SECTION 084126.23 - INTERIOR ALL-GLASS ENTRANCES

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes:

Interior, manual-swinging, all-glass entrance systems.

Interior, manual-sliding, all-glass entrance systems.

Refer to sections listed below for cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections. Sections listed below are for spec editor’s and design team coordination and are to remain as Editor’s Notes. Remove referenced specification sections within the body of the specification if not applicable to the project.

Section 055000 "Metal Fabrications" for overhead-steel support for interior all-glass entrance systems.

* + - 1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.

<**Insert participant requirements**>.

* + - 1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for all-glass system.

Include manufacturer’s installation instructions.

USE PARAGRAPH BELOW WITH EPD REQUIREMENT WHEN PROJECT ESTIMATE IS $1M OR MORE.

* + - * 1. Submit an Environmental Product Declaration (EPD) from the manufacturer for glass within this specification section, if available. A statement of the contractor’s good faith effort to obtain the EPD shall be provided if not available.

Manufacturer-provided EPDs must be Product Specific Type III (Third-Party Reviewed), in adherence with ISO 14025 *Environmental labels and declarations*, ISO 14044 *Environmental management – Life cycle assessment*, and ISO 21930 *Core rules for environmental product declarations of construction products and services.*

* + - * 1. Shop Drawings: For interior all-glass entrance systems.

Include plans, elevations, and sections.

Include details of fittings[**, sliding door carrier assemblies and tracks,**] and glazing, including isometric drawings of fittings.

Include door hardware locations, mounting heights, and installation requirements.

Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs below for two-stage Samples.

* + - * 1. Samples for Initial Selection: For each type of exposed finish indicated.
        2. Samples for Verification: For each type of exposed finish indicated, prepared on Samples of sizes indicated below:

Metal Finishes: 6-inch- long sections of fittings, and other items.

Glass: 6 inches square, showing exposed-edge finish.

Door Hardware: For exposed door hardware of each type, in specified finish, full size.

Retain "Fabrication Sample" paragraph below to verify details of all-glass systems. Delete if an isometric drawing included in Shop Drawings is sufficient.

* + - * 1. Fabrication Sample: [**Patch fitting at sill on pivot side only**] [**Continuous rail fitting at bottom**] <**Insert requirements**>, made from 12-inch lengths of full-size components and showing details of the following:

Joinery.

Anchorage.

Glazing.

* + - * 1. Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication, and assembly of door hardware, as well as procedures and diagrams. Coordinate final door hardware schedule with door components, assemblies, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
        2. Quality Control Submittals

Qualification Data:

For Installer.

Retain subparagraph below if retaining "Egress Door Inspections" subparagraph in "Field Quality Control" Article.

For egress door inspector.

Retain first or second subparagraph below. First subparagraph applies to NFPA 101. Certification in second subparagraph should be acceptable by all authorities having jurisdiction.

Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.

Submit copy of DHI's Fire and Egress Door Assembly Inspector (FDAI) certificate.

Retain "Field quality-control reports" paragraph below if Contractor is responsible for field quality-control testing and inspecting.

Field quality-control reports.

Sample Warranty: For special warranty.

* + - 1. Contract Closeout Submittals

Maintenance Data: For interior all-glass entrance systems to include in maintenance manuals. Furnish a complete set of specialized tools and maintenance instructions as required for Director’s Representative's continued adjustment, maintenance, and removal and replacement of door hardware.

* + - 1. QUALITY ASSURANCE
         1. Installer Qualifications: An authorized representative who is trained and approved by manufacturer for installation of units required for this Project.

Retain "Egress Door Inspector Qualifications" subparagraph below if retaining "Egress Door Inspections" subparagraph in "Field Quality Control" Article

* + - * 1. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies shall comply with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

Retain subparagraph below if requiring egress door inspectors to be certified under DHI's certification program. Verify, with authorities having jurisdiction, if other DHI certifications are acceptable, such as AHC (Architectural Hardware Consultant), CDC (Certified Door Consultant), and AOC (Architectural Opening Consultant).

DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

* + - * 1. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

Retain subparagraph below or revise to suit Project.

