

SECTION 08100: METAL DOORS AND FRAMES

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. Work Included in This Section: Provision of hollow metal doors and door frames.
- B. Related Work Specified Elsewhere:
 - 1. FINISH HARDWARE Section
 - 2. PAINTING Section

1.02 INCORPORATED DOCUMENTS

The provisions and requirements of the General and Supplementary Conditions and Division-1 Specifications sections of these Bid Documents apply to this section. The Contractor shall be responsible for, and governed by all requirements thereunder.

In addition to the Codes and Standards listed in Section 01090, the published specifications, standards and methods of the trade cited below shall apply to work of this Section.

- A. National Fire Protection Association "Standard for Fire Doors and Windows (NFPA 80).
- B. Steel Door Institute "Recommended Specifications Standard Steel Doors and Frames (SDI).

1.03 SUBMITTALS

Shop Drawings showing frame types, door types, fire resistive ratings and details, referenced to the Architect's door make and hardware group, all in accordance with SUBMITTALS Section.

PART 2: PRODUCTS

2.01 GENERAL

Doors and Frames shall be the product of one manufacturer, The Steelcraft Manufacturing Company, The Ceco Corporation, Curries Manufacturing, Inc., or approved equal, standard or custom design conforming to the Architect's profiles shown on the Drawings.

- A. Fire Resistive Doors and Frames shall meet requirements of scheduled ratings and comply with all applicable NFPA, UL and CBC Codes.
- B. All rated doors to be positive latching.
- C. All 20-minute rated assemblies shall be provided with approved gasketing material so installed to provide a seal where the door meets the stop on both sides and across the top.

2.02 HOLLOW METAL DOORS

- A. All metal doors shall be full-flush and seamless design, in the dimensions and types shown on the Drawings, labeled or non-labeled as indicated on the Door Schedules, and shall be properly reinforced for the finish hardware. UL labels shall be metal, permanently attached.
 - 1. Exterior Doors shall be SDI Grade III, Model 3 or 4, 16 gauge.
 - 2. Interior Doors shall be SDI Grade II, Model 1 or 2, 18 gauge.
- B. Internal construction may be one of the following:
 - 1. Internal reinforcement shall consist of 22 gauge channels spaced not over 6" on centers, extending vertically through full door height, uniformly spot welded to mated pans. Doors shall be made free of metallic ring by providing a layer of synthetic resin based sound deadener, or approved equal sound deadening material.
 - 2. Honeycomb, polyurethane, or solid structural mineral core bonded to the inside of both faces with permanent lamination, as required by the door function and label listing.

2.03 HOLLOW METAL FRAMES

All metal frames shall be the types and sizes shown on the Drawings, labeled or non-labeled as indicated on the Door Schedule, in 16 gauge for interior doors and windows, and 14 gauge for exterior doors, and shall be properly reinforced for the finish hardware. Integral stops (rabbets) shall be not less than 5/8" in depth. UL labels shall be metal.

2.04 HARDWARE REINFORCING

Reinforcing plates for hardware shall not be less than gauges recommended by SDI. Where concealed overhead door closers are required, the necessary cut-outs reinforcement, and provisions for fastenings shall be made in heads of doors for the closers.

2.05 MATERIALS

- A. Sheet Steel:
 - 1. Interior Doors and Frames: Commercial quality, level. cold rolled steel, ASTM A 336.
 - 2. Exterior Doors and Frames: Galvanized sheet steel, ASTM A 526 (1.25 ounce coating).
- B. Primer: Rust-inhibitive shop prime to be baked on; compatible with finish painting system specified elsewhere.

2.06 FABRICATION

Fabricate by standard methods of approved manufacturer in accordance with SDI for anchorage, hardware, lights, louvers, stops, stretcher, reinforcement, etc.

