

GUIDE SPECIFICATIONS

SECTION 083213

ALUMINUM-FRAMED OFFICE FRONTS AND DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes aluminum framed office fronts and door system with the following components:
1. Sliding doors
 2. Folding [**and stacking**] doors
 3. Aluminum panels,
 4. Sliding [**,folding**] and locking hardware,
 5. Acoustic seals,
 6. Glass and other Glazing Panels.
- B. Related Sections:

Note To Specifier: List below only products that the reader might expect to find in this Section, but is specified elsewhere.

1. Division 26 Sections for electrical and communication system connections

1.2 PERFORMANCE REQUIREMENTS

- A. General: Provide aluminum-framed office fronts and doors of dimensions and configurations shown, complying with performance requirements indicated, based on manufacturer's testing of doors representative of those specified:
1. Aluminum frames and fixed panels shall withstand gravity loads and a lateral deflection is limited to the lesser of L/175 or 3/4 inch, whichever is less, when tested under a uniformly distributed load of **5 lb/sq. ft. (24.4 kg/sq. m)** according to ASTM E 72.
 2. Glazing Rebates: Design glass framing system to limit lateral deflections of glass panel edges to less than 1/175 of glass-edge length or **3/4 inch (19 mm)**, whichever is less.

1.3 ACTION SUBMITTALS

- A. Product Data: Submit product for the interior custom sliding/stacking door/panel assemblies indicated. Include manufacturer's standard details, fabrication methods and written recommendations for each component of the custom sliding/stacking door/panel system required, and the following:
1. Roughing-in dimensions
 2. Installation instructions
 3. Parts list.

Note To Specifier: Keep paragraphs for LEED projects. Edit to comply with agreed list of credits.

- B. LEED Submittals:

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1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
 2. Credit MR 5: Product data indicating location of material manufacturer for regionally manufactured materials. Include statement indicating cost for each regionally manufactured material **[and for each regionally extracted and manufactured material]**.
 - a. Include statement indicating distance from manufacturer to Project for each regionally manufactured material.
 - b. Include statement indicating location of and distance from Project to point of extraction, harvest, or recovery for each raw material used in regionally extracted and manufactured materials.
 3. Product Data for Credit EQ 4.1: For installation adhesives, documentation including printed statement of VOC content.
 4. Laboratory Test Reports for Credit EQ 4: For **[adhesives] [and] [partitions]**, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Shop Drawings: Submit detailed shop drawings of interior sliding/stacking door/panel assemblies including large-scale sections of all typical members, dimensioned plans and elevations, anchors and other components as required.
1. Layout and installation details, including relationship to adjacent work.
 2. Elevations at minimum 1/4 inch = 1 ft. - 0 inch scale.
 3. Detail sections of typical composite members.
 4. Anchors and reinforcement.
 5. Hardware mounting heights.
 6. Glazing details
- D. Samples for Initial Selection: For units with factory-applied color finishes.
- E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
1. Linear Trim: Submit pairs of samples of each specified finish on **12 inches (300 mm)** long sections of extrusions or formed shapes. Where normal color variations are anticipated include two or more units in each set of samples indicating extreme limits of color variations.
 2. Corner Fabrication: **8-by-8-inch- (200-by-200-mm-)** long, full-size corner, including full-size sections of extrusions with factory-applied color finish.
 3. Glazing: Manufacturer's standard-size unit, but not less than **3 inches (75 mm)** square.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For office fronts and doors to include in maintenance manuals. Provide manufacturer's care instructions for maintenance and care of aluminum framed office fronts and doors; including cleaning instructions, precautions and limitations.

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1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain aluminum framed office fronts and doors from single source from single manufacturer.
- B. Manufacturer: Engage a qualified and experienced manufacturer with a minimum of 5 years successful experience providing interior office fronts and doors on projects of comparable size and scope.
- C. Installer qualifications: Firm with 5 years experience installing selected system, and who is approved by the manufacturer for installation of the specified system.

Note To Specifier: Retain paragraph below if factory wired panels are required.

- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- E. Reference Standards: Except as modified by more stringent requirements of local codes, comply with requirements of the following:
 - 1. American Architectural Manufacturers Association (AAMA)
 - a. AAMA 611.98, Voluntary specification for anodized architectural aluminum.
 - b. AAMA 2603.02, Voluntary specifications, performance requirements and test procedures for pigmented organic coatings on aluminum extrusions and panels.

Note To Specifier: Retain paragraph and subparagraph below if required. Indicate location, size and other details of mockups on Drawings or by inserts. Revise wording if only one mockup is required.

- F. Mockups: Before installing aluminum framed office fronts and doors, build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. **[Remove mockups when directed]**
 - 2. **[Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion].**
- G. Pre-installation Conference: Conduct conference at **[Project site]** <Insert location>.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install aluminum office fronts and door until building is enclosed and finishing operations, including ceiling and floor-covering installation and painting, are complete.
- B. Field measurements: Check openings by accurate field measurements before fabrication. Show recorded measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delay of work.
 - 1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances with General Contractor to ensure proper fit.

Note To Specifier: Retain option in paragraph below if required for Project.

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- C. Coordination of Work: Coordinate layout and installation of aluminum framed office fronts and doors with other units of Work. [**Installation of ceilings, floor coverings, lighting fixtures, HVAC equipment, and fire-suppression systems should be completed before aluminum framed office fronts and doors are installed.**]
- D. Precautions: Keep anodized aluminum components free from alkaline substances such as plaster, mortar, and harsh cleaning and finishing agents (including bleach, and chlorine based products, ammonia, abrasive cleaners, muriatic acid). Protect anodized aluminum from contact with pressure treated wood saw dust and welding splatter. If such substances come in contact with anodized aluminum, clear surfaces affected using clean water, wipe dry using products and following instructions recommended by manufacturer's care instructions.

1.7 WARRANTY

- A. General: Provide a written guarantee for aluminum framed office fronts and door assemblies against all defects in materials and workmanship agreeing to repair or replace components that fail in materials or workmanship within two years from the date of Substantial Completion.
- B. Failures include, but are not limited to, the following.
 - 1. Structural failures including excessive deflection.
 - 2. Faulty operation of operators and hardware.
 - 3. Deterioration of metals, metal finishes and other frame component materials.

1.8 DELIVERY STORAGE AND HANDLING

- A. Comply with manufacturer's instructions for delivery, storage and handling requirements.
- B. Deliver materials to job site in sealed, unopened cartons or crates. Protect units from damage. Store extrusions on pallets under roof and in dry conditions. Do not wrap with tarp, visqueen or other non-breathable materials. Keep parts protected from dirt, dust and other job site debris.

1.9 EXTRA MATERIALS

Note To Specifier: Extra materials may not be allowed on publicly funded projects.

- A. Furnish extra materials described below, from same production run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Note To Specifier: Revise subparagraphs below to suit Project. Verify storage requirements with Owner

- 1. Partition Components: Furnish a quantity of each type of full-size units equal to [1] [2] <Insert number> percent of the amount installed, but no fewer than <Insert number> units.
- 2. <Insert product>: [One] <Insert number> <Insert detailed product description> of each type.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Provide precision built, pre-engineered, pre-fitted, interior aluminum office fronts and custom sliding, **[folding,]** **[and stacking]** doors, by the following single source manufacturer with experience for the North American market:

PK30 System LLC
PO BOX 656
3607 Atwood Road
Stone Ridge, NY 12484
(212) 473-8050 (845) 687-9774
website: www.pk30.com
email: info@pk30.com

Note To Specifier: Revise subparagraphs below to suit Project. Verify recycled content requirements with manufacturer. Use regional materials if PK-30 fabrication shop is within 500 miles of project site.