Do not change intended aesthetic effects, as judged solely by Director’s Representative, except with Director’s Representative's approval. If changes are proposed, submit comprehensive explanatory data to Director’s Representative for review.

* + - 1. BENCHMARKS

Retain this article if required.

* + - * 1. Build Benchmarks to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.

Include portion of wall represented by Benchmark on Drawings or draw Benchmark as separate element.

Build Benchmark for interior all-glass door including accessories.

Approval of Benchmarks does not constitute approval of deviations from the Contract Documents contained in Benchmarks unless Director’s Representative specifically approves such deviations in writing.

* + - 1. WARRANTY

When warranties are required, verify with Director’s Representative that warranties stated in this article are not less than remedies available to Director’s Representative under prevailing local laws.

* + - * 1. Special Warranty: [**Manufacturer**] [**Installer**] agrees to repair or replace components of interior all-glass entrance systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Deterioration of metals, metal finishes, and other materials beyond normal use.

Failure of operating components.

Verify, with manufacturers, available warranties and warranty periods for interior all-glass entrance systems.

Warranty Period: [**Two**] <**Insert number**> years from date of Substantial Completion for assembly and components unless otherwise indicated.

Retain "Concealed Floor Closers" subparagraph below for interior, manual-swinging, all-glass doors; revise to suit Project.

Concealed Floor Closers: [**Five**] [**10**] [**25**] <**Insert number**> years from date of Substantial Completion.

1. PRODUCTS

Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. MANUFACTURERS

The Director requires certain hardware devices throughout the building be by same manufacturer. If that is the case, specify the device in this Section by named manufacturers' products in coordination with Section 087100 "Door Hardware.”

* + - * 1. Source Limitations: Obtain all components of interior all-glass entrance systems, including accessories, from single manufacturer.
      1. INTERIOR, MANUAL-SWINGING, ALL-GLASS ENTRANCE SYSTEMS

Consult manufacturers for recommendations and availability. Local New York State and area manufacturers and distributers are preferred.

Standard fitting designs and configurations vary among manufacturers. Verify availability with manufacturers and revise "Fitting Configuration" paragraph below to suit Project. Other optional features may be available for specialized applications.

* + - * 1. Fitting Configuration:

Door Fittings: [**Patch fittings at head and sill on pivot side only (A-Style)**] [**Patch fittings at head and sill on pivot side, and for lock at sill of swing side (F-Style)**] [**Patch fitting at top and continuous rail fitting at bottom (BP-Style)**] [**Continuous rail fitting at top and bottom (P-Style)**] <**Insert fitting configuration**>.

Retain "Sidelight( and Transom) Fittings" subparagraph below if using a sidelight.

Sidelight[**and Transom**] Fittings: [**Recessed glazing channel at top and continuous rail fitting at bottom**] [**Recessed glazing channel at top, side, and bottom**] [**Continuous rail fitting at top and bottom**] <**Insert fitting configuration**>.

Fitting materials vary among manufacturers. Verify availability with manufacturers and revise "Fitting Material" paragraph below to suit Project.

* + - * 1. Fitting Material: [**Aluminum**] [**Bronze-clad aluminum**] [**Brass-clad aluminum**] [**Stainless steel clad aluminum**].

Retain "Rail Fittings" paragraph if required. Rail-fitting heights and profiles vary among manufacturers. Verify availability with manufacturers and revise paragraph to suit Project. Comply with authorities having jurisdiction for bottom-rail height and profile. See "Accessibility" Article in the Evaluations for discussion of rail fittings.

* + - * 1. Rail Fittings:

Height:

Top Rail: [**3-1/2 inches**] [**As indicated**] <**Insert dimension**>.

Bottom Rail: [**3-1/2 inches**] [**10 inches**] [**As indicated**] <**Insert dimension**>.

Profile: [**Tapered**] [**Tapered flat**] [**Tapered at 60 degrees minimum from horizontal**] [**Square**] [**Curved**] [**As indicated**] <**Insert profile**>.

End Caps: Manufacturer's standard precision-fit end caps for rail fittings.

Retain "Accessory Fittings" paragraph below for accessory fittings. Verify availability with manufacturers and revise paragraph to suit Project.

* + - * 1. Accessory Fittings:

Overhead doorstop.

Center-housing lock.