- A. Doors:
 - 1. The finish work shall be strong and rigid, neat in appearance, free from defects, waves, scratches, cuts, dents, ridges, holes, warp, or buckle. Exposed welded and soldered joints shall be dressed smooth.
 - 2. All edge seams shall be filled and ground smooth.
 - 3. Head channel on exterior doors shall be inverted to provide flush waterproof top of door or have rigid vinyl top cap.
- B. Frames:
 - 1. The finished work shall be strong and rigid, neat in appearance, square, plumb, and true, free from defects, waves, scratches, cuts, dents, ridges, holes, warp, or buckle. Molded members shall be clean-cut, straight, and true. Corner joints shall be well-formed and in true alignment. Fastenings shall be concealed where practicable. Corner joints shall be securely mechanically interlocked and then spot welded for additional strength. All contact edges shall meet tightly, leaving a hairline vertical or miter joint. Full face welds at joint, ground smooth, are acceptable.
 - 2. Structural reinforcing members: Where structural members are shown at mullions, transoms, or other locations which require them to be built into the frames, the structural shapes shall be furnished as part of the frame assembly.
 - 3. Anchors on jambs shall be formed to shapes and sizes as shown and as necessary for the adjoining type of wall construction. The design of anchors shall be standard with the manufacturer except as detailed specially and shall be formed from metal of the same

gauge as the frame. Jamb anchors shall be located near the top and bottom of each jamb and at intermediate points not over 24 inches apart. Floor clips shall be formed from 12 gauge steel; they shall be fastened to the bottom of each jamb member for anchoring frame to floor construction. Clips shall be adjustable, or fixed, as detailed and drilled for 3/8" diameter anchor bolts. Where floor fill occurs, the bottom of frames shall terminate at the indicated finished floor levels and be supported by an adjustable extension clip angle resting on, and anchored to, the structural slab.

4. All frames shall be furnished with rubber bumpers installed at the factory, three at strike jamb on single door frames and two on head for double door frames.
 5. Door frame assemblies:
 - a. Frame assemblies shall be fabricated from 16 gauge open section, closed sections, and sill sections.
 - b. Closed sections shall be two piece assemblies, with joint spot welded, filled and ground smooth.
 - c. Members shall be sized as detailed.
 - d. Horizontal sections at door head member must be flush both sides.
 - e. The individual pieces shall be cut to length and notched to assure square joints and corners. All joints and corners of the frame assembly shall be continuously welded and ground smooth at the fact of the sections to develop maximum structural strength.
 - f. Frame assemblies shall be shipped to job site completely welded. Field joints shall be permitted only when the size of the total assembly exceeds shipping limitations.
 - g. Clips for field connections shall be a minimum of 14 gauge steel.
- C. Coordinate and verify details with requirements of other schedules, templates and work; including fire-resistive ratings required.
- D. Identify type, size and mark each frame before site delivery in a way markings will not be visible through finish painting.

2.07 FINISH

Each door and frame shall be pre-cleaned, bonderized and coated with a coat of baked-on prime paint. Finish painting will be job applied under the provisions of PAINTING Section.

PART 3: EXECUTION

3.01 INSTALLATION

- A. Custom, and Standard Frames: Frames shall be set accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. The bottom of frames shall be anchored securely to floors with expansion bolts or with power driven fasteners. Wall anchors shall be built-in or secured to adjoining construction as indicated or required. Where frames require ceiling struts or other structural overhead bracing, they shall be anchored securely to ceiling or structural framing above, as indicated.
- B. Install doors at correct openings; insure smooth swing and proper closure with frame.
- C. Fire-Resistive Door and Frames: Install in accordance with NFPA No. 80.
- D. Installation of all finish hardware is specified in FINISH HARDWARE Section.

3.02 ADJUST AND CLEAN

Make final adjustments eliminating all hinge-bound conditions and make all door and hardware items smoothly operating.

3.03 DEFECTIVE WORK

Replace, rework or adjust as required doors, frames or finish hardware found to be defective as follows:

- A. Items damaged, disfigured, or defaced.
- B. Incomplete, misaligned, or incorrectly located items.

End Of Section 08100

SECTION 08220: PLASTIC LAMINATE FACED DOORS

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. Work Included in This Section: Provisions of plastic laminate faced wood doors of types noted and vision panel frames and louvers where indicated.
- B. Related Work Specified Elsewhere:
 - 1. FINISH CARPENTRY AND MILLWORK Section
 - 2. FINISH HARDWARE Section
 - 3. METAL DOORS AND FRAMES Section

1.02 INCORPORATED DOCUMENTS

The provisions and requirements of the General and Supplementary Conditions and Division-1 Specifications sections of these Bid Documents apply to this section. The Contractor shall be responsible for, and governed by all requirements thereunder.

In addition to the Codes and Standards listed in Section 01000, the published specifications, standards and methods of the trade cited below shall apply to the work of this Section.

