ACCULINE

# Datasheets

## 800 Series Acoustical Ceiling Expansion Joint Systems

# Contents

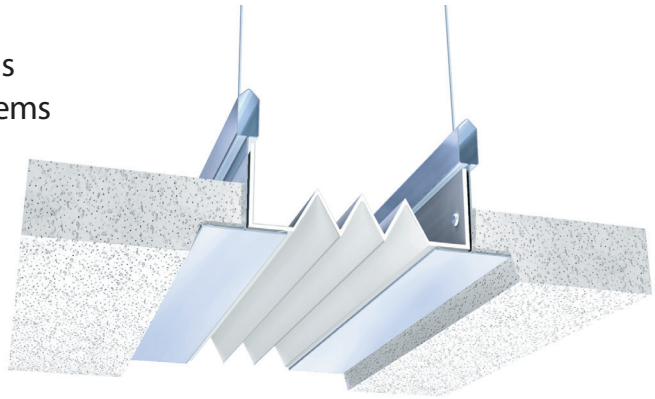
01 481 Series

03 Expansion Joints - Master Specification

# 821 Series

V23 - Ceiling to Wall for Acoustical Ceiling Systems

V24 - Ceiling to Ceiling for Acoustical Ceiling Systems



Movement Rating ± 50%

## Product Guide

Thermal Interior

- Designed for acoustical ceiling systems
- Pleated vinyl seal allows for fluid joint movement.
- Standard seal color: bright white.

| Application | System | W | | H1 | | H2 | | S | | B | | Movement +/- | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Joint Width | | Frame Height 1 | | Height 2 | | Sightline | | Blockout | | Horizontal | | Vertical | |
| | | US | mm | US | mm | US | mm | US | mm | US | mm | US | mm | US | mm |
| Wall/Ceiling Ceiling/Ceiling | 821-V24-025 | 1" | 25 | * | * | * | * | 1" | 25 | * | * | 1/2" | 13 | 1/2" | 13 |
| | 821-V24-050 | 2" | 51 | * | * | * | * | 2" | 51 | * | * | 1" | 25 | 1/2" | 13 |
| | 821-V23-025 | 1" | 25 | * | * | * | * | 1" | 25 | * | * | 1/2" | 13 | 1/2" | 13 |
| | 821-V23-050 | 2" | 51 | * | * | * | * | 2" | 51 | * | * | 1" | 25 | 1/2" | 13 |



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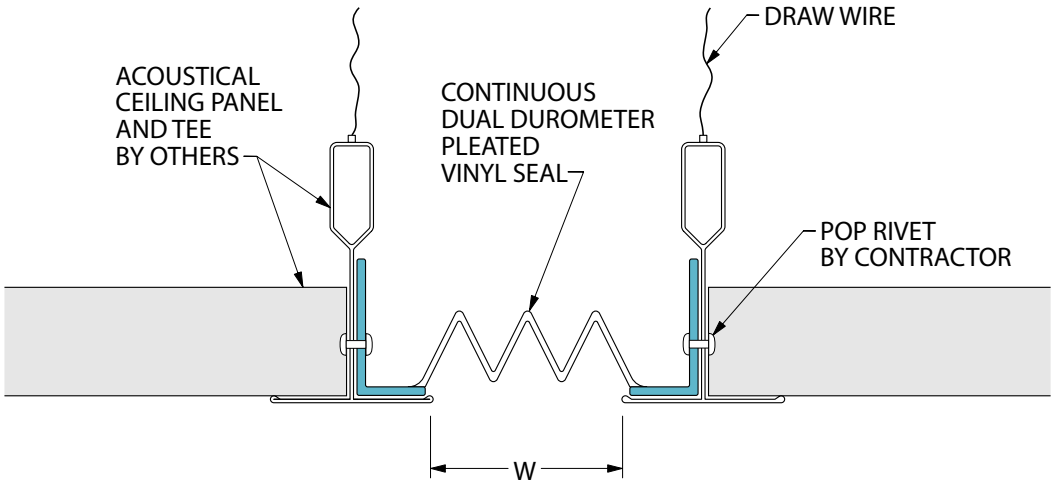
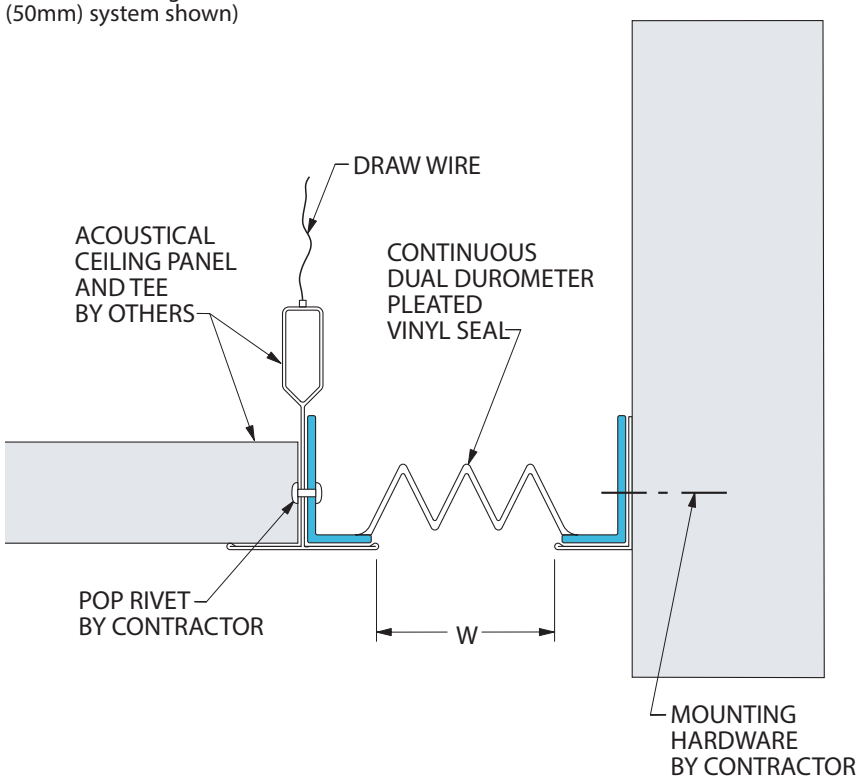
821-V24 Ceiling/Ceiling
(2" (50mm) system shown)




