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**SPECIFICATION  
Section XXXXX**

**Wabo® QuakeWall**

**Model "QWE"**

**Horizontal 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 extruded base members and slide plates.
- B. Related Work
  - Façade wall cladding
  - Miscellaneous and ornamental metals
  - Flashing and sheet metal
  - Exterior/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 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 Watson Bowman Acme, 95 Pineview Drive, Amherst, New York 14228.
- 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.

Watson Bowman Acme Corp.  
95 Pineview Drive  
Amherst, NY 14228  
phone: 716-691-7566  
fax: 716-691-9239  
wbacorp.com



- 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 an alternate system for prior approval must provide the following:

1. A working 60" 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 wall construction that is specific to the project. Typical catalog cut sections will not be considered.
3. Verifiable list of prior installations showing prior and successful experience with the proposed systems.
4. Any substitution products not adhering to all specification requirements within, will not be considered.

#### 1.05 Quality Assurance

- A. Manufacturer: Shall be ISO-9001:2008, RC-14001:2008 certified and shall provide written confirmation that a formal Quality Management System and Quality Processes have been adopted in the areas of, (but not limited to) engineering, manufacturing, quality control and customer service for all processes, products and their components. Alternate manufacturers will be considered provided they submit written proof that they are ISO 9001:2008, RC-14001:2008 certified prior to project bid date. Manufacturers in the process of obtaining certification will not be considered.
- 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 a factory trained installer certified in the proper installation of the expansion control wall systems.
- D. Testing: Five complete cycles at not less than 75% of the joint's movement rating, starting from the daily service position. At the completion of the test, the panel shall return to it's locked, starting position without outside assistance. Minimum joint length shall be 5 feet.



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## PART 2 - PRODUCT

### 2.01 General

- A. Provide a durable expansion control system for wall application(s) that is capable of accommodating multi-directional movement without stress to its components. Select Model based on requirements. The system shall be surface mounted directly to the wall structure with preformed blockouts as detailed in the engineering plans. System shall easily install and consist of metal profiles that utilize aluminum base members designed to accommodate project conditions and wall treatments. The wall panel shall be designed of width and thickness required to satisfy the project movement and loading requirements. Secure base extrusions to the wall structure by utilizing anchorage manufacturer's instructions. Unless otherwise specified by the Engineer, anchorage to the structure blockout shall utilize manufacturer's standard threaded anchors. All components shall be made of corrosion resistant materials.
- B. Performance Requirements
1. Joint shall have a movement rating of not less than the project displacements.
  2. A minimum restoring force of 0.25W lbs per linear ft of wall joint, where W is the Panel width in inches, shall be provided to the Panel in order to provide control of the Panel during and after a seismic event.
  3. Means shall be provided to lock the Panel against opening during everyday service conditions. Lock shall be a positive mechanical metal connection. Panels closed with magnets, Velcro, sticky tape, or other non-positive connection methods that rely upon surface adhesion are not permitted due to their loss of functionality in the presence of surface misalignment.
  4. The Panel shall at all times be guided and not allowed to swing open/closed freely. Means shall be provided to prevent the Panel from imposing damage to the structure's wall treatment.

### 2.02 Components and Materials

- A. Materials shall conform to properties of;
- Aluminum alloy 6063-T6 or 6061-T6 or 5052-H32
  - Stainless Steel A304, A316
  - Polyurethane 55-75 Shore A
- B. Base Extrusions shall be composed of aluminum. Profile shall be designed with an integral continuous cavity to receive extruded rubber seals.

- C. Panel - Provide minimum 1/8" thick aluminum plate capable of receiving wall cladding (by others). Panel to be secured to joint assembly using stainless steel hardware. Panel shall remain closed during daily service movement with a positive mechanical connection latch. Panel shall accommodate project seismic displacements as specified in the project requirements without damage or require post-event maintenance. Panel's movement capacity and return/lock functionality shall be certified by a licensed professional engineer (PE) per Section 1.05D. Prior testing on a similarly sized joint of the same design may be used.
- D. Spring - Provide corrosion resistant stainless steel constant force springs capable of maintaining a minimum panel spring pretension as required per Section 2.01B. Springs shall be mounted with stainless steel threaded hardware.
- E. Slide & Rider – Provide Slide & Rider assemblies such that a smooth transition is made between service movements and seismic movements. Components shall be composed of aluminum, polyurethane, and stainless steel. The Slide and Rider shall be electrochemically insulated against each other to prevent galvanic corrosion.
- F. Panel Latch – Panel Latches shall be made of stainless steel and aluminum. Latch should allow the structure gap to open and close while providing a minimum of 2,000 lbs resistance to Panel opening while the joint is in its everyday service position. The Panel Latch shall provide an unlocking mechanism to allow access to the structure gap.
- G. Seals – Expansion joint shall prevent water and debris intrusion into the structural gap during service conditions.
- E. Anchorage – Unless otherwise specified, secure aluminum base members to structure members utilizing 3/8" dia. threaded anchor. Anchors shall be exposed and countersunk into the aluminum base extrusion with a max. spacing of 18" o.c.
- F. Panel Infill – Infill materials to be supplied by others. Panel pan shall be designed to accept, connect, and structurally support the specified infill. Infill to be installed by others unless otherwise specified.
- G. Accessories - Provide necessary and related parts, and fasteners required for complete installation.

## 2.03 Fabrication

- A. Joint lengths to be shipped per fabrication drawings as approved by the Engineer. 10' joint lengths are assumed when no length is given.



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- B. Ship manufacturer's standard assembly including fire caulks, sealants (if applicable) and hardware for the required hourly rating. Assemblies shall be fabricated with miter cuts to accommodate changes in direction.

#### 2.04 Finishes (Standard)

- A. Exposed surfaces of aluminum members 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.

### **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.