**SECTION 08 4210**

**ALL GLASS ENTRANCES**

**PART 1 - GENERAL**

1.01 **SUMMARY**

 A. This section includes:

1. Vestibule doors matching entrance doors.

2. Sidelites.

 B. Related work in other sections:

1. Locking Panic Handles, Deadbolt Handles, and Push/Pull Handles for tempered

 glass entrance doors are specified in Division 08 7100 section “Door Hardware”.

1.02 **SUBMITTALS**

 A. Product Data: Submit Manufacturer’s product data for all glass entrance systems

including:

1. Manufacturer’s standard details and fabrication method.

2. Data on finishing, hardware and accessories.

3. Recommendations for maintenance and cleaning of exterior finish surfaces.

4. Test data on fabricated door.

 B. Shop drawings for each all glass entrance system are required, including:

1. Layout and installation details.

2. Elevations at 1/4-inch scale.

3. Detail sections of fittings.

4. Hardware mounting heights.

5. Anchorage and reinforcement.

6. Glazing details.

 C. Samples for approval:

1. Submit pairs of samples of each specified metal color and finish on 9-inch long

sections of extrusions or formed shapes.

2. Submit samples of glass approximately 12 inches square showing the edge

conditions.

1.03 **QUALITY ASSURANCE**

 A. Installer qualifications: Engage an experienced installer who has completed installations

 of all glass entrances similar in design and extent to those required for the project and

 whose work has resulted in construction with a record of successful in service

 performance.

 B. Manufacturer’s qualifications: Provide all glass entrances produced by a firm experienced

 in manufacturing entrance systems that are similar to those indicated for this project and

 that have a record of successful in service performance. All door rail systems must be

 tested.

 C. Single source responsibility: Obtain all glass entrance systems from a single

 manufacturer to ensure full compatibility and warranty of parts.

 D. Design criteria: The drawings indicate the size, profile and dimensional requirements of

 the all glass entrance system required and are based on the specific types and models

 indicated. All glass entrances by other manufacturers may be considered, provided

 deviations in dimensions and profiles are minor and do not change the design concept as

 judged by the Architect. The burden of proof of equality is on the proposer.

 E. Safety glass standard: Provide tempered glass components that comply with ANSI Z97.1

 and testing requirements of CPSC 16CFR Part 1201 for Category II materials.

1.04 **DELIVERY, STORAGE, AND HANDLING**

 A. Deliver all glass entrances and related components in the manufacturer’s original

 protective packaging. Do not deliver entrance units until the work 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.

1.05 **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.

1. Where necessary, proceed with fabrication without measurement and coordinate fabrication tolerances to insure proper fit.

**PART 2 - PRODUCTS**

2.01 **ACCEPTABLE MANUFACTURER’S**

 A. Basis of design: Design is based on the 250 Series Entrance Door System

 manufactured by:

**C.R. Laurence Co., Inc. (CRL) / Blumcraft**

Tel: (800) 421-6144 Fax: (800) 587-7501

Email: architectural@crlaurence.com

 [www.crlaurence.com](http://www.crlaurence.com)

 B. Subject to compliance with requirements, “all-glass” entrances from other manufacturers

meeting the specified requirements may be acceptable.

2.02 **MATERIALS**

 A. LEED® requirements:

 1. Recycled Content Materials: Provide building materials with recycled content

 such that post-consumer recycled content plus one-half of pre-consumer

 recycled content constitutes a minimum of 20 percent of the cost of materials

 used for the project. See LEED® Green Building Rating System.

 2. Regional Materials: Provide a minimum of 10 percent (based on cost) of building

 materials that are regionally extracted, processed, and manufactured.

B. Aluminum, stainless steel clad, brass or bronze clad

C. Glass and Glazing

* 1. Comply with ASTM C1048, Kind FT (fully tempered), Condition A

(uncoated), Type I (transparent, flat), Class 1 (clear), Quality q3

glazing select). Provide glass complying with requirements of

CPSC 16CFR, Part 1201 for Category II materials.

* 1. Thickness: 1/2”, 5/8” or 3/4" (12, 16 or 19 mm) [1/2” (12 mm) thickness available in Starphire low iron, solar bronze, solar gray, or satin etch].
	2. All glass fabrication to be completed before tempering.
	3. Glass to be tempered horizontally, visible tong marks or tong mark distortions are not permitted.

2.03 **HARDWARE**

1. **Rail Configuration:** Full width at top and bottom of doors including thin vertical stiles, as indicated on drawings
2. **Rails (square):**
	1. Top or bottom rail height: 3-3/8" (86 mm) in aluminum, 3-9/16” (91 mm) when clad
	2. Top or bottom rail thickness (1/2” [12 mm] glass); 1-1/4” (31.8 mm) in aluminum; 1-7/16” (36.5 mm) when clad
	3. Top or bottom rail thickness (5/8” or 3/4" [16 or 19 mm] glass); 1-1/2” (38.1 mm) in aluminum; 1-11/16” (42.9 mm) when clad.

