in metal frames.

D. Compression Seals: ASTM D2000; preformed rectangular elastomeric extrusions having internal baffle system and designed to function under compression.

E. Fire Barriers: Any material or material combination, when fire tested after cycling, designated to resist the passage of flame and hot gases through a movement joint and to meet performance criteria for required rating period.

F. Accessories: Manufacturer's recommended floor fleers, grouts and other anchorage setting materials, standard anchors, clips, fasteners, set screws, spacers, and other accessories compatible with material in contact, as indicated or required for complete installations.

G. Water Barrier: Manufacturer's standard, flexible elastomeric material.

2.4 EXPANSION JOINT TYPES:

A. Interior Floor to Floor Joint Cover **EJ-50A**:

1. Description: Smooth, flush, metal cover plate with no bump design.
2. Nominal Joint Width: 4 inches (102 mm).
3. Movement: Plus or minus 100%. Total 200%
4. Installation: Recessed and flush install metal cover plate with adjacent floor finish.
5. Concentrated Load: Minimum 450 lbs (204 kgs)
6. Maximum Deflection: 0.0625 inch (1.6 mm).
7. Fire-Resistance Rating: Include fire barrier for rating of not less than two hours.
8. Exposed Metal: Stainless steel No.4 or brushed, or directional finish.
9. Products:

    a. NBAF Smooth Series by Balco metal cover plate.
    b. SJ Series by Construction Specialties.
    c. 721 Series by InPro Corporation.
    d. LASF-NB by MM Systems.
    e. Wabo SeismicFloor FJX Series by Watson Bowman Acme Corp.

B. Interior Floor to Floor Joint Cover **EJ-50B**:

1. Description: Smooth, flush, metal cover plate with no bump design.
2. Nominal Joint Width: 2 inches (51 mm)..
3. Movement: Plus or minus 100%. Total 200%
4. Installation: Recessed and flush install metal cover plate with adjacent floor finish.
5. Concentrated Load: Minimum 450 lbs (204 kgs)
6. Maximum Deflection: 0.0625 inch (1.6 mm).
7. Fire-Resistance Rating: Include fire barrier for rating of not less than two hours.
8. Exposed Metal: Stainless steel No.4 or brushed, or directional finish.
9. Products:

    a. NBAF Smooth Series by Balco metal cover plate.
    b. SJHD Series by Construction Specialties.
    c. 741 Series by InPro Corporation.
    d. LASF-NB by MM Systems.
    e. Wabo SeismicFloor FJX Series by Watson Bowman Acme Corp.

C. Interior Floor to Floor Joint Cover **EJ-50C**:

1. Description: Smooth, surface applied, metal cover plate.
2. Nominal Joint Width: Refer to Drawings.
3. Movement: Plus or minus 50%. Total 100%
4. Installation: Surface applied install metal cover plate design to slope to adjacent floor finish with non-invasive anchoring
5. Concentrated Load: Minimum 450 lbs (204 kgs)
6. Maximum Deflection: 0.0625 inch (1.6 mm).
7. Fire-Resistance Rating: Include fire barrier for rating of not less than two hours.
8. Water Resistance: Include water barrier membrane warranted to be water tight.
9. Exposed Metal: Stainless steel No.4 or brushed, or directional finish or mill finish aluminum.
10. Product:

    a. SJS-FR by Emseal.
    b. SHD Series by MM Systems

D. Interior Floor to Floor Joint Cover **EJ-50D**:

1. Description: Smooth, flush, metal cover plate with no bump design.
2. Nominal Joint Width: Refer to Drawings.
3. Movement: Plus or minus 50%. Total 100%
4. Installation: Recessed and flush install metal cover plate with adjacent floor finish.
5. Load Capacity: Minimum 450 lbs (204 kgs) per wheel
6. Maximum Deflection: 0.0625 inch (1.6 mm).
7. Fire-Resistance Rating: Include fire barrier for rating of not less than two hours.
8. Water Resistance: Include water barrier membrane warranted for watertightness.
9. Exposed Metal: Stainless steel No.4 or brushed, or directional finish or mill finish aluminum.
10. Product:

    a. SJHD series by Construction Specialties.