821-V23 Wall/Ceiling
(2" (50mm) system shown)



***Specifier Note: Specification provided by:**
**JointMaster, a Division of Inpro Corporation**
**S80 W18766 Apollo Dr. Muskego WI 52150**
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## PART 1 – GENERAL

### 1.01 RELATED DOCUMENTS

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

### 1.02 SUMMARY *Specifier Note: Delete items below in red not applicable to this project.

A. Section includes:
B. Scope of Work
   1. Interior expansion control systems
   2. Exterior expansion control systems
   3. Parking, Open-Air structure and Plaza expansion joint systems.
   4. Expansion Joint accessories including provisions for fire rated assemblies, moisture barriers, waterproofing, acoustic and thermal measures.
C. Provide all labor, materials and services to perform operations in connection with furnishing, delivery, and installation of work related to this section.

### 1.03 RELATED WORK

A. Related work includes but is not limited to:
   1. Cast-In-Place Concrete: Section 03300.
   2. Unit Masonry: Section 04810.
   3. Structural Steel: Section 05120.
   4. Light Gage Metal Framing: Section 05400.
   5. Roofing and Waterproofing: Section 07500
   6. Roof Expansion Assemblies - 07716
   7. Sheet Metal Flashing and Trim: Section 07620.
   8. Joint Sealants as Weather Seals: Section 07900
   9. Cement Plaster: Section 09210.
   10. Gypsum Wallboard: Section 09260.

### 1.04 REFERENCES

A. Work shall be performed following applicable Local, State, and Federal codes and regulations.
B. Publications listed herein are part of this specification. See below for standards where applicable to the product listed:
   1. American Society for Testing and Materials (ASTM):
      a. ASTM B221, “Standard Specifications for Aluminum and Aluminum-Alloy Extrusions.”
      b. ASTM B209, “Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
      c. ASTM E1399 “Cyclic Movement and Measuring of Minimum/Maximum Joint Widths of Architectural Joint Systems.”

d. ANSI/U.L. No. 263, UL2079 and ULCS115 Fire Rated Testing including hose stream test at full rated period. Underwriter's Laboratories shall classify adjacent substrate assemblies.
e. ASTM E1612, Standard Specification for Preformed Architectural Compression Seals for Buildings and Parking Structures.
f. EN 1366-4 and BS 476 part 20 compliant fire rated linear expansion joints.

**1.05 DEFINITIONS**

A. Product Movement capabilities
   1. Product operating range defined as a percentage of the nominal joint width.
   2. Industry standard requirements: 25%+- operating range for thermal conditions. 50%+- operating range for seismic and windsway conditions.

B. Product "Load" descriptions:
   1. Standard Loads: common applications with high volume pedestrian crossing. Applicable for typical office settings or other spaces where occasional rubber wheeled traffic (i.e.- mail carts, trolleys, light weight cleaning equipment and luggage) will be encountered. 500 lb. [230 kg] maximum.
   2. Moderate Loads: suggests applications where occasional heavier maintenance equipment with soft rubber tires (such as gurneys, light duty scissor lifts, motorized cleaning equipment) would be added to the Standard traffic definition. The systems in this category are comprised of heavier aluminum extrusions and thicker walled extruded rubber seals. 1000 lb [450 kg] maximum.
   3. Heavy Duty Concentrated Loads: reserved for project conditions where heavy loads (i.e.- vehicles, mobile medical equipment, coin carts, materials handling equipment) are common. Capable of multi-directional movement and resistance to recurring lateral impact forces. Typical 2000 lb. [910 kg] maximum. *7000 lb. [3175 kg] (*Specific models only).

