

Section 08 41 26 - ALL GLASS ENTRANCES AND SIDELIGHTS

Note to Specification Writers, The specifications below are offered as desirable inclusions in the glazing specification and are not intended to be complete. An appropriate, qualified design professional must verify the suitability of a specific product for use in a particular application as well as review the final specification.

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Interior all glass entrances and sidelight systems.
- B. The basis of design is the **JEB Invisiwall™ All Glass Door and Entrance System** by JE Berkowitz, LP. Pedricktown, NJ (Contact Mike Nicklas, mnicklas@jeberkowitz.com, 800-257-7827, x214)
- C. The all glass entrance and sidelight work includes the following.
 - 1. All Glass [swing] [and [sliding] entrance doors and framing, including hardware
 - 2. All glass sidelights
 - 3. Metal Trim and similar items in conjunction with all glass entrance and sidelights
 - 4. Sealants, joint fillers, and gasketing systems for all glass entrances and sidelights
 - 5. Anchors, shims, fasteners, inserts, expansion devices, accessories, support brackets and attachments for all glass entrances and sidelights
 - 6. Glass and glazing for all glass entrances and sidelights
 - 7. [Security systems components] (*optional*)

1.02 REFERENCES

(Delete all reference standards that are not required and add any standards required by local or state standards. The Contracting Requirements or Division 1, Section 01420. References may establish the edition date of standards not otherwise indicated. Division 1 may include full names and addresses of the organization whose standards are referenced.)

- A. United States
 - 1. GANA “Fully Tempered Heavy Glass Door and Entrances System Design Guide
 - 2. American Architectural Manufacturers Association (Glass Association of North America
 - 3. ANSI Z97.1 – American National Standard for Glazing Materials Used in Buildings – Safety Performance and Methods Test.
 - 4. ASTM C162 – Standard Terminology of Glass and Glass Products.
 - 5. ASTM C1036 – Standard Specification for Flat Glass.
 - 6. ASTM C1048 – Standard Specification for Heat-Treated Glass – Kind HS, Kind FT Coated and Uncoated Glass.
 - 7. ASTM C1172 – Standard Specification for Laminated Architectural Flat Glass.
 - 8. ASTM E1300 – Standard Practice for Determining the Minimum Thickness and Type of Glass Required to Resist a Specified Load
 - 9. ASTM B 36/B 36M – Brass Plate, Sheet, Strip, and Rolled Bar
 - 10. CSPC 16 CFR 1201– Safety Standard for Architectural Glazing Materials.
 - 11. Insulating Glass Manufacturers Alliance (IGMA) – Glazing Guidelines.
 - 12. EN 14179-1:2005– European Heat Soaking Standard. (*Optional*)
 - 13. GANA Glazing Manual: Glass Association of North America.
 - 14. GANA Sealant Manual: Glass Association of North America.
 - 15. GANA Laminated Glass Design Guide: Glass Association of North America.
 - 16. ISO 9001-2015 Certification.

