



Erie Metal Specialties, Inc.
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SPECIFICATION

Section 07 95 13

Erie Metal Specialties, Interior Architectural Systems

Model(s) “EFCT”, “EFCT-W”

Seismic Wall and Ceiling Expansion Control Systems

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 preformed metal components, gaskets and hardware.
- B. Related Work
 - Cast-in-place concrete
 - 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 supplied by; Erie Metal Specialties, Inc. • 13311 Main Road • Akron • New York • 14001 • Phone (716) 542-3991 • Fax (716) 542-3996 • sales@eriemetal.com • www.eriemetal.com .
- 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 specified.



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- 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:

A working 6" sample of the proposed system with a letter describing how system is considered superior to the specified system.

A project proposal drawing that illustrates the recommended alternate system installed in the floor construction that is specific to the project. Typical catalog cut sections will not be considered.

A Verifiable list of prior installations showing prior and successful experience with the proposed Systems.

Any substitution products not adhering to all specification requirements within, will not be considered.

1.05 Quality Assurance

- A. Warranty: The Professional Series expansion control system's performance shall be warranted for a period of 3 years when installed by the manufacturer's factory trained Approved Applicator. Installation shall be in strict accordance with manufacturer's technical specifications, details, installation instructions and general procedures in effect for normal intended usage and suitable applications under specified design movements and loading conditions.
- B. Manufacturer: Shall have a minimum ten (10) years experience specializing in the design and manufacture of Architectural Expansion Control Systems.
- C. Application: The specified expansion control systems shall be installed by an Approved Applicator, factory trained and certified in the proper installation of the specified expansion control system and fire barrier system.
- D. Maintenance: The manufacturer shall provide the owner-operator a preventive maintenance guideline for Expansion Control Systems.

PART 2 – PRODUCT

2.01 General

- A. Provide Wall & Ceiling Expansion Control System that can accommodate multi-directional seismic movement without stress to its components. System shall consist of a flat slide plate with various finishes and designed of width to satisfy projects movement requirements. Secure slide plate to wall surface and allow for freedom of movement by utilizing manufacturer's pre-engineered self-centering bar. Break direct contact with and protect wall surfaces by incorporating preformed mechanically locked gasket into slide plate design. Anchor system to adjacent construction by utilizing manufacturer's base extrusion that accommodates various methods of attachment and



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accepts preformed moisture barrier for exterior applications. For interior applications furnish EMS Model(s) "EFCT" as indicated on drawings.

2.02 Components and Materials

- A. Aluminum Base Extrusion - Material to confirm to properties of ASTM B221, Alloy 6063-T5 or 6063-T6. Profile shall incorporate a continuous circular cavity to receive sphered end of seismic-centering bar permitting multidirectional rotational movement.

Minimum attachment flange thickness: .080 inch

Minimum profile weight: .310 lbs/LF

- B. Aluminum Slide Plate "EFCT" - Provide minimum 1/8" thick plate with material conforming to ASTM B209, Alloy 5005-H34 "Guaranteed Anodized Quality". Extruded edge profile shall be material conforming to ASTM B221, Alloy 6063-T5.
- C. Seismic-Centering Bar - 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. Spacing shall be a maximum of 24" o.c.

During seismic activity design centering bar to permit vertical displacement of metal cover during accelerated inward and outward movement without evidence of fatigue and permanent deformation. Concurrently provide secure connection between plate and underlying system components to maintain proper positioning and contact to adjoining surfaces.

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

PHYSICAL PROPERTIES

Molded End Profile:

Material:	Nylon
Color:	Black
Tensile Strength @ break:	ASTM D638 25,500 psi

Cross-Member:

Material:	Pre-tempered spring steel
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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
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- 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.)
- D. Leaf Spring Attachment (corner condition) – Material shall conform to A.I.S.I. 301 Stainless Steel. Spring shall be tempered and secured to the retainer by a snap-lock fit.
- E. Gasket - Provide extruded elastomeric profile designed to protect wall surface from direct contact with slide plate. Material shall be polyvinyl chloride.
- F. Moisture Barrier (exterior application) - 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 common flat sheet good material will not be acceptable. Material shall be a quality flame retardant vinyl with a minimum material thickness of .063”.
- G. Anchorage: (interior application) – Secure base extrusion to adjacent surfaces utilizing drywall screws (supplied by installer). Spacing shall be 18” o.c.(max.)
- H. Accessories - Provide necessary and related parts including assembly hardware for complete installation.
- I. Fire Barrier Assembly - Designed for indicated or required dynamic structural movement without material degradation or fatigue. Tested in maximum joint width conditions with a field splice as a component of the expansion joint cover in accordance with current test standards at full rated period by a nationally recognized testing and inspecting organization.

2.03 Fabrication

- A. Aluminum extrusions and manufactured slide plate shall be supplied in 10ft. lengths. The contractor shall be responsible for field cutting metal profiles to obtain the proper joint profile.
- B. All anchor holes shall be field drilled in accordance with manufacturer’s drawings. Spacing shall be a maximum of 18” o.c.
- C. Elastomeric Gasket and Moisture Barrier shall be shipped in the longest practical continuous length in manufacturer’s standard shipping carton.
- D. Fire Barriers - Ship manufacturer’s standard assembly including fire caulks, sealants (if applicable) and hardware for the required hourly rating. Assemblies shall be miter cut in the field to accommodate changes in direction.

2.04 Finishes



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- A. Aluminum Slide Plate
"EFCT" Standard - clear anodized Finish in accordance with AA-M10 C22 A31 Class II (0.4 - 0.7 thick anodic coating).

Optional - Select from manufacturers other standard color offerings.

- B. Aluminum Base Extrusion - Shall be supplied in standard mill finish

PART 3 - EXECUTION

3.01 Installation

- A. Protect all expansion joint component parts from damage during installation, placement of wall materials 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. Expansion joint systems shall be set to the proper width for the ambient temperature at the time of installation. This information is indicated in the contract plans.

3.02 Clean and Inspect

- A. Protect system and its components during construction. Upon completing installation, the contractor shall clean all exposed metal surfaces with a suitable cleaner that will not harm or attack the finish. Contact manufacturer should questions arise regarding suitability of any cleaner type prior to its use.