**1.06 SYSTEM DESCRIPTION**

A. Joint coverplate systems shall permit daily thermal expansion and contraction of building elements, minor foundation settlement, and common windsway movements of the structure without disengagement.
   1. Joint system details shall clearly indicate X-axis joint movement capabilities (horizontal contraction/ expansion). Y-axis joint movement (in-plane shear), and Z-axis movement (vertical shear) may be requested of the Manufacturer if applicable.
   2. Movement capabilities shall be clearly defined as a percentage of the nominal joint width or with distinct dimensions defined on product details.

B. Joint Systems shall allow for seismic movement (if applicable), matching requirements as defined within the Project Specific Structural Specifications.

C. Fire Rated Assemblies shall be tested by registered Third Party Testing Agencies in accordance with UL2079, ULC S115, or BS 476 classified systems. Expansion joint assembly fire rating shall match or exceed the fire rating of adjacent construction.

**1.07 QUALITY ASSURANCE**

A. Architectural Joint Cover Manufacturer: Furnish horizontal and vertical systems from a Manufacturer with a minimum of ten (10) years of experience in the design, engineering and fabrication of expansion joint systems.

B. Fire Rated Assembly Manufacturer: Furnish horizontal and vertical rated systems from a single Manufacturer to ensure compatibility. Intersection of/ or transition between dissimilar systems is not allowed unless reviewed and approved by AHJ.

C. Installer: Contractor with not less than three (3) years of successful experience in the installation of systems similar to those required by Project.

**1.08 ACTION SUBMITTALS**

A. Manufacturer's Specifications, technical data, installation instructions, and detail drawings for each proposed system.
B. Listings/ Certifications of all Fire Rated Assemblies secured through Registered Third Party Testing Agency.
C. Representative sample of specified systems 4" [100mm] minimum length (if required by Project Architect)
D. UL Environmental GreenGuard Gold Certification required for any Synthetic Rubber seals to be utilized in project. Ensure low VOC readings are reported by Third Party Registered Testing Agency for building projects with Health Care or Educational intent.

**1.09 DELIVERY AND STORAGE**

A. Manufacturer to provide protective film on all exposed cover plate components.
B. Deliver joint systems to jobsite in new, clean, unopened cartons or crates of sufficient size and strength to protect materials during transit.
C. Inspect materials upon arrival. Store components in original containers in a clean, dry location. Ensure temperature or moisture sensitive components are stored in a tempered location.
D. Contractor to provide temporary protective covers on all installed finished surfaces. Protection is required to guard against both surface abrasions as well as overloading of horizontal deck components by construction traffic.

**1.10 SEQUENCING**

A. Submittals shall be completed and remitted to the Project Architect within 4 weeks after award of subcontract.
B. Subcontract for the work of this section shall be planned to allow sufficient time for Manufacturer's production and delivery scheduling.

**1.11 WARRANTY**

A. Standard JointMaster/InPro Corporation limited warranty against material and manufacturing defects for a period of not less than five (5) years when installed in accordance with Manufacturer's recommendations.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURER**

A. Manufacturer must be capable of providing a full range Interior and Exterior Architectural Joint Cover systems as well as a full compliment of expansion joint accessories.
B. Manufacturer must be capable of providing project specific details accurate to the building construction type.
C. Substitutions: Not permitted.
D. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00

## 2.02 MATERIALS

A. Aluminum: Alloy types of 6061-T6, 6063-T6, 6005A, or 5052-H32 sheet goods
   1. Floor systems: Mill finish standard
   2. Walls and Ceilings: Standard Class II Clear Anodized [Color Anodized, Kynar Painted, Custom Color Painted optional]

B. Stainless Steel: Alloy Type 304 for plates and strips.
   1. Brushed #4 surface finish standard

C. Elastomeric Seals: Synthetic rubber seals comprised of a dual extrusion Santoprene rubber for heat welding of all transitions and seams for a monolithic, weathertight installation. EPDM and Neoprene substitutions are not allowed due to their lack of ability to meet this specific requirement.
   1. All Santoprene seals must be certified as low VOC as certified by UL Environmental GreenGuard Gold Certification

D. Horizontal and Vertical Moisture Barrier (optional accessory): Min. 45 mil thick fabric reinforced EPDM with optional watertight drain assemblies.

E. Horizontal and Vertical Insulated Vapor Barrier (optional accessory):
   1. Min. R Value of 15
   2. Must meet ASTM E1399 Cyclic movement requirements matching movement requirements specific to project.

### 2.03.01 INTERIOR FLOOR JOINT SYSTEMS

***Specifier Note: Delete items below in red not required. Reference online website resources for Features and Benefits of each proposed system to determine compatibility with your project specific needs.**

A. Single Seal joint systems
   1. Recessed and Surface Mount systems
   2. Joint range applications 1-3” [25-75mm]
   3. Joint operating range 25%+- of total nominal joint width
   4. New and existing construction applications
   5. Santoprene Seal traits:
      a. Dual durometer extruded Santoprene with Shore Hardnesses of 60 Shore A and 40 Shore D to ensure longevity of installation. Single durometer seals shall not be allowed.
      b. Flat seal must maintain inherent dimensional stability and include structural spine inserts (where applicable) allowing for additional load resistance.
   6. Frames adaptable to multiple floor finishes
   7. Addresses Standard Loading conditions
   8. Recessed/ Flush system 101, 151 Series
   9. Surface mounted system 104, 105, 106 Series
   10. New to Existing system 107, 108, 109, 120, 141 Series