2.2 MATERIALS

- A. Recycled Content: Provide aluminum framed office fronts and doors with 40% preconsumer recycled content and 22% post consumer recycled content such that postconsumer recycled content plus one-half of preconsumer recycled content constitutes a minimum of **[42]** percent by weight.
- B. Regional Materials:
1. Credit MR 5.1: Provide a minimum of 20 percent of materials of building materials (by cost) that are regionally manufactured within a radius of 500 miles.
 2. Credit MR 5.2: Provide a minimum of 10 percent of materials of building materials (by cost) that are regionally extracted and manufactured within a radius of 500 miles.
- C. Aluminum: Alloy and temper recommended by the manufacturer for strength, corrosion resistance, and application of required finish.
1. Comply with the following:
 - a. Aluminum Extrusions: **ASTM B 221 (ASTM B 221M)**. ; Alloy 6063-T5/T52.
 - b. Aluminum Sheet or Plate: **ASTM B 209 (ASTM B 209M)**; Alloy 6061-T6
 - c. Aluminum Bars, Rod and Wire: **ASTM B 221 (ASTM B 221M)** ; Alloy 6063-T6
 2. Provide main extrusions of not less than **0.080-inch (2mm)** wall thickness. Provide the following stile/rail/mullion dimensions, unless otherwise indicated.
 - a. Horizontal rails: **2.3125-inch (59mm)** high by **1.750-inch (44mm)** wide.
 - b. Vertical stiles: **0.9375-inch (24mm)** high by **1.750-inch (44mm)** wide.
 - c. Mullions: **0.625-inch (16mm)** high by **1.750-inch (44mm)** wide.
 3. Provide extruded glazing stops and other applied trim extrusions with minimum wall thickness of **0.050-inch (1.3 mm)**.
- D. Fasteners; Provide 18/8 stainless steel, or other non-corrosive metal fasteners compatible with aluminum components, hardware, anchors, and other items being fastened.

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1. Reinforcement: Where fasteners screw-anchor into aluminum extrusions where there is no screw boss, or that is less than **0.125-inch (3mm)** thick, reinforce the interior with aluminum or steel to receive screw threads.
 2. Exposed fasteners: All exposed fasteners to be flat socket head or phillips head 18/8 stainless steel machine screws.
- E. Gaskets: Use manufacturer's standard extruded clear silicone or black neoprene durometer 70 glazing gaskets in fabrication, assembly and installation of the work.

2.3 FABRICATION

- A. Provide shop assembled panels with hardware and accessories required for a complete assembly. Provide concealed fastening devices and pressure-fit components that will not damage ceiling or floor coverings. Fabricate panels with continuous light-and-sound seals at floor, ceiling, and other locations where panels abut fixed construction.
- B. Factory prepare interior aluminum frames to receive templated mortised hardware; include cutouts, reinforcements, mortising, drilling, and tapping,
- C. Fabricate frames for glazing with removable stops to allow glazing replacement without dismantling frame.
1. Locate removable stops on the inside of spaces accessed by keyed doors.
- D. Fabricate components to allow secure installation without exposed fasteners.
- E. Employ standard or heavy duty door hardware based on total door weight, with a maximum door weight for standard sliding door hardware of up to **176 lbs (80 Kg)** and a maximum door weight of up to **353 lbs (160Kg)** for heavy duty sliding door hardware; with the following component weights:
1. Weight of frame: Standard **4 ft. x 8 ft. (1.22M x 2.44M)** frame weighs **29 lbs (13 Kg)**.
 2. Infill Panels: **1/4-inch (6mm)** glass panels weigh **3.24 lbs (1.47Kg)** per square foot and **1/4-inch (6mm)** acrylic panels weigh **1.7 lbs (0.77 Kg)** per square foot.
 3. Factory glaze panels to the greatest extent possible.
 4. Fixed Panels: Provide fixed panels with integral height adjusters built into a reveal channel mounted inboard of the top and bottom panel rails to allow for precision field adjustment and alignment of system elements.

Note To Specifier: Select hardware based on door/panel configuration. Consult with PK30 System prior to specifying alternative hardware or hardware finishes.