U-channel.

* + - * 1. Anchors and Fastenings: Concealed.

Door hardware items in this article are examples only and must be adapted to specific configurations of interior, manual-swinging, all-glass entrance systems required.

* + - * 1. Door Hardware: In sizes, quantities, and types recommended by manufacturer for interior all-glass entrance systems indicated. For exposed parts, match metal and finish of fittings.

Concealed Floor Closers and Top Pivots: Center hung; ANSI/BHMA A156.4, Grade 1; including cases, bottom arms, top walking beam pivots, plates, and accessories required for complete installation.

Swing: [**Single**] [**Double**] acting.

Retain "Positive Dead Stop" subparagraph below for single-acting closers.

Positive Dead Stop: Coordinated with hold-open angle if any, or at angle selected.

Hold Open: [**Automatic, at angle selected**] [**Selective**] [**None**].

Opening-Force Requirements:

"Egress Doors" subparagraph below is based on both the BCNYS and NFPA 101 requirements for means-of-egress doors. Option is a requirement of NFPA 101 only.

Egress Doors: Not more than 15 lbf to release the latch and not more than 30 lbf to set the door in motion[**and not more than 15 lbf to open the door to its minimum required width**].

"Accessible Interior (Swinging) Doors" subparagraph below is based on the United States Access Board's ADA-ABA Guidelines for interior non-fire-rated doors.

Accessible Interior (Swinging) Doors: Not more than 5 lbf to fully open door.

Retain "Concealed Overhead Holder" subparagraph below for interior, manual-swinging, all-glass entrance doors subject to racking. Concealed overhead holders require a door top rail and custom tube or a channel housing at door head. Verify requirements with manufacturers.

Concealed Overhead Holder: ANSI/BHMA A156.8, Grade 1, with dead-stop setting coordinated with concealed floor closer.

Push-Pull Set: [**As selected from manufacturer's full range**] [**As indicated**] <**Insert description**>.

Single-Door and Active-Leaf Locksets: [**Center-housing deadbolt with pulls**] [**Center-housing combination deadbolt and latchbolt with lever handles**] [**Bottom-fitting or bottom-rail deadbolt**] [**Locking ladder pulls with concealed deadbolt**] <**Insert description**>.

Deadbolt operated by key outside and [**key**] [**thumbturn**] inside.

Inactive-Leaf Locksets: Bottom-fitting or bottom-rail deadbolt.

Deadbolt operated by key outside and [**key**] [**thumbturn**] inside.

Retain first sentence in "Cylinders" subparagraph below for master-keyed lock cylinders.

Cylinders: As specified in Section 087100 "Door Hardware." [**Six-pin cylinder, ANSI/BHMA A156.5, Grade 1.**] <**Insert requirements.**>

Retain "Exit Devices" subparagraph below for all-glass entrance doors that are part of egress from an assembly occupancy.

Exit Devices: UL 305.

Function: Operation by push-pull when [**inside operator is locked down (dogged)**] [**inside operator is locked down (dogged); outside operation by key**].

Latching: At [**threshold or floor plate**] [**door head**] [**threshold or floor plate and door head**].

Style: [**Exposed vertical rod**] [**Concealed vertical rod in housing style indicated**] <**Insert style**>.

Provide exit devices on both leaves of pairs of doors.

Retain "Threshold" subparagraph below if required. Coordinate requirements of floor closers with thresholds specified.

Threshold: Not more than 1/2 inch high.

* + - 1. INTERIOR, MANUAL-SLIDING, ALL-GLASS ENTRANCE SYSTEMS

Consult manufacturers for recommendations and availability. Local New York State and area manufacturers and distributers are preferred.

Standard fitting designs and configurations for interior, manual-sliding, all-glass entrance systems vary among manufacturers and can depend on type of sliding door hardware system used. Rail fittings are common with all-glass sliding doors; however, patch fittings can also be used in some applications and some sliding door hardware systems may not require door fittings. Verify availability of fittings with manufacturers, coordinate with sliding door hardware system used and revise "Fitting Configuration" paragraph below to suit Project, or delete below if not required.

* + - * 1. Fitting Configuration:

Door Fittings: [**Continuous rail fitting at top and bottom (P-Style)**] <**Insert fitting configuration**>.