B. Dual Seal and Coverplate Joint Systems
   1. Recessed Mounting system
   2. Standard Joint range applications 2-18” [50-450mm]
   3. Joint operating range 50%+- of total nominal joint width
   4. Specific systems must be capable of flooring infill thickness of 3/8” [10mm]
   5. Concealed hardware configuration
   6. Addresses Standard Loading conditions

7. Recessed/ Flush system 221, 223 Series

C. Glide Plate Joint Systems
   1. Recessed Mounting System
   2. Joint range applications 1-6” [25-150mm]
   3. Joint operating range 50%+- of total nominal joint width
   4. Adaptable to multiple floor finishes
   5. Coverplate and frames must be segregated by high durometer seals to eliminate system rattle.
   6. Concealed hardware configuration
   7. Addresses Standard Loading conditions
   8. Recessed/ Flush system 300, 304 Series
   9. New to Existing system 320 Series

D. General Purpose/ Centerbar-Driven Joint Systems
   1. Recessed and Surface Mounting systems
   2. Standard Joint range applications 2-18” [50-450mm]
   3. Joint operating range 50%+- of total nominal joint width. Increased movement range available upon request.
   4. Specific systems must be capable of flooring infill thickness of 3/8” [10mm]
   5. System shall employ use of steel centerbar components at 18” [450mm] on center maximum spacing. Centerbar functions to provide positive pressure on coverplate and recenters system following cyclic movement.
   6. Zero-Bump system options must be offered to avoid jarring of any rolling loads transitioning over expansion joint. Achieve this requirement with tapered center plate profile and sloped frames to achieve a vertical change-in-plane not to exceed 1/8” [3.9 mm] (or 8% slope) at any point.
   7. Industrial system options consisting of extruded or fabricated wings recessed into the deck matching the thickness of the centerplate. Centerplate profile with beveled edges of an angle ensuring ADA compliancy.
   8. Addresses Moderate Loading conditions.
   9. Recessed/ Flush system 428, 430, 432 Series
   10. Surface Mount system 471 Series

E. Narrow Sightline/ Pan Coverplate Systems
   1. Recessed Mounting system
   2. Standard Joint range applications 2-18” [50-450mm]
   3. Joint operating range 50%+- of total nominal joint width. Increased movement range available upon request.
   4. Centerplate pan profile depth equal to a minimum 1¾” [44mm] standard to allow for deep floor finishes.
   5. Integral flat Santoprene seals shall be offered to address thermal concerns and prevent dirt and water traps without the use of sealants. If desired, Architect may choose optional use of backer rod and polyurethane sealants in lieu of seals.
   6. Standard product addresses Moderate Loading conditions with the option to alter profile for Heavy Concentrated Loads.
   7. Recessed/ Flush system 501 Series
   8. New to Existing system 502 Series

F. Heavy Duty Joint Systems
   1. Recessed Mounting system
   2. Standard Joint range applications 2-18” [50-450mm]

3. Joint operating range 50%+- of total nominal joint width. Increased movement range available upon request.
4. System must employ use of heavy duty stainless steel centerbar components at 18" [450mm] on center maximum spacing (if applicable). Centerbar functions to provide positive pressure on coverplate and re-centers system following cyclic movement.
5. Zero-Bump system options must be offered. to avoid jarring of any rolling loads transitioning over expansion joint. Achieved with tapered center plate profile and sloped frames to achieve a vertical change-in-plane not to exceed 3/16" [4.5 mm] (or 10% slope) at any point.
6. Industrial system options consisting of extruded or fabricated wings recessed into the deck matching the thickness of the centerplate. Centerplate profile with beveled edges of an angle ensuring ADA compliancy.
7. Addresses Heavy Duty Loading conditions.
8. Recessed/ Flush system 721, 757, 787, 797 Series

G. Standard Surface Mount Coverplate Systems
1. Surface mounted profiles mechanically fastened to a single side of the expansion joint opening.
2. Standard Nominal Joint applications 2-12" [50-300mm]
3. Joint operating range 50%+- of total nominal joint width
4. New and existing construction applications.
5. Addresses Standard and Moderate Loading conditions
6. Surface Mount system 801, 806, 807, 808 Series

H. Waterproof Foam Seal (installed below coverplate system):
1. Horizontal or Vertical Closed Cell Waterproof Foam:
a. Standard Joint range applications 2-18" [50-450mm]
b. Joint operating range 50%+- of total nominal joint width
c. Pre-formed, closed cell, crosslinked EVA copolymer polyethylene material. Low density, impermeable, ethylene vinyl acetate or nitrogen blown polyethylene foam installed in compression. Fastened with 2 part epoxy

d.