C. **Vertical Stiles:**

a.1/2" (12 mm) wide on elevation

 b. Stile thickness (1/2” [12 mm] glass); 1-1/4” (31.8 mm) in aluminum; 1-1/2”

 (38.1 mm) when clad.

 c. Stile thickness (5/8” or 3/4" [16 or 19 mm] glass); 1-1/2” (38.1 mm) in aluminum;

 1-3/4” (44.5 mm) when clad.

D. **Handles and Locks:** Refer to Section 08 7100 Door Hardware for hardware set,

application, and finish as selected by the Architect and supplied by **C.R. Laurence.**

E. **Door Closers:**

 a. Floor Closers to be CRL Jackson 900 Series, Rixson 26, 28, 30, 40, 5000 Series,

 or Dorma BTS-80 with appropriate spring size.

 b. Overhead Concealed Closer to be CRL Jackson 20-330 Series, Rixson 608, 700,

 800, Dorma RTS-88 with appropriate spring size. Bottom Pivot to be

 CRL/Blumcraft 34-24.

 F. **Accessory Fittings:** Provide manufacturer’s standard accessory fittings of the type

 indicated. Comply with requirements indicated for kind and form of metal and finish of

 door fittings.

1. **Overhead Door Stop:** Provide overhead door stop systems.

2. **Sidelite Systems:** Provide sidelite systems with matching glass, metal rail, and

 finish of door. All exposed glass edges to be bright flat polish. Stiles are optional.

 G. **Anchors and Fasteners:** Manufacturer’s standard concealed anchors and fastenings.

 Do not use exposed fasteners.

 H. **Weatherstripping:** Can be installed in the T-slots of the top and bottom door rails and vertical stiles to help reduce air and water infiltration. The weatherstripping shall be pile and replaceable without removing doors from opening.

2.04 **FABRICATION**

 A. General: Fabricate all glass entrance components to designs and sizes indicated. Size of

door and profile requirements of fittings and hardware are indicated on the drawings.

1. Locate and provide holes and cutouts in glass to receive hardware before

 tempering glass. Do not permit cutting, drilling or other alterations to glass after

 tempering.

2. Fabricate work to accommodate required fittings, hardware, anchors,

 reinforcement, and accessory items.

 B. **Prefabrication:** Complete fabrication, assembly, finishing, hardware application and

other work to the greatest extent possible before shipment to the project site.

 Disassemble components only as necessary for shipment and installation.

 C. **Continuity:** Maintain accurate relation of planes and angles with hairline fit of contracting

 members.

2.05 **MATERIAL FINISHES**

1. Aluminum (Solid):

 1. Satin clear anodized

 2. Black bronze anodized

 3. Powder coated (specify color)

1. Stainless steel (Clad):
	1. Satin #4 directional polish (US32D)
	2. Highly polished #8 non-directional (US32)
2. Naval bronze (Clad):
	1. Satin directional polish (US10)
	2. Highly polished non-directional (US9)
	3. Statuary (US10B)

### PART 3 - EXECUTION

* 1. **EXAMINATION**

 A. Examine substrates and supports with the installer, present for compliance with

 requirements indicated, installation tolerances and other conditions that affect the

 installation of all glass entrances and storefronts. Correct unsatisfactory conditions before

 proceeding with the installation.

 1. Do not proceed with installation until unsatisfactory conditions are corrected.

3.02 **INSTALLATION**

 A. Install all glass entrance door and associated components in accordance with

 manufacturer’s printed instructions and recommendations.

 1. Verify units level, plumb and true line.

 2. Lubricate hardware and other moving parts as required.

3.03 **ADJUSTING**

 A. Adjust doors and hardware to provide a tight fit at meeting points and at weather-stripping

 for smooth operation and weather tight closure.

 B. Hardware: Adjust operating hardware to ensure proper operation. Set, seal, and grout

 floor closer cases. Coordinate cylinder installation.

3.04 **CLEANING**

 A. Clean door and frame surfaces after installation, exercising care to avoid damage to the

 finish.

 B. Clean glass surfaces after installation, complying with requirements contained in the “Glass and Glazing” section for cleaning and maintenance. Remove excess glazing sealant compounds, dirt or other substances.

3.05 **PROTECTION**

 A. Institute protective measures required throughout the remainder of the construction

 period to ensure that the all glass entrances do not incur any damage or deterioration,

 other than normal weathering, at the time of acceptance.

**END OF SECTION**