Retain "Sidelight( and Transom) Fittings" subparagraph below if using a sidelight.

Sidelight[**and Transom**] Fittings: [**Recessed glazing channel at top and continuous rail fitting at bottom**] [**Recessed glazing channel at top, side, and bottom**] [**Continuous rail fitting at top and bottom**] <**Insert fitting configuration**>.

Fitting materials vary among manufacturers. Verify availability with manufacturers and revise "Fitting Material" paragraph below to suit Project.

* + - * 1. Fitting Material: [**Aluminum**] [**Bronze-clad aluminum**] [**Brass-clad aluminum**] [**Stainless steel clad aluminum**].

Retain "Rail Fittings" paragraph if required. Rail-fitting heights and profiles vary among manufacturers. Verify availability with manufacturers and revise paragraph to suit Project. Comply with authorities having jurisdiction for bottom-rail height and profile. See "Accessibility" Article in the Evaluations for discussion of rail fittings.

* + - * 1. Rail Fittings:

Height:

Top Rail: [**3-1/2 inches**] [**As indicated**] <**Insert dimension**>.

Bottom Rail: [**3-1/2 inches**] [**10 inches**] [**As indicated**] <**Insert dimension**>.

Profile: [**Tapered**] [**Tapered flat**] [**Tapered at 60 degrees minimum from horizontal**] [**Square**] [**Curved**] [**As indicated**] <**Insert profile**>.

End Caps: Manufacturer's standard precision-fit end caps for rail fittings.

Retain "Accessory Fittings" paragraph below for accessory fittings. Verify availability with manufacturers and revise paragraph to suit Project.

* + - * 1. Accessory Fittings:

U-channel.

* + - * 1. Anchors and Fastenings: Concealed.

Door hardware items in this article are examples only and must be adapted to specific configurations of interior, manual -sliding, all-glass entrance systems required.

* + - * 1. Door Hardware: In sizes, quantities, and types recommended by manufacturer for interior all-glass entrance systems indicated.

Opening-Force Requirements:

"Egress Doors" subparagraph below is based on both the BCNYS and NFPA 101 requirements for horizontal sliding doors in a means of egress in occupancies other than I-3. The BCNYS and NFPA 101 permit manually operated horizontal sliding doors in a means of egress from spaces with an occupant load of 10 or less, with certain exceptions. See the Evaluations for further discussion. Option below is a requirement of NFPA 101 only.

Egress Doors: Not more than 30 lbf to set the door in motion[**and not more than 15 lbf to close the door or open it to its minimum required width**].

"Accessible Interior Sliding Doors" subparagraph below is based on the United States Access Board's ADA-ABA Guidelines for interior non-fire-rated doors.

Accessible Interior Sliding Doors: Not more than 5 lbf to fully open door.

Door Pulls: [**As selected from manufacturer's full range**] [**As indicated**] <**Insert description**>.

Active Glass Panel Locksets: [**Locking ladder pulls with concealed deadbolt**] [**Bottom-fitting or bottom-rail deadbolt**] <**Insert description**>.

Deadbolt operated by key outside and [**key**] [**thumbturn**] inside.

Retain first sentence in "Cylinders" subparagraph below for master-keyed lock cylinders.

Cylinders: As specified in Section 087100 "Door Hardware." [**Six-pin cylinder, ANSI/BHMA A156.5, Grade 1.**] <**Insert requirements.**>

Sliding Door Carrier Assemblies and Tracks:

General: Provide manufacturer's framing, headers, carrier assemblies, tracks, and accessories required for a complete installation.

Carrier assembly and track designs and configurations vary among manufacturers. Verify availability with manufacturers and retain "Bottom Rolling System," "Top-Hung System," or "Top-Hung Exposed Rail System" subparagraph below; or revise to suit Project. Other optional features may be available.

Bottom Rolling System: Top guide track and floor track for supporting glass panels with bottom roller assembly.

Overhead Guide Track:

Mount: [**Wall**] [**Soffit**] [**Glass**].

Size: As indicated on Drawings.

Material: [**Aluminum**] [**Bronze-clad aluminum**] [**Brass-clad aluminum**] [**Stainless steel clad aluminum**] [**Match fittings**].