| PROPERTY | TEST METHOD | REQUIREMENTS |
|---|---|---|
| Tensile Strength | ASTM D3575 | 120 psi |
| Resistance to UV & Moisture requirements | DIN 18 542 | Meets |
| Density | ASTM D3575 | 3.0 pcf |
| Compression Strength | ASTM D3575 | 15pdf @ 50% |
| Compression Set Recovery | ASTM D3575 | 9% @ 24 Hr. |
| Water Resistance | ASTM D3575 | <.03 psf |

c. Heatwelded miters and seams required for monolithic water protection.
d. 1100, 1150 Series

## 2.03.02 INTERIOR WALL AND CEILING JOINT SYSTEMS

***Specifier Note:** **Delete items below in red not required. Reference online website resources for Features and Benefits of each proposed system to determine compatibility with your project specific needs.**

A. Single Flat Seal joint systems
1. Recessed and Surface Mount framing systems
2. Joint range applications 1-3" [25-75mm]
3. Joint operating range 25%+- of total nominal joint width

4. New and existing construction applications
5. Flat Santoprene Seal traits:
    a. Dual durometer extruded Santoprene with Shore Hardnesses of 60 Shore A and 40 Shore D to ensure longevity of installation. Single durometer seals shall not be allowed.
    b. Flat seal must maintain inherent dimensional stability and include structural spine inserts (where applicable) allowing for additional load resistance.
6. Recessed/ Flush system 101, 104, 112 Series
7. Surface Mount system 113, 118 Series

B. Pleated Seal joint systems
1. Recessed and Surface Mount framing systems
2. Joint range applications 2-24” [50-600mm]
3. Joint operating range 50%+- of total nominal joint width
4. New construction applications
5. Pleated Santoprene Seal traits:
    a. Overall seal bellows depth requires 5/8” [15.875 mm]. in order to maintain inherent stability and linear lines after installation
    b. Seal Wall thickness not less than 1/8” [3.175 mm] for high abrasion resistance.
    c. Seal profile requires alignment pin holes to aid in heatwelded seam alignment.
    d. Seal durometer of 70 shore A
    e. No EPDM or Neoprene substitutions allowed
    f. Manufacturer must carry a color range of a minimum of (6) six standard color options. Custom seal colors must be available upon request.
6. Recessed/ Flush system 611, 612, 115 Series
7. Surface Mount system 114 Series

C. Dual Seal with Coverplate Joint Systems
1. Recessed Mount system
2. Standard Joint range applications 2-18” [50-450mm]
3. Joint operating range 50%+- of total nominal joint width
4. Specific systems must be capable of gypsum board infill thickness of 3/8” [10mm]
5. Concealed hardware configuration
6. Pleated Santoprene Seal traits:
    a. Overall seal bellows depth requires 5/8” [15.875 mm]. in order to maintain inherent stability and linear lines after installation
    b. Seal Wall thickness not less than 1/8” [3.175 mm] for high abrasion resistance.
    c. Seal profile requires alignment pin holes to aid in heatwelded seam alignment.
    d. Seal durometer of 70 shore A
    e. No EPDM or Neoprene substitutions allowed
    f. Manufacturer must carry a color range of a minimum of (6) six standard color options. Custom seal colors must be available upon request.
7. Flat Santoprene Seal traits:
    a. Dual durometer extruded Santoprene with Shore Hardnesses of 60 Shore A and 40 Shore D to ensure longevity of installation. Single durometer seals shall not be allowed.
    b. Flat seal must maintain inherent dimensional stability and include structural spine inserts (where applicable) allowing for additional load resistance.
    c. Clear Anodized Class II Anodized Finish

8. Recessed/ Flush system 221, 223, 243 Series

D. Glide Plate Joint Systems
   1. Recessed and Surface Mounting System
   2. Joint range applications 1-24” [25-600mm] (select systems)
   3. Joint operating range 50%+- of total nominal joint width (100%+- available by request on select systems)
   4. Adaptable to multiple wall finishes
   5. Coverplate and frames must be segregated by high durometer seals to eliminate system rattle.
   6. Concealed hardware configuration
   7. Clear Anodized Class II Anodized Finish
   8. Recessed/ Flush system 300, 353 Series
   9. Surface Mount system 355 Series

E. General Purpose/ Centerbar-Driven Joint Systems
   1. Recessed and Surface Mounting systems
   2. Standard Joint range applications 2-24” [50-600mm]
   3. Joint operating range 50%+- of total nominal joint width. Increased movement range available upon request.
   4. Specific systems must be capable of flooring infill thickness of 3/8” [10mm]
   5. System shall employ use of stainless steel centerbar components at 18” [450mm] on center maximum spacing. Centerbar functions to provide positive pressure on coverplate and recenters system following cyclic movement.
   6. Industrial system options consisting of extruded or fabricated wings recessed into the deck matching the thickness of the centerplate. Centerplate profile with beveled edges of an angle ensuring ADA compliancy.
   7. Clear Anodized Class II Anodized Finish
   8. Surface Mount 491 Series

F. Standard Surface Mount Coverplate
   1. Surface mounted profiles mechanically fastened to a single side of the expansion joint opening.
   2. Standard Nominal Joint applications 2-6” [50-150mm]
   3. Joint operating range 50%+- of total nominal joint width
   4. New and existing construction applications.
   5. Clear Anodized Class II Anodized Finish
   6. Surface Mount system 801, 811 Series

