

## **Specifications**

### **SECTION 08 11 16 Interior Aluminum Doors and Frames**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Pre-finished aluminum door frames for interior use.
2. Pre-finished aluminum window frames for interior use.
3. Pre-finished aluminum framing system for interior use.
4. Pre-finished aluminum doors for interior use.

###### **B. Related Sections:**

1. Division 01 Section "Sustainable Design Requirements" for additional LEED documentations and requirements
2. Division 08 Section "Glazing" for glass view panels in interior aluminum doors.
3. Division 08 Sections "Flush Wood Doors", "Clad Wood Doors", and "Stile and Rail Wood Doors" for wood doors used in interior aluminum frames.
4. Division 08 Sections "Door Hardware" and "Access Control Hardware" for door hardware used on interior aluminum doors and frames.
5. Division 26 "Electrical" Sections for electrical connections including conduit and wiring for door controls and operators installed on interior aluminum frames.
6. Division 28 Section "Access Control" for access control devices installed at interior aluminum frame openings and provided as part of a security access system.

###### **C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.**

1. AAMA 603.8 - Performance Requirements and Test Procedures for Pigmented Organic on Extruded Aluminum.
2. AAMA 607.1 - Guide Specification and Inspection Methods for Clear Anodized Finishes for Architectural Aluminum.
3. AAMA 608.1 - Guide Specification and Inspections Methods for Electrolytically Deposited Color Anodic Finished for Architectural Aluminum.
4. AAMA 609 & 610-02 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum.
5. ASTM B221 - Standard Specification for Aluminum and Aluminum-alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
6. NAAMM - "Metal Finishes Manual for Architectural and Metal Products".
7. ANSI/NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
8. NFPA 252 - Standard Method of Fire Tests of Door Assemblies.

9. ANSI A117.1 - Accessible and Usable Buildings and Facilities
10. ICC/IBC - International Building Code.

## 1.2 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: For each type of product indicated. Include construction details, material descriptions, hardware reinforcements, profiles, anchors, fire-resistance rating, and finishes.
- C. Templates: Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the interior aluminum door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.
- D. Shop Drawings: Include the following:
  1. Frame details for each frame type, including dimensioned profiles.
  2. Locations of reinforcement and preparations for hardware.
  3. Details of each different wall opening condition. Include requirements for steel framing at partitions for fit and securing of frames, partition widths and tolerances, direction of framing members, clips and attachments.
  4. Details of anchorages, joints, field splices, and connections.
  5. Details of accessories.
  6. Details of moldings, removable stops, and glazing.
  7. Elevations of each door design.
  8. Details of doors, including vertical and horizontal edge details.
  9. Details of preparations for power, signal, and control systems.
- E. Samples for verification: Provide, at the request of architect, prepared Samples as indicated below:
  1. Framing Member: 12 inches long
  2. Corner Fabrication: 12-by-12-inch-long, full size window corner, including full-size sections of extrusions with factor-applied finish.
  3. Aluminum chips in full range of manufacturer's standard finishes for architect's color selection.
- F. Interior Aluminum Door and Frame Schedule: Use same designations indicated on Drawings. Coordinate with Door Hardware schedule and glazing.
- G. Informational Submittals:
  1. LEED Documentation: Submit manufacturer's environmental documentation and applicable sustainability program credits for MR-4 and that are specified herein.
  2. Certificates of Compliance: Submit any product test report or information necessary to indicate compliance with this specification section.

### 1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain aluminum frames and doors through one source from a single qualified manufacturer.
- B. Manufacturer Qualifications: A firm experienced in the manufacturing of interior aluminum framing systems and doors with a minimum five (5) years successful in-service performance providing product similar to those indicated, including pre-engineering and pre-fabricating all components of aluminum framing systems and doors.
- C. Installer Qualifications: An experienced installer with a minimum five (5) years experience who has completed aluminum framing systems and door installations similar in material, design, and extent to those indicated and whose work has resulted in construction with a record of successful in-service performance.
- D. Aesthetic Effects: Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- E. Fire Rated Assemblies: In locations where fire-rated openings are scheduled or required by regulatory agencies, provide fire-rated aluminum frames that have been tested and certified for specified exposure by an agency acceptable to governing authorities.
  - 1. Provide labels permanently fastened on each frame that is within size limits established by NFPA and the testing authority.
    - a. Provide 20-minute labels.
    - b. Provide 90-minute labels.
    - c. Provide labels for openings as scheduled on the drawings.
- F. Pre-Installation Conference: Conduct conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing interior aluminum frames and doors and to verify installation of electrical knockout boxes and conduit at frames with electrified or access control hardware.

### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver interior aluminum frames and doors individually protective wrapped within cartons and marked for the corresponding scheduled opening. Do not bulk pack frames.
- B. Inspect frames upon delivery for damage.
  - 1. Repair minor damage to pre-finished products as recommended by Manufacturer.
  - 2. Replace frames that cannot be satisfactorily repaired.

- C. Store Interior aluminum frames and doors at Project site under cover and as near as possible to final installation location. Do not use covering material that will cause discoloration of aluminum finish.

#### 1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of interior aluminum frame openings by field measurements before fabrication and indicate measurements on Shop Drawings submittals.
- B. Do not begin installation of aluminum frames and doors until area of work has been completely enclosed and interior is protected from the elements.
- C. Maintain temperature and humidity in areas of installation within reasonable limits, as close as possible to final occupancy standards. If necessary, provide artificial heating, cooling, and ventilation to maintain required environmental conditions.

#### 1.6 WARRANTY

- A. Provide manufacturer's written warranty against defects in materials and workmanship upon final completion and acceptance of Work in this section.

### **PART 2 PRODUCTS**

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:

Western Integrated Materials, Inc.  
3310 E. 59TH St., Long Beach, CA 90805  
Telephone: 562-634-2823  
Fax: 562-634-8449  
Web Site: [www.western-integrated.com](http://www.western-integrated.com)

##### 1. Acceptable Products:

- a. Western Integrated Materials, Inc. - Interior Aluminum Frames
- b. Western Integrated Materials, Inc. - Interior Aluminum Swinging Doors
- c. Western Integrated Materials, Inc. - Interior Aluminum Sliding Doors and Sliding Door Frame - ALUMAGlide™

- B. Substitutions: Material from alternate interior aluminum framing system and door fabricators will not be accepted without prior written and sample approval in accordance with requirements specified in Division 01 and at the discretion of Architect and their designated openings consultant.

## 2.2 MATERIALS

- A. Extruded Aluminum: Controlled ASTM B221 alloy billets of 6063-T5, to assure compliance with tight dimensional tolerances and maintain color uniformity.
- B. Recycled Content of Aluminum Products: Post consumer recycled content plus pre consumer recycled content not less than 50 percent.

### C. EXTRUDED INTERIOR ALUMINUM FRAMES

- 1. Provide interior aluminum framing components complying with dimensions, profiles, and relationships to adjoining work of components as indicated on Drawings. Provide frames that are fitted for partition types and throat openings meeting the throat opening and required clearances per frame manufacturer's recommendations. Reinforce for specified hinges, strikes, closers, and other hardware as required.
  - a. Western Integrated Materials Series 300, 400, and 700 Frames:  
Provide frames with the following characteristics:
    - 1. Rectilinear design.
    - 2. 1-1/2", 2", 3", 4" face profiles.
    - 3. Trim:
      - a. (302) 1" with 3/8" return (reveal trim)
      - b. (303) 1-1/4" with 5/8" return (reveal trim)
      - c. (302-375) 1-1/4" with 3/8" return (reveal trim)
      - d. (307) 1-1/4" x 5/16" return (reveal trim)
      - e. (304) 1-1/2" with 5/16" return (flush trim)
      - f. (305) 1-1/2" with 5/16" return (reveal trim)
      - g. (306) 1-7/16" with 3/8" return (reveal trim)
      - h. (304-2) 2" with 5/16" return (flush trim)
      - i. (304-3) 3" with 5/16" return (flush trim)
      - j. (304-4S) 4" with 5/16" return (flush sill trim)
      - k. (304-4C) 4" with 5/16" return (flush column trim)
    - 4. Series 300 Throat (drywall partition) sizes :  
3-3/8", 3-3/4", 3-7/8", 4-5/8", 4-3/4", 4-7/8", 5", 5-1/4",  
5-1/2", 6", 7-1/4"
    - 5. Series 400 Throat (drywall partition) sizes:
      - a. From 3" to 9-1/2"
    - 6. Series 700 (90 Minute Positive Pressure Fire Rated) Throat (drywall partition) sizes:
      - a. From 3-3/4" to 8-3/8"
  - b. Fire Rated Frames: Fabricate frames in accordance with NFPA80, listed and labeled by a qualified testing agency.
    - 1. 300 and 400 Series Door Frames only may be rated up to 20 Minute Positive Pressure.
    - 2. 700 Series Door Frames only are rated at 90 Minute Neutral or

Positive Pressure.

