

## SUBSTITUTION

**REQUEST** (After the Bidding/Negotiating Phase)

Project:	Substitution Request	Number:
	From:	
То:	Date:	
	A/E Project Number:	
Re:	Contract For:	
Specification Title:	Description:	
Section: Page:	Article/Paragraph:	
Proposed Substitution:		
Manufacturer:		Phone:
Address:		
Trade Name:		Model No.:
Installer:		Phone:
Address:		
History: New product 1-4 years old	5-10 years old More than 10 years	s old
Differences between proposed substitution and s	specified product:	
Point-by-point comparative data attached —	REQUIRED BY A/E	
Reason for not providing specified item:		
Similar Installation:		
Project:	Architect:	
Address:	Owner:	
	Date Installed:	
Proposed substitution affects other parts of Wor	k: 🗌 No 🗌 Yes; explain	
Savings to Owner for accepting substitution:		(\$).
Proposed substitution changes Contract Time:	No Yes [Add] [Dec	duct]days.
Supporting Data Attached: Drawings	Product Data Samples	Tests Reports

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by:	
Signed by:	
Firm:	
Address:	
Telephone	
relephone.	
Attachments:	

#### A/E's REVIEW AND ACTION

<ul> <li>Substitution approved -</li> <li>Substitution approved a</li> <li>Substitution rejected - U</li> <li>Substitution Request red</li> </ul>	Make submittals in ac s noted - Make submit Jse specified materials ceived too late - Use sp	cordance with Specificati tals in accordance with Sp pecified materials.	on Section 01 25 00 pecification Section	Substitution Procedures. 01 25 00 Substitution Pro	cedures.
Signed by:				Date:	
Additional Comments:	Contractor	Subcontractor	Supplier	Manufacturer	A/E

# **EWJ-Series (Exterior Wall Joint)**

#### FEATURES

**WEATHER RESISTANT** The combination of the visual seal and moisture barrier ensures the elements are kept outside.

**CONTINUOUS SIGHT LINE** This system can be used on wall, ceilings and corners to provide seamless and continuous aesthetics.

#### DETAILS

MATERIAL 6063-T6 Aluminum, Meets ASTM B209 FINISH Mill

#### MOVEMENT

- Thermal: Horizontal and Vertical
- Seismic: Lateral Shear

MOUNTING Recessed JOINT SIZE 2 inches to 24 inches LENGTH Continuous APPLICATION Exterior INSTALLATION Wall or Ceiling OPTIONS Additional size and material options available upon request.



WALL/CEILING-TO-WALL/CEILING



ELASTOMERIC FACE SEAL



#### WALL/CEILING-TO-CORNER



MODEL	APPLICATION	JOINT SIZE AT MEAN T°F	EXPOSED SIGHT LINE	TOTAL MOVEMENT	MODEL	APPLICATION	JOINT SIZE AT MEAN T°F	EXPOSED SIGHT LINE	TOTAL MOVEMEN
EWJ-200	Wall/Ceiling to Wall/Ceiling	2" (51mm)	2" (51mm)	2" (51mm)	EWJ-1500	Wall/Ceiling to Wall/Ceiling	15" (381mm)	15" (381mm)	15" (381mm)
EWJ-300	Wall/Ceiling to Wall/Ceiling	3" (76mm)	3" (76mm)	3" (76mm)	EWJ-1600	Wall/Ceiling to Wall/Ceiling	16" (406mm)	16" (406mm)	16" (406mm)
EWJ-400	Wall/Ceiling to Wall/Ceiling	4" (102mm)	4" (102mm)	4" (102mm)	EWJ-1800	Wall/Ceiling to	18" (457mm)	18" (457mm)	18" (457mm)
EWJ-500	Wall/Ceiling to Wall/Ceiling	5" (127mm)	5" (127mm)	5" (127mm)	EWJ-2000	Wall/Ceiling to	20" (508mm)	20" (508mm)	20" (508mm)
EWJ-600	Wall/Ceiling to Wall/Ceiling	6" (152mm)	6" (152mm)	6" (152mm)		Wall/Ceiling to			
EWJ-800	Wall/Ceiling to	8" (203mm)	8" (203mm)	8" (203mm)	EWJ-2400	Wall/Ceiling	24" (610mm)	24" (610mm)	24" (610mm)
EWJ-900	Wall/Ceiling to Wall/Ceiling	9" (229mm)	9" (229mm)	9" (229mm)	EWJ-200W	Wall/Ceiling to Corner	2" (51mm)	2" (51mm)	2" (51mm)
EWJ-1000	Wall/Ceiling to Wall/Ceiling	10" (254mm)	10" (254mm)	10" (254mm)	EWJ-300W	Wall/Ceiling to Corner	3" (76mm)	3" (76mm)	3" (76mm)
EWJ-1200	Wall/Ceiling to Wall/Ceiling	12" (305mm)	12" (305mm)	12" (305mm)	EWJ-400W	Wall/Ceiling to Corner	4" (102mm)	4" (102mm)	4" (102mm)