G. Vertical Open Cell Silicone Faced Water-resistant Foam:
   1. Standard Joint range applications 2-12” [50-300mm]
   2. Joint operating range 50%+- of total nominal joint width
   3. Pre-compressed open micro-cell polyurethane foam impregnated with a polymer sealing compound (2% wax content required for optimal hydrophobic qualities). Manufactured of monolithic piece of non-laminated, open cell, high density (1.5lb/sqft min.) The foam sealant shall have a fully cured, modified silicone rubber top coat, factory applied when the material is fully expanded. The sealant shall be provided in a pre-compressed state. Bonding Adhesive the adhesive shall be waterproof epoxy adhesive that is compatible with concrete and steel as recommended by the manufacturer. Splice Adhesive the splice adhesive may be any polyurethane adhesive recommended by the manufacturer of the foam sealant.

| PROPERTY | TEST METHOD | REQUIREMENTS |
|---|---|---|

| | | |
|---|---|---|
| Tensile Strength | ASTM D3574 | Meets 212 psi min. |
| Staining and bleeding requirements | DIN 18 542 | Meets |
| Elongation, Ultimate | ASTM D3574 | 150% min. |
| Resistance to UV & Moisture requirements | DIN 18 542 | Meets |
| Density | | 10lb/cu.ft. |
| Compression Set | ASTM D3574 | 3% max. |
| Flammability | UL 94VO | Self Extinguishing |
| Low Temperature Flexibility F | ASTM C711 | No Cracking or Splitting 32°F to 0° |
| Water Resistance | ASTM E 331 | 12 psf min |

4. Surface coated with a colorized, elastomeric layer of silicone in (26) standard color options
5. 1200 Series

### 2.03.03 EXTERIOR HORIZONTAL DECK JOINT SYSTEMS

***Specifier Note: Delete items below in red not required. Reference online website resources for Features and Benefits of each proposed system to determine compatibility with your project specific needs.**

A. Heavy Duty/ Centerbar-Driven Joint Systems
   1. Recessed Mounting systems
   2. Standard Joint range applications 2-12" [50-300mm]
   3. Joint operating range 50%+- of total nominal joint width. Increased movement range available upon request.
   4. System shall employ use of steel centerbar components at 18" [450mm] on center maximum spacing. Centerbar functions to provide positive pressure on coverplate and recenters system following cyclic movement.
   5. Zero-Bump system options must be offered. to avoid jarring of any rolling loads transitioning over expansion joint. Achieve this requirement with tapered center plate profile and sloped frames to achieve a vertical change-in-plane not to exceed 1/8" [3.9 mm] (or 8% slope) at any point.
   6. Waterproofing measures required to be incorporated into project. Reference range of accessory product options under 2.03.06.
   7. Addresses Heavy Duty loading. Maximum 9000# lb. [4500 kg] total vehicle load.
   7. Systems utilized for parking decks are not rated for Bridge and Highway use. Maximum 10mph [16mph] permissible.
   8. Recessed/ Flush system 787, 797 Series

B. Compression Seal Waterproof Systems
   1. Recessed Mounting systems
   2. Standard Joint range applications 1-4" [25-100mm]
   3. Joint operating range 50%+- of total nominal joint width.
   4. Visible face holds linear lines during expansion and compression. Webbing profile to provide a uniform horizontal and vertical load resistance. Material must be heat weldable allowing for watertight seams and transitions. Highly resistant to UV degradation, extreme temperatures, and chemicals.
   5. AR Series- suitable for heavy pedestrian and moderate vehicle loadings and installed with two-part epoxy. Profile must incorporate sidewall ribs to pool epoxy and add

surface area for increased adhesion to deck.

6. CR Series- suitable for heavy duty and vehicular loadings, installed with tack coat and
elastomeric header. Profile must incorporate dual barbed wings and header keyway for
secure placement of system.
7. SR Series- For use in conjunction with Splitslab concrete deck applications. Variable upstand heights available for a wide range of topping slab thicknesses. Aluminum or Stainless Steel cover plates can be added for high loads or pedestrian foot traffic. Aluminum or Stainless Steel seal retaining caps available

## 2.03.04 EXTERIOR VERTICAL WALL JOINT SYSTEMS

***Specifier Note: Delete items below in red not required. Reference online website resources for Features and Benefits of each proposed system to determine compatibility with your project specific needs.**

A. Pleated Seal system
   1. Standard Nominal Joint applications 2-24” [50-600mm]
   2. Joint operating range 50%+- of total nominal joint width
   3. Integral flexible moisture barrier membrane. 2 ply reinforced EPDM 45 mil thk membrane with nylon mesh reinforcing element
   4. New and existing construction applications.
   5. Pleated Santoprene Seal traits:
      a. Overall seal bellows depth requires 5/8” [15.875 mm]. in order to maintain inherent stability and linear lines after installation
      b. Seal Wall thickness not less than 1/8” [3.175 mm] for high abrasion resistance.
      c. Seal profile requires alignment pin holes to aid in heatwelded seam alignment.
      d. Seal durometer of 70 shore A
      e. No EPDM or Neoprene substitutions allowed
      f. Manufacturer must carry a color range of a minimum of (6) six standard color options. Custom seal colors must be available upon request.
   6. Recessed/ Flush system 615, 616 Series