E. Interior Floor to Wall Joint Cover **EJ-51**:

1. Description: Flush, metal cover plate with no bump design .
2. Nominal Joint Width: 2 inches (51 mm).
3. Movement: Plus or minus 50%. Total 100%
4. Installation: Recessed and flush install metal cover plate with adjacent floor finish.
5. Concentrated Load: Minimum 300lbs (136kg).
6. Maximum Deflection: 0.0625 inch (1.6 mm).
7. Fire-Resistance Rating: Include fire barrier for rating of not less than two hours.
8. Exposed Metal: Stainless steel No.4 or brushed, or directional finish.
9. Products:

    a. NBAF Smooth Series by Balco metal cover plate
    b. Construction Specialties SJHD Series
    c. InPro Corporation 441 Series
    d. MM Systems HDLE Series

F. Interior Wall to Wall Joint Cover **EJ-52**:

1. Description: Flush, metal cover plate.
2. Nominal Joint Width: 2 inches (51 mm).
3. Movement: Plus or minus 50%. Total 100%
4. Installation: Recessed and flush install with adjacent wall finish.
5. Fire-Resistance Rating: Provide fire resistant rating not less than that of adjacent construction.
6. Exposed Metal: Clear anodized aluminum.
7. Products:

    a. Balco 6GW- Recessed
    b. Construction Specialties AFW Series
    c. InPro Corporation 300 Series
    d. MM Systems JT Series
    e. Watson Bowman Acme Corp Wabo Contour II

G. Interior Wall to Ceiling Joint Cover **EJ-53**:

1. Description: Flush, metal cover plate.
2. Nominal Joint Width: 2 inches (51 mm).
3. Movement: Plus or minus 50%. Total 100%
4. Installation: Recessed and flush install with adjacent wall finish and ceiling finish.
5. Fire-Resistance Rating: Provide fire resistant rating not less than that of adjacent construction.
6. Exposed Metal: Clear anodized aluminum.
7. Products:

a. Balco 6GW- Recessed
b. Construction Specialties AFW Series
c. InPro Corporation 300 Series
d. MM Systems JT Series
e. Watson Bowman Acme Corp Wabo Contour II

H. Interior Solid Phenolic Wall to Solid Phenolic Wall Joint Cover **EJ-54**:

1. Description: Flush, metal cover plate.
2. Nominal Joint Width: Refer to Drawings.
3. Movement: Plus or minus 50%. Total 100%
4. Installation: Refer to Drawings,
5. Fire-Resistance Rating: Provide fire resistant rating not less than that of adjacent construction.
6. Exposed Metal: Clear anodized aluminum.
7. Products:

a. Balco 6GW- Recessed
b. Construction Specialties AFW Series
c. InPro Corporation 300 Series
d. MM Systems JT Series
e. Watson Bowman Acme Corp Wabo Contour II

2.5 ACCESSORIES:

A. Manufacturer's standard anchors, fasteners, and other accessories compatible with material in contact as indicated or required for complete installations.

2.6 LOW-EMITTING MATERIALS:

A. Adhesives and Sealants wet-applied inside the weather-proofing system must meet the VOC general emissions testing criteria of CDPH Standard Method v1.2.

B. All adhesives and sealants wet-applied inside the weather-proofing system must have VOC content in compliance with the applicable VOC limits (g/L) found in tables in Division 01, Section 01 81 13.14 "Sustainable Design Requirements - LEED v4 BD+C."

2.7 METAL FINISHES

A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. Apply finishes to products in factory after fabrication. Protect finishes on exposed surfaces before shipment.

B. Aluminum Finishes: Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.

1. Mill Finish: AA-M10.
2. Class II, Clear Anodic Finish: AAMA 611, AA-M12C22A31, Mechanical Finish: non-specular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker.
3. Aluminum contact surfaces on concrete or masonry; manufacturer's standard protective coating.