- A. Window and Door Manufacturers Association's "Architectural Wood Flush Doors" (WDMA No. I.S.1-A).
- B. National Fire Protection Association's "Standard for Fire Doors and Fire Windows" (NFPA No. 80)
- C. National Fire Protection Association's "Fire Tests of Door Assemblies" (NFPA No. 252)
- D. Underwriters Laboratories "Standard for Positive Pressure Fire Tests of Door Assemblies" (UL 10 C).

1.03 QUALITY ASSURANCE

- A. Source Limitations: Obtain flush wood doors through one source from a single manufacturer wherever possible.
- B. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, latest edition, "Industry Standard for Architectural Wood Flush Doors".

- C. Fire Rated Wood Doors: Doors complying with NFPA 80 that are listed as labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for 20-minute doors.

1.04 SUBMITTALS

Submittals shall be in accordance with SUBMITTALS Section and shall include the following:

- A. Manufacturer's literature describing products
- B. Shop Drawings: Show door types, details and locations; reference to the Architect's door mark and hardware group.
- C. Samples: Plastic laminate veneers for color and pattern selection.
 - 1. Full collection of samples for selection, followed by 8" x 10" sample for each type, color, pattern and surface finish selected.

1.05 GUARANTEE

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within the life of original installation for interior doors.
 - 1. Failures include, but are not limited to, the following:
 - a. Warp or twist in excess of 1/4" in any face including full diagonal.
 - b. Telegraphing of core construction and delaminating of face.
 - c. Other defects rendering the door unserviceable for use.
- B. Replacement shall include finishing of new door, hardware damaged by malfunction or original door, and hanging in satisfactory operating condition, as well as repair of damage to adjacent surfaces.

PART 2: PRODUCTS

2.01 MATERIALS

- A. General Requirements:
 - 1. WDMA I.S.1-A Aesthetic Grade: Custom.
 - 2. Security: Comply with ASTM F476-84 Level 40.

3. Fire Rated Doors: Provide construction core as needed to provide fire ratings indicated.
 4. Interior Environment: Fabricate doors with adhesives and composite wood products that do not contain added urea formaldehyde.
- B. Core Construction: Exterior grade, treated composite panels for non-structural applications.
- C. Faces: Plastic Laminate - Subject to compliance with requirements. Manufacturers offering high pressure decorative laminates include, but are not limited to, the following:
1. Formica.
 2. Wilsonart.
 3. Approved equal.
- D. Vertical Edges: Match face laminate.
- E. Horizontal Edges: Match face laminate.
- F. Frames: Refer to Door Schedule for types required.
- G. Metal Louvers: Door manufacturer's standard metal louver unless otherwise indicated.
1. Blade Type: Vision proof inverted V or inverted Y.
 2. Metal and Finish: Stainless steel with satin finish.
- H. Metal Frames for Light Openings: Stainless steel with satin finish. Construction as required for indicated fire rating.
- I. Glazing for Light Openings: ¼" thick ceramic glass as required for indicated fire rating.
1. Pre-install glazing at factory and provide non-marring protection during transport and installation.

2.02 MANUFACTURER

- A. Preparation: Verify size, design and fire-resistive rating required for each opening.
- B. Manufacture plastic laminate faced wood doors in accordance with WDMA I.S.1-A.
- C. Bonding:

1. Core Assembly: Type II (water-resistant) glue.
 2. Face Assembly: All veneer plies shall be glued to core with Type II (water-resistant) for interior use.
- D. Manufacturer fire rated doors in compliance with NFPA 80.
- E. Undercut interior doors 1/2 inch from bottom of door to finish floor covering, unless specifically noted, prohibited by local governing code, or scheduled otherwise.
- F. Provisions for Hardware:
1. Factory pre-fit and machine doors for hardware that is not surface applied. Comply with final hardware schedules, door frame Shop Drawings, ANSI/DHI A115-W series standards, and hardware templates.
 2. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
 3. Bevel both stile edges 1/8 inch in two inches.
 4. Electrical Raceways: Provide flush wood doors receiving electrified hardware with concealed wiring harness and standardized Molex plug connectors on both ends to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the through wire transfer hardware or wiring harness specified in FINISH HARDWARE Section. Wire nuts are not acceptable.

