

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. Lock cylinders for tempered glass entrance doors are specified in Division 8 section "Finished 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 6 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 16 CFR 1201 Category II.
- F. Testing criteria for Door Rail: The door rail must be tested to perform 1,000,000 cycles without any failures. The door rail should also be subject to a temperature pull-off test at temperatures from -10°F to 150°F (-23°C to 65.5°C). The rail shall remain stationary throughout this test while a 500 pound (227 kg) pressure is applied.

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 recorder 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 an "All-Glass" Entrance Door System featuring heavy tempered glass secured to a CRL Wedge-Lock® Door Rail System, manufactured by:

C.R. Laurence Co., Inc. (CRL)

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

Email: architectural@crlaurence.com

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. **Glass:** Provide flat, fully tempered glass in thickness indicated for doors and sidelites. Comply with requirements of ASTM C 1048 for FT (fully tempered), Condition A (uncoated surfaces), Type 1 (transparent) Class 1 (clear) glass. Provide products of thickness indicated that have been tested for surface and edge compression according to ASTM C 1048 and for impact strength according to 16 CFR Part 1201 for Category II materials.

1. Thickness: 3/8 inch (10 mm)
2. Thickness: 1/2 inch (12 mm)
3. Thickness: 5/8 inch (16 mm)
4. Thickness; 3/4 inch (19 mm)
5. Edge treatment: Provide machine ground and polished edges for exposed glass edges of doors and sidelites and flat ground edges for butting glass edges.
6. Glass Manufacturers: _____.

- C. **Fittings, General:** Provide CRL Wedge-Lock® Door Rails in required profile, size and glass thickness as selected by the Architect. Comply with requirements indicated for kind and form of metal finish.

1. Aluminum: Provide fittings fabricated from aluminum extrusions of alloy and temper recommended by manufacturer for use intended and required for application of finish indicated, but not less than strength and durability properties specified in ASTM B 6063-T5.
- 221 for

- D. **Door Rail Systems:** Provide door rail systems matching metal and finish of door fittings. The 060211 / CRL 08 4210 All-Glass Entrances and Storefronts

system shall include, but not limited to, door rails, patches, vertical stiles, center locks, and strike housings. Comply with GANA guidelines, and hardware manufacturer requirements for size restrictions. Door rails shall allow for jamb adjustment in or out with standard hardware. System shall include, but not limited to, end caps, blocking, and preparation.

1. Profile: Square
2. Profile: Beveled (Only available in 4 inch [102 mm] high profile)
3. Height: 2-5/16 inch (59 mm)
4. Height: 4 inch (102 mm)
5. Height: 6 inch (152 mm)
6. Height: 10 inch (254 mm)
7. Height: Custom as indicated on drawings

E. **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 matching metal and finish of door fittings.

The design of head and sill details is based upon **C.R. Laurence Co. Inc.** Top-Load Gasket Sidelite Rails (Square 2-5/16" Low Profile, Tapered or Square in 4", Square 6", or Square 10" heights) as selected by the Architect. Top-Load gasket is cord reinforced EPDM Rubber for long life and no stretching.

F. **Anchors and Fasteners:** Manufacturer's standard concealed anchors and fastenings. Do not use exposed fasteners.

G. **Weatherstripping:** Can be applied to edges of glass and top/bottom door rails to help reduce air and water infiltration. The weatherstripping shall be pile and replaceable without removing doors from opening.

2.03 HARDWARE

A. **General:** Provide heavy-duty hardware units as indicated, scheduled or required for operation of each type of door, including the following items of sizes, numbers and type recommended by the manufacturer for the type of service required. Provide metal and finish for exposed parts to match the finish of the door rails.

B. **CRL by C.R. Laurence Co., 9100 Series Medium Duty extended spindle Overhead Concealed Door Closers and 9200 Series Heavy-Duty extended spindle Overhead Concealed Door Closers** are double acting and fit into CRL 4-1/2" x 1-3/4" Single or Double Closer Headers. Closers secure to the center hung arm in the top door rail. Provide top adjustable arm, bottom adjustable pivot and finished cover plate if required. Comply with manufacturer's recommendations for closer size, depending upon door size, exposure to weather, and anticipated frequency of use.

C. **C.R. Laurence Co., J990 Series Heavy Weight Floor Mounted Closers** are double acting and supplied with cement box and Brushed S/S cover plate. Cover plates in other finishes are available. Provide bottom adjustable arm, top adjustable pivot and finished cover plate if required. Comply with manufacturer's recommendations for closer size, depending upon door size, exposure to weather, and anticipated frequency of use.

Include the following:

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1. Non-hold-open closers must comply with ADA Handicap requirements.
 2. Consult manufacturer for closer recommendations on doors over 264 lbs.
- D. **Push-Pull Set:** Provide handles selected by the Architect and supplied by **C.R. Laurence**.
- E. **Concealed PA100 and PA110 Panic Handles:** Panic device shall be 1-1/4" diameter **C.R. Laurence's PA100 or PA110** with interior operating panic handle in combination with exterior fixed pull handles designated by letters. Panic mechanism shall be concealed within the brass or stainless steel tubing. Entrance from exterior by a keyed cylinder is optional.
- F. **Deadbolt Lock Handles:** Shall be **C.R. Laurence's DB100, DB110, DB130, DB140, DB150, DB160, DB170** with interior fixed handle and any of the fixed exterior pull handles designated by letters. Operating mechanism shall be concealed within the 1-1/4" brass or stainless steel tubing. There shall be a keyed cylinder on both sides or a thumbturn on the interior side where indicated. The locking mechanism shall be on the interior side of the door.
- G. **Electronic Egress Control Handles:** Shall be **C.R. Laurence's EG100 or EG110** with interior operating egress handle in combination with exterior fixed pull handles designated by letters. Panic mechanism shall be concealed within the brass or stainless steel tubing. Entrance from exterior by a keyed is cylinder optional.
- H. **Electric Strikes:** Shall be Folger Adams 310-1 with 3/4" straight latch bolt keeper without signal switches using PA100 Panic Handles. Electric strikes are mounted in the header or transom bar.
- I. **Locks:** Equip exterior doors with manufacturer's locksets that accept a standard cylinder with related components. Comply with the following:
1. Location and function: Provide round throw deadbolt in continuous bottom fitting. Lock to be operated by key outside and thumbturn inside with end load capability.
- J. **Cylinders or Magnetic Locks:** Supplied as described under Division 8 section, for keying into building system.
- K. **Threshold:** Provide manufacturer's standard extruded aluminum threshold in mill finish. Coordinate cutouts with operating hardware. Include anchors and jamb clips.

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.
- glass.
1. Locate and provide holes and cutouts in glass to receive hardware before tempering. 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 **METAL FINISHES:** (List one or more finishes)

- A. US-28 Clear Satin Anodized Aluminum
313 Dark Bronze/Black Anodized
Black Powder Coat
US-32 Polished Stainless Steel Clad
US-32D Brushed Stainless Steel Clad
US-10BNL Oil Rubbed Bronze Clad
US-3 Polished Brass Clad
PVD "Perma Brass" Polished Clad
Other Custom Metal and Painted finishes available
- B. Preferable use of PVD "Perma Brass" over US-3 Polished Brass Cladding to reduce maintenance cost in the future.

PART 3 - EXECUTION

3.01 **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.

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