B. Metal Coverplate system
   1. Recessed and Surface Mount frame systems
   2. Standard Joint range applications 2-24” [50-600mm]
   3. Integral flexible moisture barrier membrane. Reinforced EPDM 45 mil thk membrane with nylon reinforcement
   4. New and existing construction applications
   5. Baseboot and drain fittings (optional) to discharge water intrusion to exterior.
   6. Recessed/ Flush system 300E
   7. Surface Mount system 300E, 651 Series

C. Infillable Pan Coverplate system
   1. Recessed Mount frame systems
   2. Recessed pan coverplate system capable of receiving a wide range of building finishes of varying dimensional dimensions and weights Minimum depth of pan is 1” (25mm).
   3. Standard Joint range applications 2-36” [50-900mm]

4. Integral flexible moisture barrier membrane. 2 ply reinforced EPDM 45 mil thk membrane with nylon mesh
5. Baseboot and drain sittings (optional) to discharge water intrusion to exterior.
6. Recessed/ Flush system 601 Series

D. Vertical Open Cell Silicone Faced Water-resistant Foam:
1. Standard Joint range applications 2-12" [50-300mm]
2. Joint operating range 50%+- of total nominal joint width
3. Pre-compressed open micro-cell polyurethane foam impregnated with a polymer sealing compound (2% wax content required for optimal hydrophobic qualities). Manufactured of monolithic piece of non-laminated, open cell, high density (1.5lb/sqft min.) The foam sealant shall have a fully cured, modified silicone rubber top coat, factory applied when the material is fully expanded. The sealant shall be provided in a pre-compressed state. Bonding Adhesive the adhesive shall be waterproof epoxy adhesive that is compatible with concrete and steel as recommended by the manufacturer. Splice Adhesive the splice adhesive may be any polyurethane adhesive recommended by the manufacturer of the foam sealant.

| PROPERTY | TEST METHOD | REQUIREMENTS |
|---|---|---|
| Tensile Strength | ASTM D3574 | meets 212 psi min. |
| Staining and bleeding | DIN 18 542 | Meets requirements |
| Elongation, Ultimate | ASTM D3574 | 150% min. |
| Resistance to UV & Moisture | DIN 18 542 | Meets requirements |
| Density | | 10lb/cu.ft. |
| Compression Set | ASTM D3574 | 3% max. |
| Flammability | UL 94VO | Self Extinguishing |
| Low Temperature Flexibility | ASTM C711 | No Cracking or Splitting 32°F to 0° F |
| Water Resistance | ASTM E 331 | 12 psf min |

4. Surface coated with a colorized, elastomeric layer of silicone in (26) standard color options
5. Recessed/ Flush system 1200 Series

## 2.03.05 EXTERIOR ROOF JOINT SYSTEMS

*Specifier Note: Delete items below in red not required. Reference online website resources for Features and Benefits of each proposed system to determine compatibility with your project specific needs.

A. Roof Expansion Joint Bellows System
1. Standard Joint range applications 2-18" [50-450mm]
2. Joint operating range 50%+- of total nominal joint width
3. Flexible bellow combination of a flexible rubber membrane, supported by a closed cell foam to form flexible bellows, with two metal flanges, adhesively and mechanically combined to the bellows
   a. Bellows: 0.060 in. (1.5 mm) thick non-reinforced EPDM bellows adhered and mechanically combined to metal flanges by bifurcation process.
   b. Bellow Supports: Closed cell foam, 3⁄8 in. (9.5 mm) minimum thickness.
   c. Flange Metal: Hot dipped Galvanized, Stainless Steel, Aluminum, or Copper.
   d. Provide matching factory-fabricated corners, transitions, intersections and terminations.

4. 672, 674 Series

B. Metal Coverplate Roofing system
   1. Standard Joint range applications 2-24” [50-600mm]
   2. Joint operating range 50%+- of total nominal joint width
   3. Intregal flexible moisture barrier membrane. Reinforced EPDM 45 mil thk membrane with nylon reinforcement
   4. New and existing construction applications
   5. Baseboot and drain fittings (optional) to discharge water intrusion to exterior.
   6. Curb mounted 651, 661, 691 Series

**2.03.06 ACCESSORY SYSTEMS**

***Specifier Note: Delete items below in red not required. Reference online website resources for Features and Benefits of each proposed system to determine compatibility with your project specific needs.**