1.03 PERFORMANCE REQUIREMENTS

A. GENERAL: Provide all glass entrances and sidelights systems meeting or exceeding the following performance criteria.

1. STRUCTURAL PROPERTIES:

- a. Provide all glass entrance and sidelight work, including glass, shall be designed, fabricated and installed to withstand a maximum inward and outward pressure of [5] lb f/sq. ft. [] lb f/sqft. for all glass doors and sidelights.
- b. Seismic Loads: As required by IBC or prevailing code [As indicated on the drawings]
- c. Deflections: base calculations for the following deflections upon the combination of maximum direct lateral pressures, building deflections and erection tolerances.
 1. The deflection of any framing member in a direction normal to the plane of the wall when subjected to the full lateral pressures specified above shall not exceed 1/175 of its clear span or 3/4" whichever is less.
 2. The deflection of panels with unsupported edges shall not be greater than the thickness of the panel when a force of 50 pounds per lineal foot is applied horizontally to the panel at any point up to 42 inches above the walking surface.
 3. Glass sealants and interior finishes shall not be included to contribute to framing member strength, stiffness or lateral stability.
 4. Dead Loads
 - 1) Limit deflections of metal members spanning door openings to 1/300. The clearance Between the member and an operable door shall be no less than 1/16" (1.5mm).
- d. Twisting (rotation) of the horizontals due to the weight of the glass shall not exceed 1 degree measured between ends and center of each span.
 1. Operational (Traffic) Loads: Design and fabricate all glass entrances to withstand the operating loads which result from heavy traffic conditions, without measurable permanent deflection. Limit elastic deflections so as to provide the normal degree of rigidity required to avoid glass breakage, air leaks and other objectionable results of excessive flexibility.
- e. Building Frame Movements: Design, fabricate and install all glass entrances and sidelights to withstand building movements including loading deflections, shrinkage, creep and similar movements.

2. DESIGN MODIFICATIONS:

1. Submit design modifications necessary to meet the performance requirements and field coordination.
2. Variation in details or materials shall not adversely affect the appearance, durability, strength of components.
3. Maintain the general design concept without altering the size of the members, profiles and alignment.

1.05 SUBMITTALS

- A. Product Data: Submit manufacturer's specification and installation instructions for each type of all glass entrance and sidelight product specified.
- B. Shop drawings: Submit shop drawings scaled elevations, plans and sections of the all glass entrance and sidelight work. Full scale sections shall be prepared and submitted for the details of the assemblies that cannot be shown in the elevations or sections. Include with shop drawings metal thickness of all metal components, glass thickness, metal finishes, details of fittings, and all other pertinent information as necessary or requested by the Architect to indicate compliance with the Contract Documents. Details of field connections, anchorage, and their relationship to the work of others shall be clearly indicated for the coordination of the work by other building trades. Details of fastening and sealing methods and product joinery shall be shown to ensure proper performance of the field installation. No work shall be fabricated until the shop drawings for that work have been approved by the Architect.
 - 1. Show direction of satin finish for each component receiving a directional finish
- C. Samples: Submit samples of the following before any work is fabricated:
 - 1. Two paired sets of samples for each exposed metal finish required. Sample finishes shall be of the specified alloy, temper, and thickness of metal required. Where finishes involve color and texture variations include sample sets showing the full range of variations expected. Furnish samples in either 12 inch (300mm) lengths of patch fittings, rails, or 12 inch (300mm) squares of sheet.
 - 2. Glass: 12 inches square, showing exposed edge finish
- D. Structural Calculations: Submit, for information only, copies of structural calculations indicating complete compliance with the specified performance requirements. Calculations shall be prepared, signed, and sealed by a Professional Engineer registered in the state where the work is to be installed.
- E. Maintenance Instructions: Submit copies of manufacturer's written instructions for adjustment, operation and maintenance of operable doors.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: The all glass entrance and sidelight drawings are based on [Door Series] [and] [Floating Transom] [Closure] [Door Handle] [Manufacturer]. The all glass entrance and sidelight drawings and specifications are based on the systems using JE Berkowitz's [heat soaked tested] [tempered] [Laminated] glass products. Award the fabrication of all glass entrances and sidelight door and frame components to a single firm specializing in the fabrication of all glass entrances and sidelight components in similar design and extent required for the project, in not less than five projects of similar scope to the satisfaction of the Architect.
- B. Installer Qualifications: Subcontract the all glass entrance and side light work to a firm which is specialized in the erection of all glass entrances and sidelights and who has successfully produced work similar is design and extent required for the project in not less than five projects of similar scope to the satisfaction of the Architect, and whose work has resulted in construction with a record of successful in-house performance for a period of five years

1.07 DELIVERY, STORAGE AND HANDLING

- A. Packing of components shall be selected to protect the components from damage during shipping and handling
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer. Exercise particular care to avoid damage to the finishes.