PART 3: EXECUTION

3.01 INSPECTION

Examine receiving frames and reviewed hardware schedules to verify proper coordination with doors.

3.02 INSTALLATION

- A. Install doors at correct openings; assure smooth swing and proper closure with frame.
- B. Fire-Resistive Doors: Install in accordance with NFPA No. 80.
- C. Hardware: Installation of finish hardware for wood doors is specified in FINISH CARPENTRY AND MILLWORK Section.

- D. Where installation requires on-site cutting, reseal surfaces cut, and re-veneer as required to match original material and finish.

3.03 DEFECTIVE WORK

Replace, rework or otherwise make good as required, doors, finish or hardware found defective as follows:

- A. Items broken, damaged, disfigured or defaced.
- B. Incomplete, misaligned or incorrectly located items.

End Of Section 08220

SECTION 08305: ACCESS DOORS

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. Work Included in This Section: Provisions of all access doors in walls and ceilings as specified herein, located where shown on the drawings and required by governing codes. Carefully examine all drawings, including Plumbing, Mechanical and Electrical for location of all access doors.

1.02 INCORPORATED DOCUMENTS

The provisions and requirements of the General and Supplementary Conditions and Division-1 Specifications sections of these Bid Documents apply to this section. The Contractor shall be responsible for, and governed by all requirements thereunder.

The Codes and Standards listed in Section 01000, the published specifications, standards and methods of the trade shall apply to work of this Section.

1.03 SUBMITTALS

Before any access doors are delivered to the job site, submit catalog cuts to the Architect in accordance with the provisions of SUBMITTALS Section of these Specifications, indicating types and manufacturer's recommended installation details.

PART 2: PRODUCTS

2.01 ACCESS DOORS

- A. General:
 - 1. All access doors shall be the product of the same manufacturer as specified below, or an equal approved by the Architect.
 - 2. All access doors shall be steel frame and panel of the gauge standard for the specified manufacturer. Hinges and attachments shall be manufacturer's standard. Provide standard screwdriver operated cam locks on doors concealed from view. Provide key operated cylinder locks on doors exposed to view or when specifically indicated in the specification or on the Drawings. All locks shall be keyed alike.
 - 3. Finish for all access doors shall be as follows:
 - a. Access doors in walls that are exposed to view shall be stainless steel.

- b. Access doors in ceilings or where concealed from view shall be a chemically bonded prime coat of baked enamel prepared for job finish by PAINTING Section. Prime coat at access doors shall be white.
- B. Access Door Types: Access doors shall be Inryco-Milcor, or approved equal, in the sizes indicated on the Drawings or required for the work and of the styles indicated below:
 - 1. Style M-Frame: Flush access door for installation in drywall or masonry.

PART 3: EXECUTION

3.01 COORDINATION

Coordinate with all other trades as required to ensure proper and adequate provision of framing and wall covering for the installation of access doors in the locations required.

3.02 INSTALLATION

Install all access doors where indicated on the Drawings or elsewhere required, anchoring all components firmly in place in accordance with the manufacturer's recommendations and governing codes.

3.03 INSPECTION AND ADJUSTMENT

Upon completion of the installation, and as a condition of its acceptance, visually inspect the entire work of this Section, adjust all components for proper operation and straight alignment, remove protective cover and clean entire installation.

End Of Section 08305

SECTION 08400: STOREFRONT SYSTEM

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. Work Included in This Section: Provisions of aluminum storefront systems, including integrated aluminum casement windows, aluminum entrances, and flush aluminum doors, as indicated on the Drawings.
- B. Related Work Specified Elsewhere:
 - 1. GLASS & GLAZING Section
 - 2. FINISH HARDWARE Section
 - 3. SEALANTS AND CAULKING Section

1.02 INCORPORATED DOCUMENTS

The provisions and requirements of the General and Supplementary Conditions and Division-1 Specifications sections of these Bid Documents apply to this section. The Contractor shall be responsible for, and governed by all requirements thereunder.

In addition to the Codes and Standards listed in Section 01000, the published specifications, standards and methods of the trade cited below shall apply to work of this Section.

- A. Aluminum Association Standards (AA).