Erie Metal Specialties, Inc. 13311 Main Road Akron, NY 14001 Phone: 716-542-3991 Website: www.eriemetal.com E-Mail: sales@eriemetal.com

## **EWJ-Series Installation Instructions**

# SEISMIC ELASTOMERIC WALL & CEILING SYSTEM – EXTERIOR RECESSED APPLICATION

Model(s): EWJ/EWJw

#### EWJ Wall to Wall / Ceiling to Ceiling Cover System - 2" Through 6" Sizes



#### **GENERAL DESCRIPTION**

This Elastomeric Exterior Wall System is a weather resistant system that accommodates thermal and seismic movement. The visual seal matches many exterior building colors, and the rear moisture barrier prevents exterior moisture or condensation from entering the wall cavity.

Introduction + Safety

**GENERAL SAFETY PRECAUTIONS** Improper selection, installation, or use can cause personal injury or property damage. It is solely the responsibility of the user, through their own analysis, to select products suitable to the specific application requirements, ensure proper maintenance and use as intended. Follow local, state, and federal regulations for proper installation and operation requirements.

Please read the complete instructions carefully before beginning any work. To ensure proper installation and performance of the product, the following actions must be completed by the installing contractor. Failure to do so will affect product warranty.

#### Transportation + Storage

- Inspect all shipments and materials for missing or damaged components and hardware.
- Material must be stored in a clean, dry location.

#### Preparation

- Locate the packing slip(s) and shop drawings.
- Verify that all products listed on the packing slip are included in the package.
- Check the products for damage. If products are damaged, report a freight claim immediately and leave the products in their packaging. If you sign for products without reporting damage, you waive your right to a freight claim and will be responsible for replacement cost.
- Read the instructions thoroughly before beginning installation.



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#### Tool List

- Tape measure
- Chop saw to cut product to length
- Electric drill with 5/32" masonry bit & 3/16" metal bit
- Utility knife
- Sealant
- Structural adhesive
- Wood blocking

#### Included with the expansion joint system:

Ø3/16" X 1-3/4" Tapcon fasteners

#### Preinstallation

1. Ensure that the area where the expansion system is being installed is smooth and level.

#### INSTALLATION

 Position aluminum extrusion in the expansion joint and mark hole locations at 18" OC. Drill Ø3/16" holes into the extrusions at the marked locations. When attaching to a concrete wall, drill a hole into the concrete at these locations with a Ø5/32" masonry bit. Repeat on the other side. See Figure 1.



FIGURE 1



2. Apply a bead of sealant (by others) into the channel in the extrusion as shown. Attach the aluminum extrusions to the concrete wall using Ø3/16" Tapcon anchors. For other substrates, use appropriate fasteners and methods. Extrusions should be flush to substrate to ensure a weathertight seal. **See Figure 2**.







FIGURE 3



4. Position the elastomeric face seal into position and push the seals bulbs into the extrusion channels as shown. Make sure the bulbs are seated all the way into the channel. Do not stretch the seal lengthwise during installation. **See Figure 4**.



FIGURE 4



#### EWJw Wall to Corner System - 2" Through 4" Sizes



#### **GENERAL DESCRIPTION**

EMS' EWJw Elastomeric Exterior Wall System is designed to match the EWJ system in corner applications.