1.08 PROJECT SITE CONDITIONS

- A. Field Measurement: When construction schedule permits, verify field measurements with drawing dimensions prior to fabrication of the all glass entrances [and] [sidelights].

1.09 WARRANTY

- A. Submit a 1 (one) year warranty, beginning from date of substantial completion, and executed by the Contractor, manufacturer and all glass installer agreeing to repair or replace components of the all glass entrance and sidelight systems that develop defects in materials or workmanship within the specified warranty period. Defects include structural failures sealant failures deterioration of metals, metal finish failures, failure of operating components to function properly and any other evidence of failure or deterioration of the all glass door and entrance and sidelight work to meet performance requirements.

PART 2 - GENERAL

2.01 MANUFACTURERS

- A. Manufacture is used in the section to refer to a firm that fabricates all glass entrance systems and sidelights.
- B. Basis of Design: **JEB Invisiwall All Glass Door Entrance System** (1-800-257-7827 contact Mike Nicklas)
- B. Requests to use substitute products and or glass fabricator must be submitted in accordance with Section 01 63 00 Product Substitution Procedures

2.02 MATERIALS

- A. GLASS: Provide glass tested for surface and edge compression per ASTM C 1048 and for impact Strength per 16 CFR 1201 for Category II materials.
 - 1. Glass Type: [Monolithic Fully Tempered], [Laminated] [Clear] [and] [Low iron] [Bronze] [Grey] [Custom]
 - 2. Thickness: [1/2"] [3/8"] [1/2"] [3/4"] required to suit the performance requirements.
 - 3. Glass to be heat-treated by horizontal (roller hearth) process with inherent roll-wave distortion parallel to the bottom edge of the glass as installed when specified
 - 4. [Optional [All glass shall be heat soaked in accordance by EN 14176 2005:1 standard by JE Berkowitz, L.P.]
 - 5. Exposed Edges: Flat edge (cut edge of glass is flat and surface edges are slightly arrised) with polished image
 - 6. Butt Edges: Flat edge (cut edge of glass is flat and surface edges are slightly arrised) with polished finish.
 - 7. Exposed Fin Edges: Round edge (cut edge of glass is flat and surface edges are slightly arrised) with polished finish.

B. CLADDING:

1. Surface Texture and Color: Use only materials which are smooth and free of surface blemishes including, but not limited to, pitting seam marks, roller marks, rolled trade names and roughness. Do not use materials which have stains and discoloration which do not match the Architect's sample in color and grain characteristics.
2. Surface Flatness and Edges: Provide materials which have been cold rolled, cold-Finished, cold drawn, stretcher leveled, machine cut and otherwise produced to the highest Commercial standard for flatness with edges and corners sharp and true to angle.
3. Tempers: Fabricate from standard commercial tempers and hardness, as required for Forming, fabrication, strength and durability and which will finish to match the Architect's sample.
 - a. Finishes: [Anodized Aluminum] [Clear #US28] [Dark Bronze #313] [Black #335] [Brass] [Polished #US3] [Satin #US4] [Stainless Steel] [Polished #US32] [Satin # US32D] [Custom] [Kynar] [Powder coat] [Specialty Cladding]