5. Sliding Doors: Use manufacturer recommended compact, strong and reliable sliding door hardware that requires only a soft touch to operate quietly and smoothly.
 - a. Hinged sliding/folding [**stacking**] Doors: Center-hung without lower guide channel.
6. Swing Doors: [**Offset Pivot**] [**Center Pivots**]; [**with standard function full mortise locks**] [**with surface mounted door pull**]; with an overhead combination angle stop/ball catch.
 - a. Offset pivot hinges, for wide throw for extra clearance applications.

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- b. Center pivot hinges adapted to incorporate a walking beam top jamb portion; with pivot point location adjustable along the width of the door.
7. Bottom guide Channel:
- a. Provide lower guide channel for sliding doors with a travel distance that is greater than the door width.
 - b. Provide a fixed point bottom guide for bypassing and pocket doors.

2.4 DOOR HARDWARE

- A. General; Provide manufacturers heavy duty hardware units as indicated, scheduled or required for operation of each type of door/panel assembly, including the following items of sizes, number, and type recommended by the manufacturer for the service required. Finish hardware items to match or compliment the finish of the door/panel assemblies.
- B. Use manufacturer's door hardware groups, recommended for each condition of use.

Note To Specifier: Select hardware based on door/panel configuration. Consult with PK30 System prior to specifying alternative hardware or hardware finishes.

- C. Operating hardware for sliding doors:
 - 1. Operating hardware for sliding doors:
 - 2. [Junior 80/B, 120/B, 160/B or 250/B sliding door fitting set from **176 lb.(80Kg) to 550lb (220 Kg)**. capacity manufactured by Hawa AG.]
 - 3. Operating hardware for heavy-duty sliding/stacking doors:
 - a. [Variotec 150/H hardware system of modular design for stackable partitions up to 154, 220 and 330 lbs. manufactured by Hawa AG.]
 - 4. Operating hardware for sliding/folding panel/walls:
 - a. [Variofold 80/H or Centerfold 80/H for individual panels weighing up to **176 lbs.(80Kg)** manufactured by Hawa AG]
- D. Locking hardware for sliding doors
 - 1. Full Mortise Single Sliding Door Lock: FSB SS 7001 or SS 7002 X **2.5-inch (64mm)** backset manufactured by FSB North America.
 - 2. Bottom rail mounted deadbolt type locks.
 - a. [Door rail floor lock 777S with key cylinder or thumb turn cylinder from C.R. Laurence Co. Inc]
 - b. [Door rail deadbolt lock 10726 manufactured by Hawa AG]
 - c. [PK05-1010, PK05-1030 or PK05-2010 flush bolt with PK03-4010 or PK03-4020 strike manufactured by PK30 System]
- E. Operating hardware for hinged doors
 - 1. [Offset pivot hinge sets manufactured by PK30 System.]

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2. [Center pivot hinge sets - Rixson 320 top pivot jamb portion, PK30 System top and bottom door portion and 1NT403 CRL Adjustable free-swinging floor pivot, bottom jamb portion, from C.R. Laurence Co. Inc.]
- F. Locking hardware for hinged doors.
1. Acceptable Manufacturer: FSB USA, which is located at: 1 Bishop Ln. ; Madison, CT 06443; Tel: 203-404-4700; Fax: 203-404-4710; Email: info@fsbusa.com; Web: www.fsbusa.com
 - a. Full mortise locks, Series SM **2.5-inch (64mm)** backset. ANSI A 156.13, series 1000, mortise locks and latches, Grade 1.
 - b. Lock function and lever/knob trim as selected by Architect from FSB catalog.
- G. Install hardware, except surface mounted hardware, at the fabrication plant. Remove only as required for final finishing operation, and delivery and installation at the project site.

2.5 FINISHES, GENERAL

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 FINISHES

- A. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.

Note To Specifier: Select finish from the following selection. Consult with PK30 System prior to specifying alternative finishes.

