

**SECTION 08 3513  
U.S. ALUMINUM SERIES S80 and S80R  
THERMALLY BROKEN  
BI-FOLDING ALUMINUM FRAMED GLASS WALL SYSTEMS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

A. Aluminum framed sliding/folding glass wall system, including frame, threshold, panels, sliding/folding and locking hardware, weather stripping, glass and glazing; designed to provide an operable glass wall, with sizes and configurations as shown on drawings.

**1.02 RELATED REQUIREMENTS**

- A. Section 05 1200 - Structural Steel Framing.
- B. Section 05 5000 - Metal Fabrications.
- C. Section 07 2500 - Weather Barriers.
- D. Section 07 9000 - Joint Protection.
- E. Section 08 7100 - Door Hardware: Hardware items other than specified in this section.
- F. Section 08 8000 - Glazing: Glass and glazing accessories.
- G. Section 08 4113 - Aluminum Framed Entrances and Storefronts.

**1.03 REFERENCE STANDARDS**

- A. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum.
  - 2. AAMA 2604, Voluntary Specifications, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
- B. American National Standards Institute (ANSI):
  - 1. ANSI Z97.1, Safety Performance Specifications and Methods of Test for Safety Glazing Material Used In Buildings.
- C. American Society for Testing and Materials (ASTM):
  - 1. ASTM E 283, Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
  - 2. ASTM E 330, Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
  - 3. ASTM E 547, Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
  - 4. ASTM E 331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- D. Consumer Product Safety Commission (CPSC):
  - 1. CPSC 16CFR-1201, Safety Standard for Architectural Glazing Materials.
- E. National Fenestration Rating Council (NFRC):
  - 1. NFRC 100, Procedure for Determining Fenestration Product Thermal Materials.
  - 2. NFRC 200, Procedure for Determining Solar Heat Gain Coefficient.
  - 3. NFRC 400, Procedure for Determining Fenestration Product Air Leakage.

**1.04 SUBMITTALS**

- A. See Section 01 3000 – Administration Requirements, for submittal procedures.
- B. Product Data: Manufacturer's literature including independently tested data listing performance criteria and Owner's Manual with installation instructions.
- C. Shop Drawings: Indicate dimensioning, direction of swing, configuration, swing panels, typical head jamb, side jambs and sill details, type of glazing material, and handle height.
- D. Hardware Schedule: Complete itemization of each item of hardware to be provided for each panel, cross-referenced to panel identification numbers in Contract Documents.
- E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

### 1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing aluminum framed bi-folding glass wall systems with a minimum three years of documented experience. Single source manufacturer.

1. The manufacturer must have a quality management system registration to the ISO 9001: 2008 standard.

B. Installer Qualifications: Installer experienced in the installation of manufacturer's products or other similar products for large openings. Installer to provide reference list of at least 3 projects of similar scale and complexity successfully completed in the last 3 years.

C. Performance Requirements: Provide from manufacturer that has independently tested typical units.

D. Thermal Performance U Factor: Unit to be rated, certified and labeled in accordance with NFRC 100, shown in manufacturer's latest published data for glazing, sill, and direction of opening specified.

### 1.06 WARRANTY

A. Provide manufacturer's standard warranty against defects in materials and workmanship.

B. Warranty Period: One year from date of delivery by manufacturer.

### 1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to job site in the manufacturer's original protective cartons or crates. Do not deliver units until the project is ready for their installation.

1. Inspect components for damage upon delivery. Unless minor defects in metal components can be made to meet the Architect's specifications and satisfaction, damaged parts should be removed and replaced.

B. Protect units from damage. Store material under cover, protected from weather and construction activities.

### 1.08 PROJECT CONDITIONS

A. Field measurements: Check opening by accurate field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of the work and possible damage to the finished product.

## PART 2 PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURER'S

A. Basis of design: Design is based on The Monterey S80 [OR S80R] Series manufactured by:

#### U.S. Aluminum,

a C.R. Laurence Company (CRL)

Toll Free: (800) 421-6144

Telephone: (323) 588-1281

Toll Free Fax: (800) 262-3299

Website: [www.crl-arch.com](http://www.crl-arch.com)

Email: [architectural@crlaurence.com](mailto:architectural@crlaurence.com)

### 2.02 MATERIALS

A. Frame and Panels: From manufacturer's standard profiles, provide head track, side jambs, and panels with dimensions shown on drawings.