C. COMPONENTS

1. Glass Entrances [and sidelights]: Provide complete system with all aluminum framing members, hardware components, fasteners, anchors, gaskets, washers, glass and glazing and hardware components. All Aluminum members shall be clad with metal cladding. Glass door and sidelight framing systems shall be similar to that manufactured by JE Berkowitz, L.P.
2. Fabricate one-piece cast aluminum patch fittings and one piece extruded aluminum rail retaining chosen glass thickness. Provide recessed aluminum headers for door head opening support. Laminate with adhesion or mechanically clad patch fittings and rail base metal members, returning cladding around extrusions to eliminate exposed edges. Fabricate patch fittings and rails with continuous bosses, or serrated edges to receive dry gaskets to secure the glass in the patch fittings and rails in lieu of wet glazing materials. Provide end caps to close off patch fittings and rails fabricated from stainless steel.
3. Sidelight Channels: Recessed aluminum head channels for concealed sidelight head and sill support. Channels shall be fabricated with continuous bosses, or serrated edges, to Receive dry gaskets to secure the glass in the channel in lieu of wet glazing.
4. Sidelight Rails: Exposed metal clad aluminum rails for exposed side light support. Rails shall be fabricated with continuous bosses, or serrated edges, to receive dry gaskets to secure the glass in the rails in lieu of wet glazing materials. Provide end caps to close off patch fittings and rails fabricated from stainless steel.
 - a. Door Type: [A] [F] [BP] [P]
 - b. Rail System: [1"] [1-3/8"] [-5/8"] [4"] [6"] [8"] [Custom]
 - c. Patch Fittings:

D. HARDWARE

- A. General: Heavy-duty hardware units in sizes, quantities and types [specified by architect] [recommended by manufacturer] for all glass entrances indicated. For exposed parts, math cladding metal finish.
- B. Concealed Overhead Closers and Pivots. Provide one concealed overhead closer and pivot set per door leaf. Closers and pivots shall comply with BHMA A156.4 Grade 1.

Properly detail closers to meet application and installation requirements as indicated. Comply with manufacturer's recommendations for size of door closer opening depending on size and weight of door, stack pressure conditions and anticipated frequency of use. Provide manufacturer standard cover plate to match cladding. Provide each pivot set with extended spindles.

C. Concealed Closers and Pivots: Provide one concealed floor closer and one pivot set per door leaf. Closers and pivots shall comply with BHMA A156.4 Grade 1. Comply with manufacturer's recommendations for size of door closer opening depending on size and weight of door, stack pressure conditions and anticipated frequency of use. Provide manufacturer standard cover (dress) plate to match cladding. Provide each pivot set with extruded spindles

1. Hold Open extruded spindles; [automatic, at an angle] [Selective]
2. Delayed- Action Closing: Comply with requirements of authorities having jurisdiction and the US Architectural and Transportation Barriers Compliance Board's "Americans with Disabilities Act) (ADA). Accessibility Guidelines for Buildings and Facilities (ADAAG)." Where requirements conflict the more stringent shall apply.
3. Push-Pull Set:
4. Single-Door and Active Leaf Locksets: [Center-housing deadbolt with pulls] [Center housing combination deadbolt and latch bolt with lever handles] [bottom-fitting or bottom-rail deadbolt].
5. Deadbolt operated by key outside and [key [thumb turn] inside.
6. Cylinders: [As specified in Division 8 Section "Door Hardware."
7. Exit Devices: UL305.
 - a. Function: Operation by push-pull when [inside operator is locked down] [inside Operator is locked down' operation by key]
 - b. Style: [Exposed vertical rod] [Concealed vertical rod in housing style indicated]
 - c. Latching: At [threshold or floor plate] [head] [threshold or floorplate and head]
 - d. Provide exit devices on both leaves of pairs of doors.
8. Overhead Angle Stops: Provide one overhead angle per door opening. Special angle stop, fabricated from brass or bronze, for single or pairs of doors with stops and having a minimum of 2 rubber silencers per stop, minimum 2 inches (51 mm) wide x 3 inches (76mm) long base for mortising into the head of door frame, 1 inch (25mm) maximum stop face projection
9. Floor Bumper: Provide one floor bumper per door leaf. Cast half dome design with rubber bumper. Provide manufacturer's standard riser height as require for carpeted areas in conjunction with the floor bumpers scheduled.
10. Overhead Magnetic Devices: [Provide one surface mounted electromagnetic lock per door leaf] [Furnished by Owner's security vendor]
11. Card Readers, Door releases and Passive Infrared Detectors: By Owner's security vendor.