#### Preinstallation

1. Ensure that the area where the expansion system is being installed is smooth and level.

#### **INSTALLATION**

1. Position one of the frames onto the wall of the expansion joint and mark hole locations at 18" OC. (Reference shop drawings for more details) Drill Ø3/16" holes into the extrusions at the marked locations. When attaching to a concrete wall, drill a hole into the concrete at these locations with a Ø5/32" masonry bit. **See Figure 1** 





2. Apply a bead of sealant (by others) into the wall extrusion channel as shown. Attach the aluminum extrusions to the concrete wall using Ø3/16" Tapcon anchors. For other substrates, use appropriate fasteners and methods. Extrusion should be flush to substrate to ensure a weathertight seal. **See Figure 2**.



3. Apply structural adhesive (by installer) along the back side of the other extrusions prior to installation. (Follow adhesive manufacturer's guidelines) Mount the extrusion to the inside surface as shown, making sure it lines up with the wall extrusion. Extrusions should be flush to substrate to ensure a weathertight seal. (Also refer to shop drawings for more detail). **See Figure 3.** 

Helpful Hint: Install temporary wood blocking to secure extrusion to wall while adhesive cures.





- 4. Before installing moisture barrier, apply sealant (by others) to the rear locking cavities of the aluminum. Position the moisture barrier and push the bulbs into the rear channel as shown.
  - See figure 4.



FIGURE 4

5. Repeat these instructions when installing the face seal. Make sure the bulbs are seated all the way into the channel. Do not stretch the seal lengthwise during installation. **See Figure 5.** 



FIGURE 5



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#### FIELD SPLICE FOR ELASTOMERIC V-SEAL

1. After determining the angle needed, use a miter box and a non-serrated saw (teeth removed) to cut ends of seal clean, straight and square. **See Figure 1** 



 After donning the proper PPE, use a solvent (by others) that is safe for elastomeric materials and clean any residual material from the cut ends of the seals. Allow to dry prior to Step #3.
 See Figure 2 Figure 2

#### Straight Butt Splice

Insert splice clips (if required) (part # 27511) halfway into the alignment holes on one of the seals. Apply glue, cyanoacrylate or similar adhesive (by others) to both seal ends and follow instructions by the adhesive manufacturer. Almost immediately after adhesive is applied, insert the protruding



ends of the splice clips into the ends of the two seals together, applying uniform pressure for at least two minutes while maintaining contact between both sides. The splice clip is not necessary, but is recommended, especially on larger sized seals. **See Figure 3** 



#### **Vertical Outside Splice**

Insert splice clips (if required) (part # 28090) halfway into the alignment holes on one of the seals. Apply glue, cyanoacrylate or similar adhesive (by others) to both seal ends and follow instructions by the adhesive manufacturer. Almost immediately after adhesive is applied, insert the protruding ends of the splice clips into the ends of the two seals together, applying uniform pressure for at least two minutes while maintaining contact between both sides. The splice clip is not necessary, but is recommended, especially on larger sized seals. **See Figure 4** 



#### **Vertical Inside Splice**

Insert splice clips (if required) (part # 28090) halfway into the alignment holes on one of the seals. Apply glue, cyanoacrylate or similar adhesive (by others) to both seal ends and follow instructions by the adhesive manufacturer. Almost immediately after adhesive is applied, insert the protruding ends of the splice clips into the ends of the two seals together, applying uniform pressure for at least two minutes while maintaining contact between both sides. The splice clip is not necessary, but is recommended, especially on larger sized seals.





scellaneous Systems

#### **Horizontal Splice**

Insert splice clips (if required) (part # 28091) halfway into the alignment holes on one of the seals. Apply glue, cyanoacrylate or similar adhesive (by others) to both seal ends and follow instructions by the adhesive manufacturer. Almost immediately after adhesive is applied, insert the protruding ends of the splice clips into the ends of the two seals together, applying uniform pressure for at least two minutes while maintaining contact between both sides. The splice clip is not necessary, but is recommended, especially on larger sized seals. **See Figure 6** 



 Recheck the splices after the adhesive has cured and reapply adhesive as necessary. Allow 15 minutes prior to installation of seal. Allow 24 hours for adhesive to fully cure and achieve proper working strength. Ensure that the splice of the seal is not within 2" of a joint in the aluminum extrusion, if possible.