1. Provide panels with: Standard one lite [OR with horizontal mullion(s) at specified height(s) from the bottom of the panel] [OR with simulated divided lites in pattern as shown on drawings].

2. Provide standard bottom rail.

3. Aluminum Extrusion: Extrusions with nominal thickness of .078" (2.0 mm). Anodized conforming to AAMA 611 or powder coated conforming to AAMA 2604.

4. Thermally broken extrusions for superior thermal performance.

5. Aluminum Finish: Select from Standard [white powder coat], [OR black powder coat], [OR wood grain powder coat], [OR Standard RAL Powder Coating Chart], [OR satin clear anodized],

[OR black bronze anodized], [OR custom KYNAR® finish]. Same [OR different] finishes on inside and outside.

**B. Glass:**

1. All glass to comply with safety glazing requirements of ANSI Z97.1 and CPSC 16CFR 1201. Provide manufacturer's standard glass with dry glazing with glass stops on the inside only:
  - 1 inch (25 mm) clear insulating glass
  - [OR 1-1/4 inch (32 mm) clear insulating glass]

**C. Locking Hardware and Handles:**

1. Main entry panel: On the main entry panel for models with a single or pair of active swing panels, provide manufacturer's standard two point lever latch with lever handle on the inside only. No access from exterior when latched.
  - [OR manufacturer's standard three point lock with lever handles on the inside and outside with keyed cylinder inside and outside.]
  - [OR manufacturer's standard three point lock with lever handles on the inside and outside with keyed cylinder outside and thumb turn inside.]
2. Lever handles and exposed lock hardware to be black powder coat finish standard, except on white finish frames, then white powder coat finish is standard.

**D. Sliding/Folding Hardware:** Provide manufacturer's standard combination sliding and folding hardware with top, bottom tracks and threshold.

**E. Maximum weight per leaf:**

1. For S80 Series 100 pounds (45 kg).
2. For S80R Series 154 pounds (70 kg).

**F. Adjustment:** Provide system capable of adjustments without removing panels from tracks.

**E. Other Components:**

1. Weather stripping: Provide manufacturer's standard non-broken EPDM seals between panels, and between panel and frame.

## **2.03 FABRICATION**

**A.** Use extruded aluminum frame and panel profiles with hinges, sliding, and folding hardware, locking hardware and handles, glass and glazing and weather stripping as specified herein to make a folding glass wall. Factory pre-assemble as is standard for manufacturer and ship with all components and installation instructions.

**B. Sizes and Configurations:** See drawings for selected custom dimensions within maximum frame sizes possible as indicated in manufacturer's literature. See drawings for selected number of panels and configuration. Inward [OR outward] opening unit. On configurations with a swing panel, looking from inside, primary swing panel on the left [OR right].

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A.** Verify dimensions, tolerances, and method of attachment with other work.
- B.** Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

### **3.02 INSTALLATION**

- A.** Install bi-folding glass wall system in accordance with manufacturer's instructions.
- B.** Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C.** Provide alignment attachments and shims to permanently fasten system to building structure.
- D.** Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E.** Provide thermal isolation where components penetrate or disrupt building insulation.
- F.** Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G.** Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.

- H. Coordinate attachment and seal of perimeter air and vapor barrier materials.
- I. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- J. Set thresholds in bed of mastic and secure.
- K. Install glass and infill panels in accordance with Section 08 8000, using glazing method required to achieve performance criteria.
- M. Install perimeter sealant in accordance with Section 07 9005.
- N. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

### **3.03 TOLERANCES**

- A. Maximum Variation from Plumb: 0.06 inches every 3 ft (1.5 mm/m) non-cumulative or 1/16 inches per 10 ft (1.5 mm/3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).

### **3.04 ADJUSTING**

- A. Adjust operating hardware and leaf for smooth operation.

### **3.05 CLEANING**

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- C. Remove excess sealant by method acceptable to sealant manufacturer.

### **3.06 PROTECTION**

- A. Protect installed products from damage during subsequent construction.

**END OF SECTION**