12. Anchors and Fastenings:
 - A. Material: Steel:
 1. Anchor and Fastener Metal Alloy Types. Designations and Standards: Alloys as recommended by the fabricator for the application(s) as indicated.
13. Spacers, Setting Blocks, Gaskets: Permanent, non-migrating types of material and in hardness recommended by all glass entrances and sidelight manufacturer and complying with the performance requirements
14. Slip and Separator Gaskets:
 - A. Bolted slip-joints: Non-metallic, low friction material bearing temperature and moisture resistances and low abrasion properties as required to suit performance criteria.
 - B. Non-bolted slip joints: Non-corrosive, non-toxic impregnated felt, or butyl, tape with a pressure sensitive adhesive on one surface which is formulated for proper adhesion to metals shown: gasket shall bear temperature and moisture resistance properties as required to suit performance criteria; thickness and width as required.
15. Adhesives and Epoxies: As required for laminating cladding to base components.

2.04 FABRICATION

- A. General: Fabricate the all glass entrances and sidelights to the designs, shapes and sizes shown using the materials, and components, specified and shown to produce assemblies which meet or exceed the performance requirements. To the extent possible complete fabrication assembly, finishing, hardware applications and other work before shipment to the project site.
- B. Provide hoes and cutouts in glass to receive hardware, fittings, rails, and accessories before tempering glass. Drill, countersink, and chamfer holes using tooling, materials and methods which are selected and applied to prevent spalling of the cut glass surfaces at holes and cutouts. The internal surface of holes and cutouts shall be smooth with minimal roughness from drilling operations. Do not cut, drill, or make alterations to glass after tempering.
 1. Etching: Clean glass surfaces of all oil, grease, and any other deleterious substances that might affect the work. Adhere to glass surface acid resistant stencil coating sheeting or other suitable acid resistant glass screening materials. Lay out artwork or screening and remove cut out portion of sheeting or screening to expose glass. Lightly acid etch for patterns to appear light white in a density and color as acceptable to the Architect. After etching remove sheeting or screening and either brush or wash the glass so that residue from sheeting adhesives, or screening, and etching is completely removed.
 - a. Architect will furnish artwork pattern on a suitable media for the creation of the template by Contractor.
 2. Fully temper glass using horizontal (roller hearth) process and fabricate so when installed Roller wave distortion is parallel with the bottom edge of lite.
 3. [Heat Soaking] [After tempering, expose 100% of all fabricated glass units to EN-1411-76-European Heat Soaking Standard to minimize nickel sulfide inclusions related glass breakage]

4. Factory assemble components and factory install hardware to the greatest extent possible.
- C. Fabricate all entrances to accommodate the swing direction shown.
 - D. Metal Components of all glass entrances and sidelights shall be cut, reinforced, drilled and tapped in strict accordance with the printed door hardware manufacturers templates and instructions. Provide solid carbon steel hardware reinforcements, securely fastened to doors and frames where door hardware is to be attached.
 1. Security system components may be incorporated into the door and frame openings of each all glass entrance. Provide all cutouts required by the Owner's security system vendor and all pre-wiring for vendor provided security system devices. Wherever all glass sidelight and entrance framing components are to receive wiring provide unobstructed clear paths free of burrs and sharp objects with pull strings to facilitate wiring.
 - E. Joints in Metal Work: All exposed metal work shall be carefully fitted and matched to produce continuity o line and design, with all joints, being accurately fitted for hairline contact and rigidly secured. Where additional rigidity or strength is required to satisfy the performance requirements entrance components with aluminum or carbon steel shapes, bars, and plates.
 - F. Shop Assembly: As far as practical, all fittings and assembly work shall be done in a fabrication shop.
 - G. Exposed Fasteners: Not permitted