4. EMS recommends the use of a "termination boot" at the base of the EWJ Expansion Joint System to aid in removing any moisture that may accumulate between the Visual Seal and Moisture Barrier. This component should be in place prior to the EJ System installation.

Note: Termination Boot can be made of Elastomeric Sheet Good found on the jobsite, but the Boot must be created to accommodate the minimum and maximum movement criteria of the specific system being installed. Boot must also be watertight.





#### PART 1 - GENERAL

#### 1.01 Work Included

- A. The work shall consist of furnishing and installing expansion joints in accordance with the details shown on the plans and the requirements of the specifications. The joints are proprietary designs utilizing extruded elastomeric seals and aluminum profiles
- B. Related Work
  - Miscellaneous and ornamental metals
  - Flashing and sheet metal
  - Sealants and caulking

#### 1.02 Submittals

A. Template Drawings - Submit typical seismic joint cross-section(s) indicating pertinent dimensioning, general construction, component connections, and anchorage methods.

#### 1.03 Product Delivery, Storage and Handling

A. Deliver products in each manufacturer's original, intact, labeled containers and store under cover in a dry location until installed. Store off the ground, protect from weather and construction activities.

#### 1.04 Acceptable Manufacturer

- A. All joints shall be as designed and manufactured by EMS, Inc., 13311 Main Road, Akron, New York 14001.
- B. Alternate manufacturers and their products will be considered, provided they meet the design concept and are produced of materials that are equal to or superior to those called for in the base product specification.
- C. Any proposed alternate systems must be submitted and receive approval 21 days prior to the bid. All post bid submittals will not be considered. This submission shall be in accordance with MATERIALS AND SUBSTITUTIONS.

Any manufacturer wishing to submit for prior approval must provide the following:

- 1. A working 6" sample of the proposed system with a letter describing how system is considered superior to the specified system.
- 2. A project proposal drawing that illustrates the recommended alternate system installed in the vertical construction that is specific to the project. Typical catalog cut sections will not be considered.
- 3. Any substitution products not adhering to all specification requirements herein, will not be considered.

#### **1.05** Quality Assurance

A. Manufacturer: Shall have a minimum of ten (10) years of experience specializing in the design and manufacture of expansion joint systems.

#### PART 2 - PRODUCT

#### 2.01 General

A. Provide an exterior wall joint system that shows no exposed aluminum surfaces incorporating specially engineered elastomeric seals to facilitate movement. The system shall be capable of accommodating multi-directional movement without stress to its components. A secondary seal placed into the edge rails shall function as a moisture barrier in the exterior of the building. In openings greater than 6 inches manufacturer is to provide a system incorporating multiple seals demonstrating movement without sag or distortion to the seal element. Single seal systems in openings greater than 6 inches that are simply supported by a preformed spring clip will not be allowed.

Provide exterior wall joint, Model EWJ-series as manufactured by EMS, Inc. and as indicated on drawings.

#### 2.02 Materials

- A. Aluminum Extrusions Material shall conform to properties of ASTM B221, alloy 6063-T5.
- B. Visual Seal Extruded Elastomeric profile shall be designed with side lugs that mechanically lock into a corresponding aluminum profile. Incorporate features that allow a mechanical connection at all splices between sectional lengths of seal. Material shall be Santoprene material exhibiting a shore A hardness of 64 +/-5.

Standard colors are: black, beige, gray and white. Optional custom colors available: Select from manufacturers standard color offering.