A. Fire Rated Barriers and Blanket Systems
   1. Rated Fire Barrier system options ranging from 1-4 Hour Rating requirements with options meeting the following requirements:
   2. Tested by Accredited Third Party Architectural Testing and Listing Agency in accordance with ASTM E814/E119/E1966, UL 2079, EN 1366-4, BS 476 part 20 at its full rated period.
   3. Product selection options:
      a. J925 Series - 2 Hr. Mineral Wool and Firecaulk Fire Barrier System meeting 20%+- movement for Thermal applications on joints up to 3” [75mm] nominal width. (EN 1366-4, BS 476 part 20 N/A)
      b. J995 Series- Silicone faced Fire Rated Foam for movement conditions up to 50%+-. For seismic applications on joints up to 6” [150mm] nominal width. 26 standard colors available.
      c. Fireline F140 Series- Fire Rated Blanket systems for small joint openings with 50%+- movement for seismic applications on joints up to 4” [100mm] nominal width. Patented pre-attached flanges and male/female seam configuration. Patented compression installation spring system for non-invasive installation. Prefabricated male/ female seam configuration required for consistent fire protection. No mechanical fastening or continuous firecaulk required.
      d. Fireline F520 Series - Fire Blanket systems 50 or 80%+- movement capability up to and including 36” (900mm) maximum joint openings. Patented male/ female seam configuration and preattached mounting flanges. Multiple application profiles available to meet to be top, inside, or bottom joint installations.
      e. Fireline Waterguard Series - Fire Blanket systems 50 or 80%+- movement capability up to and including 36” (900mm) maximum joint openings. Integral high temperature waterproofing membrane with tested drain penetration (optional). Patented male/ female seam configuration and preattached mounting flanges. Multiple application profiles available to meet to be top, inside or bottom of joint installations. (EN 1366-4, BS 476 part 20 N/A)

B. Moisture Barrier for vertical and horizontal applications
   1. Reinforced EPDM 45 mil thk membrane with nylon mesh reinforcement. Optional drain fittings available in .375” and 1” inside diameter. On center spacing of drains to

be determined by Plumbing Engineer of Record. Seams and directional transitions designed to ensure watertight seal and positive condensation drainage.

C. Insulated Thermal Moisture Barrier for vertical and horizontal applications
   1. Reinforced EPDM 45 mil thk membranes sandwiching commercial grade batt insulation adhered and pinned together to resist slump and cyclic movement matching the capabilities of the specified coverplate systems. Maintain min. R-15 value. Seams and directional transitions designed to ensure watertight seal and positive condensation drainage.

D. Waterproof Foam Seal (installed below coverplate system):
   1. Horizontal or Vertical Closed Cell Waterproof Foam:
      a. Standard Joint range applications 2-18" [50-450mm]
      b. Joint operating range 50%+- of total nominal joint width
      c. Pre-formed, closed cell, crosslinked EVA copolymer polyethylene material. Low density, impermeable, ethylene vinyl acetate or nitrogen blown polyethylene foam installed in compression. Fastened with 2 part epoxy
      d.

| PROPERTY | TEST METHOD | REQUIREMENTS |
|---|---|---|
| Tensile Strength | ASTM D3575 | 120 psi |
| Resistance to UV & Moisture | DIN 18 542 | Meets requirements |
| Density | ASTM D3575 | 3.0 pcf |
| Compression Strength | ASTM D3575 | 15pdf @ 50% |
| Compression Set | ASTM D3575 | 9% @ 24 Hr. Recovery |
| Water Resistance | ASTM D3575 | <.03 psf |

      c. Heatwelded miters and seams required for monolithic water protection.
      d. 1100 Series

**2.04 FABRICATION**

A. Field assemble components provided in standard lengths with pre-packaged fasteners and accessories whenever possible.
B. Fabricate special transitions and corner fittings as required. Miter and heat weld elastomeric seals for monolithic splices and transitions.

## PART 3 – EXECUTION

**3.01 INSPECTION**

A. Prior to starting work, verify that structural gap and blockout dimensions are in conformance with manufacturer's submittal data. Do not begin work until all unsatisfactory substrate conditions are resolved. See manufacturer for recommended tolerances.
B. Carefully inspect installed work of other Trades and verify that such work is complete to allow the work of this section to commence.
C. Schedule inspection of all Waterproofing measures and Fire Rated life safety product prior to installation of coverplate systems –or- provide allowance for removal of 10% of coverplate systems for inspection before final acceptance.

**3.02 INSTALLATION**

A. Joint systems: Install in accordance with manufacturer's instructions.
B. Align work plumb, level and flush with adjacent surfaces. Mechanically anchor to substrate. Allowances should be made where actual structural gap at time of installation varies from nominal design gap. No shimming of frames is permitted.

C. Coordinate with work of other Sections.
D. If concrete blockouts (rebates) are required, ensure continuous support equal to surrounding substrate structural values.
E. Fire Rated Assemblies: Where required, install to manufacturer's instructions.
F. Moisture Barrier: Where required, install to manufacturer's instructions.

**3.03 PROTECTION AND CLEANING**

A. Protect the completed Expansion Control system work from damage during construction. Damage protection includes surface abrasion and overloading of coverplate by materials handling equipment and construction waste/debris.
B. Protection from environmental factors required throughout installation process until Project Closeout. Protection includes but is not limited to rain events, moisture protection, exposure to emperature fluctuations or direct sunlight for temperature sensitive product offerings.
C. Prior to project closeout, clean all exposed surfaces with a suitable cleaner. Manufacturer suggests Xylene for Santoprene seals, ensure non-solvent cleansers are not utilized throughout product lifespan.