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## SPECIFICATION

### Section 07 95 13

#### Erie Metal Specialties, Interior Architectural Systems

#### Model(s) "ETMM", "ETMM-W"

#### Horizontal and Vertical Expansion Control System

#### 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 base members, slide plates and elastomeric seals.
- B. Related Work
  - Cast-in-place concrete
  - Miscellaneous and ornamental metals
  - Flashing and sheet metal
  - Interior Finishes

##### 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 product 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](mailto:sales@eriemetal.com) • [www.eriemetal.com](http://www.eriemetal.com) .
- A. 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. Manufacturer: Shall have a minimum ten (10) years experience specializing in the design and the manufacture of Architectural Expansion Control Systems.

### **PART 2 - PRODUCT**

#### 2.01 General

- A. Provide pre-engineered expansion control system designed to accommodate concrete slabs without preformed block outs and wall construction utilizing 5/8-inch commercial gypsum board and metal studs. System shall exhibit a maximum height of 5/8-inch and shall easily install and consist of metal profiles that utilize aluminum base members designed to accommodate various project conditions and finish floor treatments. Design system to accommodate multi-directional thermal and seismic movement with metallic slide plate profile secured to underlying base members by means of utilizing manufacturer's heavy-duty molded seismic-centering bar. Design slide plate profile to accept traditional finish material inlays up to 1/4-inch thickness with adjoining cavities to receive preformed extruded seals. Each seal shall exhibit thermal movement capability of 3/4-inch with exposed surfaces flat and aligned flush with adjacent finish materials and metal surfaces. Slide plates secured to wall surfaces at corner conditions will be required to utilize hinged design to ensure seismic capability.

All hardware to secure system shall utilize countersunk flathead screw profiles.

For applications and projects requiring multi-directional movement furnish Twin Seam, Model "ETMM" joint cover meeting ADA Guidelines for interior joint locations as provided by EMS and as indicated on drawings. Select system size based on requirements.

#### 2.02 Components and Materials

- A. Slide Plate: - Material shall be aluminum and conform to properties of ASTM B221; alloy 6063-T6.



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Design profile with overall height of 7/16-inch. Overall width shall vary according to system size and accommodate the designated movement. Bottom surfaces within the recess to accept inlay materials shall be textured to enhance bonding of finish materials. Slide plate shall be secured to joint assembly utilizing a corrosion resistant molded seismic-centering bar and stainless-steel threaded hardware. Preformed metal devices that utilize tension or compression to maintain and secure slide plate will not be allowed.

- B. Minimum thickness of primary slide plate cross member shall be 1/8 inch and shall accommodate the following design loads with the maximum allowable deflection values.

System	Max. Point Load	Max. Distributed Load	Max. Allow Deflection*
ETMM-200	1,700 lbs	4,000 psf	.065
ETMM-400	900 lbs	4,000 psf	.065
ETMM-600	300 lbs	800 psf	.065

Note (\*): Specifier of system shall investigate acceptable deflections of finish inlay materials for flooring applications. Deflection of slide plate shall not exceed manufacturers maximum recommended values.

- C. Base Extrusion: Material shall be aluminum and conform to properties of ASTM B221; alloy 6063-T6. Design profile's outside mounting edge to meet an overall height of 5/8-inch. Overall nominal width shall be 3 inches with a minimum horizontal mounting flange thickness of 3/16". End of profile shall incorporate an open bottom three-sided cavity to accept the upward rotational stem of the seismic-centering bar. Minimum weight of profile shall be .60 lbs/lineal foot.
- D. Seismic-Centering Bar - Provide corrosion resistant molded nylon bar 10 inches in length incorporating an integral "tension rib" to properly secure slide plate to base extrusions. Provide tapered cross member with a 3/4" nominal (max.) width measured at its center to incorporate an integral 1/4"-20 brass insert to receive stainless steel threaded hardware. 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**

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

- E. Elastomeric Seals - Material shall be a flexible extruded polyvinyl chloride or manufacturer's alternate material exhibiting a minimum shore A hardness of 60 +/- 5 with U.V. stabilizer. Provide multi-cellular profile with internal webs that form a truss-like structure that transfers service loads to adjacent



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aluminum extrusions.

F. Moisture Barrier (optional) - Shall be a fabric reinforced tear resistant clear vinyl sheet material. Minimum thickness shall be .026”.

G. Anchorage -

Floor: Secure aluminum base extrusion to floor slab utilizing No.12 dia. x 1 3/4” lg. carbon steel threaded concrete anchor with countersunk flathead. Maximum spacing shall be 24” o.c. Consult manufacturer for proper size of masonry drill bit for pre-drilling of anchor holes.

Wall: Secure aluminum base extrusion to metal studs utilizing No.12 dia. x 1-3/4” lg. carbon steel threaded anchor with countersunk flathead. Maximum spacing shall be 24” o.c. Wall mount extrusion profile shall utilize same anchor.

H. Concrete Slab Repair (recommended) –

Utilize rapid strength repair mortar meeting the following data requirements.

Compressive strength, psi (ASTM C 109)

2 hours	1,500
24 hours	4,500
7 days	8,000
28 days	9,000

I. Accessories - Provide necessary and related parts, and fasteners required for complete installation.

J. 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 ASTM E-119 at full rated period by a nationally recognized testing and inspecting organization. Supply EMS Fire Barrier as governed by joint opening and fire rating.

2.03 Fabrication

A. Extrusions and generic profiles to be shipped in standard 10 ft. lengths and shall be cut to length on jobsite where required. Profiles shall be miter cut in the field to conform to directional changes unless otherwise contracted with expansion joint manufacturer.

B. 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.



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#### 2.04 Finishes (Standard)

- A. Exposed surfaces of base extrusion and slide plate shall be supplied in standard mill finish.
- B. Surfaces of aluminum profiles that will be in direct contact with concrete where moisture is present shall receive one coat of manufacturer's recommended coating.
- C. Wall Applications (optional):
  - 1. Aluminum - (clear anodize) Clear anodized finish in accordance with AA-M10 C22 A31 Class II (0.4 - 0.7 thick anodic coating).
  - 2. Aluminum - (color anodize) Select from manufacturers standard color offering.

### **PART 3 - EXECUTION**

#### 3.01 Installation

- A. Install all Expansion Control Systems utilizing manufacturer's concrete slab edge repair material.
- B. Protect all expansion joint component parts from damage during installation, general construction activities and thereafter until completion of structure.
- C. 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.
- D. 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 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 finish.