2.05 Aluminum Finishes

- A. General: Comply with MAAMM'S "Metal Finishes Manual for Architectural and Metal Products" for Recommendations for applying and designing finishes.
- B. Finish Application:
 1. Apply anodized coatings to all exposed surfaces of sidelight and entrance components.
- C. Appearance of Finished Work: During production, maintain large size color range samples for use in comparing against production material. Variations in appearance of abutting or adjacent pieces are acceptable if they are within the range of approved samples. Noticeable variations in the same piece are not acceptable.
- D. Finish Designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- E. Class II, Clear Anodic Finish: Complying with AA-M10C22A31 for an Architectural Class II finish And the following:
 1. Metal Preparation and Pretreatment: Remove die markings prior to finishing operations. Perform this work in addition to the finish specified. Scratches, abrasions, dents and similar defects are unacceptable.
 2. Thickness: Minimum 0.4 mil (0.01mm), weighing not less than 15.5 mg per sq. in. minimum Apparent density of 38 g per cubic inch.
 3. Performance Criteria: Meets or exceeds AAMA 611.
 4. Color: Medium matte finished, clear natural anodized.
 5. Post Anodizing Finish (Sealing): Anodized finishes shall be fully sealed by the manufacturer or Processor according to procedures recommended by the licensior of the process. Maximum weight loss shall be 2.6 mg/ sq. in.
- F. Class I, Clear Anodic Finish: Complying with AA_M10C22A41 for as Architectural Class I finish and the following:

1. Metal Preparation and Pretreatment: Remove die markings prior to finishing operations. Perform this work in addition to the finished specified. Scratches, abrasions, dents, and similar defects are unacceptable.
 2. Thickness: Minimum 0.7 mil (0.18mm), weighing not less than 27.0 per sq. in... minimum Apparent density of 38 g per cubic in.
 3. Performance Criteria: Meets or exceeds AAMA 611.
 4. Color: Medium matte finished, clear natural anodized.
 5. Post Anodizing Finish (Sealing): Anodized finishes shall be fully sealed by the manufacturer or Processor according to procedures recommended by the licensor of the process. Maximum weight loss shall be 2.6 mg/ sq. in
- G. Class II Color Anodic Finish: Complying with AA-MM12C22A32/A34 for an Architectural Class II finish and the following:
1. Metal Preparation and Pretreatment: Remove die markings prior to finishing operations. Perform this work in addition to the finished specified. Scratches, abrasions, dents, and similar defects are unacceptable.
 2. Thickness: Minimum 0.7 mil (0.18mm), weighing not less than 27.0 per sq. in. minimum Apparent density of 38 g per cubic in.
 3. Performance Criteria: Meets or exceeds AAMA 611.
 4. Color: Medium matte finished, clear natural anodized.
 5. Post Anodizing Finish (Sealing): Anodized finishes shall be fully sealed by the manufacturer or Processor according to procedures recommended by the licensor of the process. Maximum weight loss shall be 2.6 mg/ sq. in.
- H. Class I, Color Anodic Finish: Complying with AA-M12C22A42/A44 for an Architectural Class I Finish and the following:
1. Metal Preparation and Pretreatment: Remove die markings prior to finishing operations. Perform this work in addition to the finished specified. Scratches, abrasions, dents, and similar defects are unacceptable.
 2. Thickness: Minimum 0.7 mil (0.18mm), weighing not less than 27.0 per sq. in. minimum Apparent density of 38 g per cubic in.
 3. Performance Criteria: Meets or exceeds AAMA 611.
 4. Color: Medium matte finished, clear natural anodized.
 5. Post Anodizing Finish (Sealing): Anodized finishes shall be fully sealed by the manufacturer or Processor according to procedures recommended by the licensor of the process. Maximum weight loss shall be 2.6 mg/ sq. in

2.06 COPPER- ALLOY FINISHES

- A. General: Comply with MAAMM'S "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designing finishes.
- B. Bronze Finish: [Polished, M21-C12-06x, smooth specular, buffed finish, non-etch cleaned clear coat using 4 coats of clear organic air dry coating] [Natural satin, M31-C12-06x, directional textured finish, non-etch cleaned, clear coated using 4 coats of clear organic air dry coating] [Statuary finish, M32-C55, medium-satin, directionally textured finish with conversion coating].
1. Color and Finish: Match Architect's sample.
- C. Brass Finish: [Polished, M21-C12-06x, smooth specular, buffed finish, non-etch cleaned clear coat using 4 coats of clear organic air dry coating] [Natural satin, M31-C12-06x, directional textured finish, non-etch cleaned, clear coated using 4 coats of clear organic air dry coating] [Statuary finish, M32-C55, medium-satin, directionally textured finish with conversion coating].
1. Color and Finish: Match Architect's sample.