- B. Anodized Finishes:
1. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.07 mm or thicker.
 2. Color Anodic Finish: AAMA 61, AA-M12C22A42/A44, Class I, 0.07 mm or thicker.
 - a. Color: Black.
 3. Anodized finishes shall be fully sealed by the manufacturer or processor according to procedures recommended by the licensor of the process.
- C. Baked-Enamel Finish
1. AAMA 2603 except with a minimum dry film thickness of **0.8 mils (0.02 mm)**. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

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- a. Color and Gloss: **[As indicated by manufacturer's designations] [Match Architect's sample] [As selected by Architect from manufacturer's full range] <Insert color and gloss>**.
- D. Protect finishes on exposed surfaces by wrapping temporary protective covering before shipping.
- E. Slight variations in appearance of abutting or adjacent pieces are acceptable. Noticeable variations in the same piece are not acceptable.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine substrates at the site for openings to be enclosed in the work of this section. Verify the structural integrity of substrates. Verify dimensions at rough openings. Verify that substrates scheduled to provide support to office fronts and doors, are level, plumb and square, with no unevenness, bowing or bumps in the floor.
- B. Do not install the work of this section until unsatisfactory conditions are corrected. Installation of units constitutes acceptance of existing conditions.
- C. Templates and diagrams: Furnish templates, diagrams, and other data to fabricators and installers of related work, as necessary, for coordination of the adjacent finishes.

3.2 INSTALLATION

- A. Install complete system in accordance with manufacturer's recommendations and written installation instructions.
- B. Provide appropriate anchorage devices to securely and rigidly fit frames into place, absolutely level, straight, plumb and square. Install frames in proper elevation, plane and location, and in proper alignment other work.
 - 1. Installation Tolerance: Install each demountable partition so surfaces vary not more than **1/8 inch (3 mm)** from the plane formed by the faces of adjacent partitions.
- C. Install frame components in the longest possible lengths; components up to **[72 inches (1830 mm)] [96 inches (2450 mm)]** long must be one piece.
 - 1. Fasten to suspended ceiling grid on maximum **[48-inch (1220-mm)]** centers, using sheet metal screws or other fasteners approved by frame manufacturer.
 - 2. Use concealed installation clips to produce tightly fitted and aligned splices and connections.
 - 3. Secure clips to extruded main-frame components and not to snap-in or trim members.
 - 4. Do not leave screws or other fasteners exposed to view when installation is complete.
- D. Install panels, handles, locks, decorative hardware and trim in accordance with respective manufacturer's recommendations and installation instructions for each condition of use.
 - 1. Gang fixed panels together using manufacturer's connectors. Abutting panels shall result in a manufacturer designed **1/8 inch (3mm)** reveal between panels.

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2. Employ header panels above offset pivot hinged doors. Use **1-1/8 inch (29mm)** profile for the bottom rail. Adjust fixed panel reveals from **1/8 in. (3mm)** to **3/4 inch (18mm)** at the ceiling and at the floor in order to accommodate out of level conditions.
- E. After repeated operation of installed units, adjust door operators for optimum operating condition and safety.

3.3 DEMONSTRATION

- A. Engage a factory-authorized service representative to demonstrate and train Owner's maintenance personnel to adjust, operate, and maintain demountable partitions. Refer to Division 01 Section "Demonstration and Training."

3.4 CLEANING

- A. Remove temporary coverings and protection. Frame should be cleaned using a soft clean cloth. Use clean warm water or mild detergent. Do not use acids, alkaline or fluorides, abrasive cleaning methods may damage surfaces of frames and or panel materials. Clean prior to Owners acceptance. Remove construction debris from project site and legally dispose of debris.
- B. Clean exposed frame surfaces promptly after installation, using cleaning methods recommended by frame manufacturer and according to AAMA 609 & 610.
- C. Touch up marred frame surfaces [**so touchup is not visible from a distance of 48 inches (1220 mm)**]. Remove and replace frames with damaged finish that cannot be satisfactorily repaired.

3.5 PROTECTION

- A. Institute protective measures throughout the remainder of the construction period to ensure that panels will be without damage or deterioration, other than normal weathering, at the time of substantial completion.

END OF SECTION