1.03 SUBMITTALS

Submittals shall be in accordance with SUBMITTALS Section and shall include the following:

- A. Shop Drawings: Submit complete Shop Drawings and materials list showing all details of the fabrication and installation, including proper and adequate provision for installation of the specified glass, and completely describing all hardware with catalog data sheets.
- B. Samples When Requested by the Architect: Submit a sample of the entrance and storefront system materials illustrating the actual finish obtained in the specified finish, accompanying the shop drawings.

PART 2: PRODUCTS

2.01 ENTRANCE AND STOREFRONT SYSTEMS

- A. General: Storefront systems shall be the product of one manufacturer, unless otherwise noted, and of the system design specified, Kawneer Company, Inc., U.S. Aluminum, or other equal as approved by the Architect.
1. Framing Systems:
 - a. Center glazing system with provisions for glazing as scheduled on the Drawings with frame dimensions of 2" x 4-1/2".
 1. Kawneer "Trifab 451", or equal product of other manufacturer approved by the architect.
 - b. Center glazing system with provisions for glazing as scheduled on the Drawings with frame dimensions of 2" x 6".
 1. Kawneer "Trifab 601T", or equal product of other manufacturer approved by the architect.
 2. Aluminum Entrance Doors: Stile width per Door Schedule. Center glazing provisions in door for glazing as scheduled on the Drawings. Bottom rail shall be 10" high.
 3. Flush Aluminum Doors: 1-3/4" deep with 5" wide extruded aluminum stiles and rails that are reinforced and welded at the corners. 5 pound per cubic foot urethane foam core. Aluminum face sheets with anodized finish to match remainder of storefront system. Kawneer "Flushline", or equal product of other approved manufacturer.
 4. Infill Panels: Where indicated on Drawings, storefront openings shall be infilled with 1" total thickness panels comprised of .025" anodized aluminum to match storefront with a smooth finish laminated on 4 mm cement board (both exterior and interior), over a core of rigid polyisocyanurate insulation.
 - a. Mapes Panels, LLC or equal product of other approved manufacturer.
- B. Materials: All storefront systems shall be aluminum extruded from 6063-T5 alloy for frames and moldings. All exposed surfaces shall be anodized to match existing frames.
- C. Components: All storefront construction shall be complete with all anchors, fittings, trim pieces, and weather stripping, and perimeter caulking with compatible colored silicone sealants.

D. Hardware:

1. Aluminum Entrance Doors:

- a. Pull: ADA compliant, Kawneer CO-12, or equal, finish to match door.
- b. Push: ADA compliant, Kawneer CP-11, or equal, finish to match door.
- c. Locks: Cylinder specified in FINISH HARDWARE Section.
- d. Pivots: Top, bottom and intermediate offset pivots, finish to match door.
- e. Door Closers: Concealed overhead, single acting closer, LCN 2030, or equal, finish to match door.
- f. Threshold: Extruded aluminum to match, one piece per door opening, with ribbed surface and maximum ½" rise.
- g. Exit Device: Touchbar rim type, Dor-O-Matic "1790", or equal, finish to match door..
- h. Electric Latch Exit Device: Where indicated, low voltage type to integrate with automatic access system. Complete with power supply/controller. Dor-O-Matic "1790 EL", or equal, finish to match door.
- i. Power Operator: Where indicated, low voltage type with adjustable time delay, obstruction sensing, push plate actuators, Horton Automatics Series 7100, or equal, finish to match door.
- j. Weatherstripping: Thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing. Kawneer Sealair, or equal.
- k. Sill Sweep: EPDM blade gasket sweep strip in an aluminum extrusion to match applied to the interior exposed surface at the bottom rail with concealed fasteners.

2. Flush Aluminum Doors:

- a. Locks: Specified in FINISH HARDWARE Section. Factory prepare door and frame to receive specified hardware.
- b. Deadbolts: Specified in FINISH HARDWARE Section. Factory prepare door and frame to receive specified hardware.
- c. Hinges: Top, bottom and intermediate butt hinges, stainless steel.

- d. Door Closers: Surface parallel arm mounted, single acting closer, LCN "Quest 1370", or equal, finish to match door.
- e. Threshold: Extruded aluminum to match, one piece per door opening, with ribbed surface and maximum ½" rise.
- f. Weatherstripping: Thermoplastic elastomer weathering on a tubular shape with a semi-rigid polymeric backing, Kawneer Sealair, or equal.
- g. Sill Sweep: EPDM blade gasket sweep strip in an aluminum extrusion to match applied to the interior exposed surface at the bottom rail with concealed fasteners.