2.07 STAINLESS-STEEL FINISHES

- A. General: Comply with MAAMM'S "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designing finishes.
 - 1. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, Free of cross scratches. Run grain with long dimensions of each piece.
- B. Stainless-Steel Finish: no. [4, bright, directional polish] [8, mirror-like reflective, non-directional polish].
- C. When Polishing is completed, passivate and rinse surfaces. Remove embedded foreign mater and leave surfaces chemically clean.

PART 3 - EXECUTIONS

3.01 PREPARATION

- A. Coordinate all glass entrance and sidelight work with the work of other Sections and provide items to be places during the installation of other work at the proper time to avoid delays in the work.
- B. Place such items, including concealed overhead framing, accurately to the final location of all glass entrance and sidelight components.

3.02 EXAMINATION

- A. Examine the substrates, adjoining construction, and conditions under which the Work is to be installed. Do not proceed with the Work until unsatisfactory conditions have been corrected.
 - 1. Before beginning installation of the all glass entrances and sidelight work examine all parts of existing building structural frame and existing building cladding indicated to support the all glass entrance and sidelight work. [Ensure that the existing swing door thresholds, existing swing doors, swing door framing and subframes have been completely removed with all projecting anchors cut off flush]. Notify Contractor in writing, of any dimensions, or conditions, found which will prevent the proper execution of the all glass entrance and sidelight work, including specified tolerances. Use Contractor's offset lines and bench marks as basis of measurements.

3.03 INSTALLATION

- A. General: Comply with manufacturer's written instructions for protecting, handling and installing all glass entrance and sidelight systems. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.
 - 1. Cut and trim component parts of the all glass entrance and sidelight work during erection only with the approval of the manufacturer or fabricator, and in accordance with his recommendations. Restore finish completely to protect material and remove all evidence of cutting and trimming. Remove and replace members where cutting and trimming has impaired strength or appearance, as directed by Architect.
 - 2. Set components within the erection tolerances with uniform joints where shown. place components on aluminum or stainless steel shims and fasten to supporting substrates using bolts and similar fasteners.

3. Do not erect components which are warped, deformed, defaced or otherwise damaged to impair strength. Remove and replace members damaged in the process of erection.
- B. Entrance Doors [and sidelights]: Doors [and Sidelights] shall be securely anchored in place to a straight, plumb, and level condition, without distortion. Adjust doors to operate smoothly, without binding, with hardware functioning properly. Hardware movement, shall be field tested and final adjustment, and lubrication, made for proper operation and performance of doors.
 1. Install surface mounted hardware according to the manufacturer's written Instructions using concealed fasteners to greatest extent possible.
 2. Set, seal, and grout floor closer cases as required to suit hardware and substrate indicated.
 - C. Maintain uniform clearances between adjacent components.
 - D. Install silicone glazing sealant to comply with requirements of Division 8 Section "Glazing," unless otherwise indicated.

3.04 CLEANING

- A. Clean metal surfaces promptly after installation, exercising care to avoid damage to factory finished exposed surfaces.
- B. Wash glass on both surfaces not more than 4 days prior to date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer. Remove excess glazing and sealant compounds, dirt and other substances.

3.05 PROTECTION

- A. Institute protective measurements required through the remainder of construction period to ensure that all glass entrances and sidelight work will be without damage or deterioration, at time of acceptance

END OF SECTION- 08 41 26