Rollers: Adjustable, heavy-duty ball bearing rollers (two per panel).

Floor Track:

Mount: [**Recessed**] [**Surface**]

Size: As indicated on Drawings.

Material: [**Match overhead guide track**] <**Insert material**>.

Accessory Components: Door stops, roller, and track mounts.

Top-Hung System: Overhead track assembly for supporting glass panels hung from roller assembly.

Overhead Track:

Mount: [**Wall**] [**Soffit**] [**Glass**].

Size: As indicated on Drawings.

Material: [**Aluminum**] [**Bronze-clad aluminum**] [**Brass-clad aluminum**] [**Stainless steel clad aluminum**] [**Match fittings**].

Rollers: Adjustable, heavy-duty ball bearing rollers (two per panel).

Break Metal Cover: [**Aluminum**] [**Bronze-clad aluminum**] [**Brass-clad aluminum**] [**Stainless steel clad aluminum**] [**Match fittings**].

Floor Support:

Mount: [**Floor guide**] [**Recessed track**].

Size: As indicated on Drawings.

Material: [**Match overhead track**] <**Insert material**>.

Accessory Components: Door stops, roller, and track/guide mounts.

Top-Hung Exposed Rail System: Exposed overhead tube rail assembly for supporting glass panels hung from roller assembly.

Tube Rail:

Profile: [**Round**] <**Insert profile**> with end caps.

Mount: [**Wall**] [**Glass**].

Size: As indicated on Drawings.

Material: [**Stainless steel**] <**Insert material**>.

Rollers: Adjustable, antilift rollers (two per panel).

Glass Fitting: [**Surface**] [**Flush**] mount.

Material: [**Stainless steel**] <**Insert material**>.

Floor Guide:

Size: As indicated on Drawings.

Material: [**Stainless steel**] <**Insert material**>.

Accessory Components: Door stops, roller, tube rail, and floor guide mounts.

* + - 1. GLASS
         1. Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), Quality-Q3, tested for surface and edge compression in accordance with ASTM C1048 and for impact strength in accordance with 16 CFR 1201 for Category II materials.

Verify thickness required for glass areas; 10-mm-thick glass is available in limited sizes.

Class 1: Clear monolithic.

Thickness: [**10**] [**12**] [**16**] [**19**] mm.

Locations: [**As indicated**] <**Insert locations**>.

Retain "Exposed Edges" subparagraph below for exposed edges of all-glass doors and sidelights.

Exposed Edges: Machine ground and flat polished.

Retain "Butt Edges" subparagraph below for butting glass edges.

Butt Edges: Flat ground.

Retain "Corner Edges" subparagraph below if lap-joint corners are required. Revise for mitered corner edges if needed.

Corner Edges: Lap-joint corners with exposed edges polished.

* + - 1. MATERIALS
         1. Aluminum: ASTM B221 with strength and durability characteristics of not less than Alloy 6063-T5 for extruded bars, rods, profiles, and tubes. ASTM B209 for sheet and plate.

Retain one of two options in "Clear Anodic Finish" subparagraph below. Verify availability with manufacturers.

Clear Anodic Finish: AAMA 611, [**AA-M12C22A41, Class I, 0.018 mm**] [**AA-M12C22A31, Class II, 0.010 mm**] or thicker.

Retain one of two options in "Color Anodic Finish" subparagraph below. Verify availability with manufacturers.

Color Anodic Finish: AAMA 611, [**AA-M12C22A42/A44, Class I, 0.018 mm**] [**AA-M12C22A32/A34, Class II, 0.010 mm**] or thicker.

Color: [**Light bronze**] [**Medium bronze**] [**Dark bronze**] [**Black**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from full range of industry colors and color densities**] <**Insert color**>.

"Powder-Coat Finish" paragraph below references AAMA standard for pigmented organic coating on extrusions and panels.

Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

* + - * 1. Bronze Cladding: ASTM B36, alloy [**as standard with manufacturer**] <**Insert requirements**>.

Finish: [**Polished M21-O6x**] [**Satin M31-M34-O6x**] [**Statuary M31-C5**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from full range of industry finishes**] <**Insert finish**>.