2.02 OTHER MATERIALS

All other materials, not specifically described but required for a complete and proper installation of entrance and storefront system, shall be new, first quality of their respective kinds, and subject to approval of the Architect.

2.03 FABRICATION

- A. General: Shop pre-fabricate, according to the approved shop drawings, all components shown, noted or required for a complete and operable system.
- B. Storefront Frames:
 - 1. The framing system shall provide for flush glazing on all sides with no projecting stops. Entrance framing members shall be compatible with glass framing in appearance.
 - 2. All screws, nuts, bolts, rivets and other fastening devices shall be of aluminum, stainless steel or other non-corrosive materials with Phillip's recessed head for those fastenings that are exposed.
 - 3. All elements of framing sections required to complete the storefront system shown shall be provided.

PART 3: EXECUTION

3.01 INSTALLATION

- A. General: Installation shall be performed in accordance with the manufacturer's recommendations, except as modified by architectural details and approved shop drawings. Storefront shall be installed in prepared openings, shall be set plumb, square, level, and at their proper elevation and plane and shall be located in proper alignment with all

work. All joints between aluminum sections and adjacent construction shall be caulked with colored Silicone sealant to provide watertight installation. Sealant selected shall blend with and be inconspicuous in relation to the storefront material.

- B. Anchoring: Firmly anchor all members, using all anchoring devices required to ensure positive attachment of the members for long life under hard use. All metal shall be screwed to backing, or to plugs and masonry, or to anchor straps according to job conditions.
- C. Protection:
 - 1. Wherever aluminum is in contact with steel, concrete, or other material potentially creative of electrolytic action, provide all required permanent isolation of the aluminum by backpainting with first quality bituminous paint or by such other isolation.
 - 2. Protect all finished surfaces as necessary to prevent damage during progress of the work.
 - 3. Seal all perimeter connection points with other materials with a continuous uniform bead of colored silicone.

3.03 CLEANING UP

- A. Aluminum shall be thoroughly cleaned with plain water or petroleum products such as white gasoline, kerosene or distillate. No abrasive agents shall be used.
- B. Immediately prior to acceptance of the work, remove all protective materials from the entrance and storefront system and clean all exposed members.

End Of Section 08400

SECTION 08710: FINISH HARDWARE

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. Work Included in This Section: Provisions of finish hardware scheduled and required for this Work including all hardware not described but required for a complete and operable facility.
- B. Related Work Specified Elsewhere:
 - 1. METAL DOORS AND FRAMES Section
 - 2. PLASTIC LAMINATE FACED DOORS Section
 - 3. FINISH CARPENTRY AND MILLWORK Section

1.02 INCORPORATED DOCUMENTS

The provisions and requirements of Sections 0 and 1 of these Bid documents apply to this Section. The Contractor shall be responsible for, and governed by all requirements thereunder.

In addition to the Codes and Standards listed in Section 01000, the published specifications, standards and methods of the trade cited below shall apply to work of this Section.

- A. American Society of Hardware Consultants (AHC)

1.03 QUALITY ASSURANCE

- A. Qualifications of Hardware Supplier: The finish hardware supplier shall be a firm or individual regularly engaged in the business of supplying finish hardware items of the quality specified and in the quantities required for this project.
- B. Requirements of Regulatory Agencies: Hardware for openings with fire resistive ratings and panic devices shall be listed by Underwriters Laboratory (UL).
- C. Qualifications of Locksmith: The locksmith responsible for keying all locks to Owner's standard shall be fully licensed and bonded.

1.04 SUBMITTALS

Submittals shall be in accordance with SUBMITTALS Section of these Specifications.

- A. Hardware Schedule: Prior to obtaining or purchasing any finish hardware, submit a complete list of all items proposed to be furnished for this Work including the following:
1. Manufacturer's name and catalog cuts for each item.
 2. Separate heading for each opening listing Architect's door number and hardware type with all hardware items for such opening.
 3. All locks shall be listed by number and generic function ("Office Lock", "Closet Lock", etc.)