**D. INTERIOR ALUMINUM DOORS**

1. General: Provide 1-3/4 inch doors of type and design indicated, not less than 1.10 inch thick material.
2. Aluminum Stile & Rail Type Swinging Doors: Door Stiles and rails to have tubular design with the following characteristics:
  - a. Stiles:
    1. Narrow Stile (2")
    2. Medium Stile (3-1/2")
    3. Wide Stile (5")
  - b. Rails:
    1. 2-1/8" Rail
    2. 3-1/2" Rail
    3. 5" Rail
    4. 6-1/2" Rail
    5. 9-1/2" Rail
  - c. Snap-in stops with factory applied glazing gaskets for 1/4", 3/8", or 1/2" thick glass.
  - d. Hardware as specified in Division 08 Section, "Door Hardware".
3. Aluminum Stile & Rail Sliding Type Doors: Subject to the same tubular design standards as Stile & Rail Type Swinging Doors with the following characteristics:
  - a. Sliding door track to be installed in properly blocked ceiling or wall above frame. Sliding track to be provided with snap on covers.
  - b. Horizontal member at head shall have two contact points incorporating woven pile. All shall be held in integral extruded slots and secured to prevent movement or loss while operating
  - c. Sliding Door Hardware:
    1. Quad sealed Bearing Rollers - 2 each per door. Maximum rollers rated for 250 lbs.
    2. Provide bumper stops in track assemblies.
    3. Provide concealed door guide at floor (track assemblies are not allowed).
    4. Locking device Adams-Rite maximum security lock AR 2331 with stainless steel bolt

5. Accurate 2001 steel, mortise lock with steel bolt.
6. Pull handles:
  - a. Western Integrated Materials, Inc.
  - b. Rockwood
  - c. Don-Jo
  - d. Hager
- d. Snap-in stops with factory applied glazing gaskets for 1/4", or 3/8" thick glass.
4. Interior Aluminum Door Glazing:
  - a. Glass and Glazing System: Refer to Division 08 Section "Glazing" for glass units and glazing requirements applicable to glazed aluminum-framed glass doors unit.
  - b. Glass: Comply with Division 08 Section "Glazing" for requirements applicable to safety glazing, insulating-glass units, and laminated glass units.
  - c. Fixed panels shall be constructed to allow for field glazing. Panel glazing shall be accomplished using a "marine" style reusable, wraparound black flexible PVC or EPDM material per commercial standard CS23060 without the need for separated glazing beads or putty style bedding compounds. The glazing channel shall be provided with the unit for 1/4" and 3/8" glass.

#### E. INTERIOR POCKET DOOR FRAME

1. To define the standard of quality desired, frames shall be PRE-BILT™ as manufactured by Western Integrated Materials, Inc.
2. Steel member to be galvanized.
3. Door(s) to be 1-3/4"
4. Framing to fit 4-7/8" throat.

#### 2.3 ACCESSORIES

- A. Fasteners: Aluminum, nonmagnetic, stainless-steel or other noncorrosive metal fasteners compatible with frames, stops, panels, reinforcement plates, hardware, anchors, and other items being fastened.
- B. Door Silencers: Manufacturer's standard continuous mohair, wool pile, or vinyl seals.
- C. Glazing Gaskets: Manufacturer's standard extruded or molded plastic, to accommodate glazing thickness indicated.
- D. Glazing: Comply with requirements in Division 08 Section, "Glazing."
- E. Hardware: As specified in Division 08 Section, "Door Hardware".

## 2.4 FABRICATION

### A. FRAME CONSTRUCTION

1. Factory pre-engineer and pre-cut interior aluminum frame components to the greatest extent practical. Linear glazing components fabricated in the field are not allowed. If necessary, allow for 2 inches excess vertical length for scribing to suit floor conditions. Face trim to be pre-cut to match jamb lengths. Machine jambs and prepare for hardware, with concealed plates, drilled and tapped as required, fastened in frame with concealed screws.
2. Provide concealed corner reinforcements and alignment clips for precise joints at butt or mitered connections.
3. Hardware Preparation: Factory interior aluminum frames to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates as specified in Division 08 section, "Door Hardware".
  - a. Reinforce frames to receive surface mounted door hardware. Machine jambs and prepare for hardware, with concealed reinforcement plates, drilled and tapped as required and fastened within frame with concealed screws.
  - b. Locate hardware as indicated.
  - c. Coordinate locations of conduit, wiring boxes, and power transfers for electrical connections with Division 26 Sections.
4. Fabricate frames for glazing with removable stops to allow glazing replacement without dismantling frame.
5. Fabricate all components to allow secure installation without exposed fasteners.