* + - * 1. Brass Cladding: ASTM B36, alloy [**as standard with manufacturer**] <**Insert requirements**>.

Finish: [**Polished M21-O6x**] [**Satin M31-M34-O6x**] [**As selected by Director’s Representative from full range of industry finishes**] <**Insert finish**>.

If retaining more than one paragraph below, coordinate finish options to ensure uniform finish for all stainless steel hardware.

* + - * 1. Stainless Steel Cladding: ASTM A240 or ASTM A666, Type 304.

Finish: [**ASTM A480 No. 4 directional satin finish**] [**ASTM A480 No. 8 mirrorlike reflective, nondirectional polish**] <**Insert finish**>.

* + - * 1. Stainless Steel Sheet, Strip, Plate, and Flat Bars: ASTM A240 or ASTM A666, austenitic stainless steel, Type 304.

Finish: [**ASTM A480 No. 4 directional satin finish**] [**ASTM A480 No. 6 dull satin finish**] [**ASTM A480 No. 7 reflective, directional finish**] <**Insert finish**>.

* + - * 1. Stainless Steel Tubing: ASTM A240 or ASTM A666, austenitic stainless steel, Type 304.

Finish: [**180-Grit Polished Finish: Uniform, directionally textured finish**] [**280-Grit Polished Finish: Fine finish**] [**Polished and Buffed Finish: 320-grit finish followed by buffing**] <**Insert finish**>.

Retain one option in "Polished and Buffed Finish" subparagraph below if retaining last option in "Finish" subparagraph above.

Polished and Buffed Finish: Buff to [**high luster finish**] [**mirrorlike finish**] [**match Director’s Representative's sample**].

* + - * 1. Stainless Steel Bars and Shapes: ASTM A276, Type 304.

Finish: [**ASTM A480 No. 4 directional satin finish**] [**ASTM A480 No. 6 dull satin finish**] [**ASTM A480 No. 7 reflective, directional finish**] <**Insert finish**>.

* + - * 1. Structural Shapes, Plates, and Bars: ASTM A36.
      1. FABRICATION
         1. Provide holes and cutouts in glass to receive hardware, fittings, and accessory fittings before tempering glass. Do not cut, drill, or make other alterations to glass after tempering.

Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

* + - * 1. Factory assemble components and factory install hardware and fittings to greatest extent possible.

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
          2. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. INSTALLATION, GENERAL
          1. Install all-glass entrance systems and associated components in accordance with manufacturer's written instructions.
          2. Set units level, plumb, and true to line, with uniform joints.
          3. Maintain uniform clearances between adjacent components.
          4. Lubricate hardware and other moving parts in accordance with manufacturer's written instructions.
          5. Set, seal, and grout floor closer cases as required to suit hardware and substrate indicated.
       3. FIELD QUALITY CONTROL

Retain this article if required to comply with NFPA 101, which requires inspection and testing for egress doors.

* + - * 1. Inspection Agency: Engage a qualified inspector to perform inspections and to furnish reports to Director’s Representative.

Retain "Egress Door Inspections" subparagraph below for projects per NFPA 101, for assembly, educational, daycare, and residential board and care occupancies.

Egress Door Inspections: Inspect each all-glass entrance door equipped with panic hardware, each all-glass entrance door located in an exit enclosure, each electrically controlled all-glass egress door, and each all-glass entrance door equipped with special locking arrangements, according to NFPA 101, Section 7.2.1.15.

* + - * 1. All-glass entrance systems will be considered defective if they do not pass tests and inspections.
        2. Prepare test and inspection reports.
      1. ADJUSTING AND CLEANING
         1. Adjust all-glass doors and hardware to produce smooth operation and tight fit at contact points.

subparagraph below is based on the United States Access Board's ADA-ABA Guidelines; verify requirements of authorities having jurisdiction. Retain subparagraph for swinging doors.

For all-glass, swinging entrance doors accessible to people with disabilities, adjust closers to provide a three-second closer sweep period for doors to move from a 70-degree open position to 3 inches from the latch measured to the leading door edge.

* + - * 1. Remove excess sealant and glazing compounds and dirt from surfaces.

Insert a hardware schedule if required.

END OF SECTION 084126.23