PART 2: PRODUCTS

2.01 GENERAL

- A. Responsibility: Hardware listings on the Door Schedule are provided only to establish the basic scope and intent for each door. It shall be the responsibility of the hardware supplier to examine the use of each opening and furnish all hardware required for a complete and fully operable system that will meet safety and fire regulations and all applicable codes.
- B. Fastenings: Furnish all finish hardware with all necessary screws, bolts and other fasteners of suitable size and type to anchor in position for long life under hard use. Fastenings shall be as recommended by the hardware manufacturer and shall match the hardware finish.
- C. Packing and Marking: Package each item of hardware and each lockset separately in individual containers, complete with necessary screws, keys, instructions and installation template for spotting mortising tools. Identify each container as to location.
- D. Keying:
1. All locks shall be delivered with provisions for temporary construction keying.
 2. Final Keying: Owner will issue detailed keying instructions for all locks. Furnish two keys for each lock plus six master keys for each master key set.
 3. Delivery of Permanent Keys: Permanent keys for all locks shall be separately tagged for each Hardware Heading in Hardware Schedule. Master keys shall be tagged for each master key group. All permanent keys shall be delivered to the Owner.

2.02 HINGES

Hinges at exterior doors shall have non-removable pins (NRP).

- A. Specification Standard: Hager BB1279 4-1/2 x 4-1/2
- B. Acceptable Manufacturers: McKinney, Stanley, or equal.

Provide 3 hinges on doors 7'-0" and shorter; 4 hinges on doors taller than 7'-0".

2.03 LOCKSETS & LATCHSETS

- A. Specification Standard: Schlage D Series – TLR Trim
- B. Acceptable Manufacturers: Falcon, or equal.

Note that existing doors requiring new locksets/latchsets are 1-3/8" thick.

2.04 DEADBOLT LOCKS

- A. Specification Standard: Schlage B660P
- B. Acceptable Manufacturers: Falcon, or equal.

2.05 CLOSERS

See Article 3.02 for required adjustment.

- A. Specification Standard: Norton 7500
- B. Acceptable Manufacturers: LCN, Sargent, or equal

2.06 EXIT DEVICES

- A. Specification Standard: Precision Apex 2100 Series with 4908C Lever Trim
- B. Acceptable Manufacturer: Yale, Von Duprin, or equal

2.07 ALARM EXIT DEVICES

- A. Specification Standard: Precision Apex to match 2.06
- B. Acceptable Manufacturer: Yale, Von Duprin, or equal

2.08 PUSH & PULL

- A. Specification Standard: BBW/Trimco 1001-2 & 1195-2
- B. Acceptable Manufacturers: Quality, Baldwin, or equal.

2.09 STOPS AND HOLDERS

- A. Specification Standard: BBW/Trimco 1270WX & W1210
- B. Acceptable Manufacturers: Quality, or equal.

2.10 FLUSH BOLTS

- A. Specification Standard: BBW/Trimco 590
- B. Acceptable Manufacturers: Quality, Glynn-Johnson, or equal

2.11 KICK PLATES

- A. Specification Standard: BBW/Trimco 10" x 34"
- B. Acceptable Manufacturers: Quality or equal

2.12 THRESHOLDS

Maximum ½" rise.

- A. Specification Standard: Pemco 271A
- B. Acceptable Manufacturers: Zero, National or McKinney

2.13 WEATHERSTRIP

- A. Specification Standard: Pemco 306AV
- B. Acceptable Manufacturers: Reese, McKinney, Zero, or National.

2.14 SMOKE SEALS

- A. Specification Standard: Pemco S88
- B. Acceptable Manufacturers: Reese, McKinney, Zero, or National.

2.15 DOOR BOTTOM

- A. Specification Standard: Pemco 315CN
- B. Acceptable Manufacturers: Reese, McKinney, Zero, or National.

2.16 ASTRAGAL

- A. Specification Standard: Pemco 357SP
- B. Acceptable Manufacturers: Reese, McKinney, Zero, or National.

2.17 CYLINDER

- A. Specification Standard: Schlage 20-001
- B. Acceptable Manufacturers: Falcon, or equal.

2.18 POCKET DOOR HARDWARE

- A. Specification Standard: Stanley
- B. Acceptable Manufacturers: Johnson, Grant, or equal.

2.19 SILENCERS

Provide silencers as follows for all openings where door or frame is of steel and seals do not occur.

- A. Pairs of doors: Furnish 4
- B. Single doors: Furnish 3

2.20 ACCESS SYSTEMS

As detailed on the Drawings.