### B. INTERIOR ALUMINUM DOOR CONSTRUCTION

1. Factory pre-engineer aluminum doors and components to the greatest extent practical.
2. Hardware Preparations: Factory interior aluminum doors to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates as specified in Division 08 Section, "Door Hardware".
  - a. Reinforce doors to receive surface mounted door hardware. Machine and prepare for hardware, with concealed reinforcement plates, drilled and tapped as required and fastened within door with concealed screws.
  - b. Locate hardware as indicated.
  - c. Coordinate locations of conduit and power transfers for electrical connections with Division 26 Sections.
3. Clearances for Non-Fire-Rated Door Frames: Not more than 1/8" at jambs and heads, not more than 1/4" between pairs of doors. Not more than 3/4" at bottom.



4. Fabricate kits for glazing with removable stops to allow glazing replacement without dismantling.

## 2.5 ALUMINUM FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for apply and designated finishes. Exposed surfaces to be free of scratches and other serious blemishes.
- B. Factory finish extruded frame components so that any part exposed to view upon completion of installation will be uniform in finish and color.
- C. Acrylic Finish: Comply with AAMA 603.5; baked to assure hardness.
  1. Color: As selected from manufacturer's standard colors.
  2. Color: As indicated in schedules on the drawings.
  3. Custom color to match Architect's sample.
- D. Clear anodic coating: Comply with AAMA 607.1
  1. Commercial, AAM12C22A21 clear anodized coating, 0.1 mill minimum thickness.
- E. Color anodic coating: Comply with AAMA 608.1
  1. Class II, AAM12C22A34 color coating electrolytically deposited, 0.4 mill minimum thickness.
    - A. Color: Bronze anodized
    - B. Color: Black anodized

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify wall thickness does not exceed standard tolerance of  $\pm 1/16"$ .
- C. General Contractor to verify the accuracy of dimensions given to frame and door manufacturer for pre-cut openings.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Install and set interior aluminum frames plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
  - 1. At fire-protection-rated openings, install frames according to NFPA 80,
- B. Install frame components in the longest possible lengths with no component less than 48 inches.
  - 1. Fasten to suspended ceiling grid at 48 inches on center maximum, using #6 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 use screws or other fasteners exposed to view when installation is complete

### 3.3 ADJUSTING AND CLEANING

- A. Final adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition.
- B. Clean exposed frames promptly after installation, using cleaning methods recommended by frame manufacturer and according to AAMA 609 & 610.
- C. Touch up marred areas so that touch-up is not visible from a distance of 48 inches. Remove and replace frames that cannot be satisfactorily adjusted.

### 3.4 PROTECTION

- A. Provide protection required to assure that frames and doors will be without damage or deterioration upon substantial completion of the project.

#### **END OF SECTION**

**DISCLAIMER:** Western Integrated Materials, Inc. takes no responsibility for product selection or application, including, but not limited to, compliance with building codes, safety codes, laws, or fitness for a particular purpose. The guide specifications is not intended to be verbatim as a project specification without appropriate modifications for the specific use intended and the particular requirements of a specific construction project.

## **Architectural Specifications for Positive Pressure Fire Test**

- ❖ Meeting the UBC 97 Building Code 7.2 Part 1 and Part 2.
  - Part-1 Fire Tested for 20 Minute Positive Pressure.
  - Part-2 Smoke and Draft Control.
  
- ❖ Maximum Opening Size 6' x 9'.
  
- ❖ Series 300  
Throat Size with Approval are 3-3/4", 3-7/8", 4-1/2",  
4-5/8", 4-3/4", 4-7/8", 5", 5-1/4", 5-1/2", 6", 7-1/4".
  
- ❖ Series 400  
Throat Size with Approval are 3-3/4" to 9-1/2"
  
- ❖ Our 20 Minute Fire Rated Door Frame is qualified for installation with a Category A and Category B door. Refer to section I of this catalog for more information.
  
- ❖ Acceptable Labeled Hardware Mortised or Cylindrical Latch, Auto or Manual Mortised Flush Bolts, Surface Mounted Bolts, Concealed and Surface Mounted Fire Exit Hardware.



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