C. Stainless Steel Finishes:

1. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.

2. Run grain of directional finishes with long dimension of each piece.
3. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
4. Directional Satin Finish: No. 4.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Coordinate preparation of all flooring block-outs and locations for setting extrusions to create sound anchorages, inserts and ability to securely anchor joint systems to maximize strength of the joint and its attachment. Provide sufficient depth and width to allow setting materials and fillers to accomplish secure and durable performance according to manufacturer's requirements and provisions of the warranty for work in this section.

B. Examine surfaces and blockouts where architectural joint systems will be installed for installation tolerances and other conditions affecting performance of work.

1. Confirm that all joint substrates are prepared and free of debris, tailings, or other irregularities. Block-outs shall be per the installation and setting documents with joint openings as indicated.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Manufacturer's Instructions: In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for phases of Work, including preparing substrate, applying materials, and protecting installed units.

B. Repair concrete slabs and blockouts using manufacturer's recommended repair grout of compressive strength adequate for anticipated structural loadings. Fastening to in-Place Construction: Provide anchorage devices and fasteners where necessary to secure expansion joint cover assemblies to in-place construction, including threaded fasteners with drilled-in expansion shields for masonry and concrete where anchoring members are not embedded in concrete. Provide fasteners of metal, type, and size to suit type of construction indicated and provide for secure attachment of expansion joint cover assemblies.

1. Coordinate and furnish anchorages, setting drawings, and instructions for installing joint systems. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of joint systems.
2. Cast-In Frames: Coordinate and furnish frames to be cast into concrete.

3.3 INSTALLATION

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required to install expansion joint covers. Install joint cover assemblies in true alignment and proper relationship to expansion joints and adjoining finished surfaces measured from established lines and levels. Allow adequate free movement for thermal expansion and contraction of metal to avoid buckling. Locate wall and ceiling covers in continuous contact with adjacent surfaces. Securely attach in place with required accessories. Locate anchors at interval recommended by manufacturer, but not less than 3 inches from each end and not more than 24 inches on center.

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 joint installation and performance.
3. Cut and fit ends to accommodate thermal expansion and contraction of metal without buckling of frames.
4. Locate in continuous contact with adjacent surfaces.
5. Standard-Duty Systems: Shim to level where required. Support underside of frames continuously to prevent vertical deflection when in service.
6. Heavy-Duty Systems: Repair or grout block-out as required for continuous frame support and to bring frame to proper level. Shimming is not allowed.

B. Seals in Metal Frames: Install elastomeric seals and membranes in frames to comply with manufacturer's written instructions. Install with minimum number of end joints.

1. Provide in continuous lengths for straight sections.
2. Seal transitions according to manufacturer's written instructions. Vulcanize or heat-weld field-spliced joints as recommended by manufacturer.
3. Installation: Mechanically lock seals into frames.
4. Compression Seals: Apply adhesive or lubricant adhesive as recommended by manufacturer before installing compression seals.
5. Terminate exposed ends of joint assemblies with field- or factory-fabricated termination devices.

C. Fire-Resistance-Rated Assemblies: Coordinate installation of architectural joint assembly materials and associated work so complete assemblies comply with assembly performance requirements.

1. Fire Barriers: Install fire and smoke barriers to provide continuous, uninterrupted fire and smoke resistance throughout length of joint, including transitions and field splices to prevent passage of flame, hot gasses, and smoke.

D. Continuity: Maintain continuity of expansion joint cover assemblies with a minimum number of end joints and align metal members mechanically using splice joints. Cut and fit ends to produce joints that will accommodate thermal expansion and contraction of metal to avoid buckling of frames. Adhere flexible filler materials (if any) to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.

3.4 CLEANING AND 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 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 joints.

1. Reinstall cover plates or seals prior to Substantial Completion of the Work.
2. Replace floor construction joints deformed, deflected, loosened or otherwise out of alignment as a result of uncontrolled construction traffic or loading.

END OF SECTION