2.21 FINISHES

Finishes shall match existing hardware in use in the building. Accessory hardware shall match basic hardware finish.

PART 3: EXECUTION

3.01 INSTALLATION

Installation of finish hardware is specified in Section 06200, FINISH CARPENTRY AND MILLWORK, and shall be executed in accordance with the following.

- A. Inspection: Examine areas to receive finish hardware and verify that doors, frames, and other surfaces are undamaged and correct, ready to receive the work of this Section. Do not start installation until all unsatisfactory conditions have been corrected.
- B. Install finish hardware in strict accordance with all pertinent codes, referenced standards, original design, and manufacturer's templates and instructions.
- C. Accurately and properly fit hardware. Securely fasten fixed parts for smooth, trouble-free, nonbinding operation and fit faces of mortised parts snug and flush. Operating parts shall move freely and smoothly without binding, sticking or excessive clearance.
- D. Protect hardware from damage or marring of finish during construction using strippable coatings, removable tapes or other approved means.

3.02 ADJUST AND CLEAN

- A. After the work has been otherwise completed, examine hardware in place for complete and proper installation. Lubricate bearing surfaces of moving parts and adjust latching and holding devices for proper function. Test keys for proper conformance with keying system.
- B. Adjust door closers for speed and power. Closers shall operate at 8 pounds maximum pull on exterior doors and 5 pounds maximum pull on interior doors.
- C. Completely remove protective materials and devices and thoroughly clean exposed surfaces of hardware. Check for surface damage prior to final cleaning for the Owner's acceptance of project.

3.03 HARDWARE SCHEDULE

Hardware supplier shall prepare a schedule for submission to the Architect for review that shall list hardware needed. It shall be the responsibility of the hardware supplier to provide hardware as appropriate to comply with all applicable building codes, the projected use of the door, the door schedule and these specifications.

End Of Section 08710

SECTION 08800: GLASS AND GLAZING

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. Work Included in This Section: Provision of glass and glazing required for this Work including, but not necessarily limited to, sheet glass, tempered glass, and wire glass.
- B. Related Work Specified Elsewhere:
 - 1. STOREFRONT SYSTEM Section
 - 2. HOLLOW METAL DOORS AND FRAMES Section
 - 3. PLASTIC LAMINATE FACED DOORS Section

1.02 INCORPORATED DOCUMENTS

The provisions and requirements of the General and Supplementary Conditions and Division-1 Specifications sections of these Bid Documents apply to this section. The Contractor shall be responsible for, and governed by all requirements thereunder.

In addition to the Codes and Standards listed in Section 01000, the published specifications, standards and methods of the trade cited below shall apply to work of this Section.

- A. Flat Glass Marketing Association, "Manual of Glazing" (FGMA)
- B. Consumer Product Safety Commission, "Safety Standard for Architectural Glazing Materials" (16CFR 1201)

1.03 SUBMITTALS

Submittals shall conform to the SUBMITTALS Section of these Specifications and include the following:

- A. Product literature including verification of material certification complying with 16CFR 1201.
- B. Samples of tinted and/or patterned glass.

PART 2: PRODUCTS

2.01 GENERAL

All glazing materials for doors and windows shall be certified as complying with 16CFR 1201, Category I or Category II, and so labeled.

2.02 GLASS

All glass shall bear the label of its manufacturer and shall conform in all respects with the pertinent requirements of the above standards, shall be relatively distortion-free with all distortion waves in the horizontal direction. All glass shall be as indicated on the Drawings.

2.03 GLAZING ACCESSORIES

All glazing accessories shall be new, first quality of their respective kinds, and subject to the approval of the Architect.

PART 3: EXECUTION

3.01 GLAZING

Set all glass in true plane, tight and straight, with proper and adequate clearance, firmly anchored to prevent rattling and looseness, with all edges cleanly cut. Do not nip or seam the edges. Glass shall be installed in accordance with FGMA Manual of Glazing and manufacturer's recommendations.

3.02 CLEANING UP

- A. Upon completion of glazing, thoroughly clean all glass surfaces using only cleaning agents recommended by the manufacturer. Do not use razor blades or other sharp instruments to remove spots or foreign material from tempered safety glass.
- B. Correct all imperfections, replace all damaged glass, and leave all labels on the glass until they have been inspected and approved by the Architect. Remove all labels immediately thereafter.

End Of Section 08800