- C. Secondary Functional Seal Extruded Elastomeric profile shall be designed utilizing a serpentine configuration allowing maximum movement and flexibility. Its side lugs shall mechanically lock into a corresponding aluminum profile. Utilization of a common flat sheet good material will not be acceptable.
- D. Seismic-Centering Bar (multiple seal systems only)

Shall exhibit circular sphered ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Bar shall be molded or manufactured incorporating corrosion resistant nylon components with sphered ends and 1" wide standard cross member for standard applications. Spacing shall be per manufacturer's recommendation and standard details. Utilize for 8 thru 12 inch openings and in combination with the pantograph control mechanism on 16, 20 and 24 inch openings

Bar shall exhibit the following physical properties to demonstrate ability to resist corrosion and fatigue.

#### PHYSICAL PROPERTIES

Molded End Profile: Material : Color: Tensile Strength @ break:

Nylon Black ASTM D638 25,500 psi

Cross-Member: Material:

Pre-tempered spring steel

Damage Mitigation - Test Requirements:

Seismic-centering bar must exhibit ability to disengage (controlled release) from expansion joint edge member(s) when seismic movement exceeds the specified maximum allowable opening. Submit independent test report demonstrating required design of seismic-centering bar.

#### Requirements

a) Equipment:	- Instron Machine
b) Orientation:	- Specimen subjected to tensile
	load with cross member
	parallel to direction of load
c) Specimens:	- Test 4(min)– select at random
d) Disengagement range (lbs) :	- 800 (min.) – 1250 (max.)

- E. Pantograph Control Mechanism The mechanism shall be manufactured from corrosion resistant molded nylon components utilizing stainless steel threaded fasteners during factory assembly. The pantograph mechanism shall be shipped to the jobsite and installed with a maximum spacing of 30". Where applicable, modify spacing for project specific exterior wind load requirements. Utilize for 9 inch openings and those ranging from15 thru 24 inches.
- F. Adhesive Provide EMS adhesive to install both visual and secondary elastomeric seals at exterior or other areas exposed to moisture. The adhesive shall be a one part moisture curing polyurethane and aromatic hydrocarbon solvent mixture which complies with ASTM D-4070.
- G. Bedding Sealant Furnish manufacturer's recommended polyurethane sealant for bedding compound when securing aluminum extrusions to adjacent construction at exterior or other areas exposed to moisture. Color: Black.
- H. Hardware Provide manufacturers standard self-tapping screw including plastic masonry insert anchor. Diameter shall be 1/4" (min.) with a maximum spacing of 18" o.c.
- I. Accessories Provide necessary and related parts for the installation.

#### 2.03 Fabrication

- A. Aluminum extrusions shall be supplied in 10 ft. lengths. The contractor shall be responsible for field cutting the extrusion to obtain the proper joint profile. All cutting and mitering of the seal required at directional changes shall be performed by the contractor in a neat and workmanlike manner utilizing manufacturers standard splice procedures and recommendations.
- B. All anchor holes shall be field drilled in accordance with manufacturer's drawings. Spacing shall be a maximum of 18" o.c.
- C. Pantograph Control Mechanism (where applicable) Provide factory assembled mechanisms ready for field installation.

#### 2.04 Finishes

- A. Aluminum edge rails shall be 10 feet long and have a mill finish.
- B. Elastomeric seals shall be supplied in standard colors Black, beige, white and gray. Optional custom colors available through manufacturer's standard offering.

#### PART 3 - EXECUTION

#### 3.01 Installation

- A. Protect all expansion joint component parts from damage during installation and thereafter until completion of structure.
- B. Expansion joint systems shall be installed in strict accordance with the manufacturer's typical details and instructions along with the advice of their qualified representative.
- C. Contractor shall provide proper and adequate adjacent construction to receive and support the seismic expansion control joint system. The supporting framework shall be of design to secure all threaded hardware and provide rigidity for the proper installation and function of the joint system.

#### 3.02 Clean and Protect

A. Protect system and its components during construction. After work is complete in adjacent areas clean exposed surfaces with a suitable cleaner that will not harm or attack the elastomeric material.

#### **END OF SECTION**



ERIE METAL SPECIALTIES Seal Color Selection

Expansion Joint – 07 90 00 Rubber Seals

# White Beige Gray Black Please Note- These colors shown are a close approximation of the actual seal colors, and

### **Erie Metal Specialties EWJ Color Selection**

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are to be used only for reference.



