



All Weather Architectural Aluminum



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This Manu-Spec® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A Manu-Spec is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in Specifier Notes and in the specification text Article titled "Acceptable Material." Metric conversion, where used, is soft metric conversion.

This Manu-Spec specifies aluminum framed, thermally broken swing doors, and is based upon the Series 7000 Thermally Broken Aluminum Swing Doors by All Weather Architectural Aluminum.

SECTION 08 13 16 ALUMINUM DOORS

PART 1 GENERAL

1.1 SUMMARY

Specifier Note: Retain and edit the following paragraph to meet the project requirements and the types of aluminum doors specified. If multiple types of aluminum doors are specified delete all of the option types.

- A. Section Includes: This section specifies **Series 7000 Aluminum Swing Doors by All Weather Architectural Aluminum** as thermally broken aluminum framed [inswing] [outswing] glazed doors with integral glazing units [transoms] [and] [sidelites] and accessories.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat and specifiers practice.

- B. Related Requirements:

Specifier Note: Include in this paragraph only those sections and documents that directly affect the work of this section. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section number(s) should be listed in the Subparagraph below. Do not include Division 00 documents or Division 01 sections since it is assumed that all technical sections are related to all project Division 00 documents and Division 01 sections to some degree. Refer to other documents with caution since referencing them may cause them to be considered part of the Contract.

1. Section [07 26 00 – Vapor Retarders].
2. Section [07 27 00 – Air Barriers].
3. Section [07 60 00 – Flashing and Sheet Metal].
4. Section [07 92 00 – Joint Sealants].
5. Section [08 40 00 – Entrances, Storefronts, and Curtain Walls].
6. Section [08 80 00 - Glazing].

1.2 REFERENCES

Specifier Note: Paragraph below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain References paragraph when specifying products and installation by an industry reference standard. List retained standard(s) referenced in this section alphabetically. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced and update as applicable. Contract Conditions Section 01 42 00 - References may be used to establish the edition date of standards. This paragraph does not require compliance with standard(s). It is a listing of all references used in this section. Only include here standards that are referenced in the body of the specification in PARTS 1, 2 and/or 3. Do not include references to building codes at any level.

A. Reference Standards:

1. American Architectural Manufacturer's Association (AAMA).
 - a. AAMA/WDMA/CSA101/I.S.2/A440, North American Fenestration Standard/Specification for Windows, Doors, and Skylights.
 - b. AAMA 502-12 Voluntary Specification for Field Testing of Newly Installed Fenestration Products.
 - c. AAMA 609 Cleaning and Maintenance Guide for Architecturally Finished Aluminum.
 - d. AAMA 920 Specification for operating cycle performance of side-hinged exterior door systems.
 - e. AAMA 925 Specifications for determining the vertical loading resistance of side-hinged door leaves.
 - f. AAMA 1304 - Forced entry resistance test method for sliding glass doors.
2. Glass Association of North America (GANA):
 - a. GANA 01-0300 Proper Procedures for Cleaning Architectural Glass Products.
3. ASTM International (ASTM).
 - a. ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - b. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
 - c. ASTM E547 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
 - d. ASTM E2068 Standard Test Method for Determination of Operating Force of Sliding Windows and Doors.
 - e. ASTM F588 Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.
4. National Fenestration Rating Council (NFRC).
 - a. NFRC 100A Procedure for Determining Fenestration Attachment Product U-factors.
 - b. NFRC 200A Procedure for Determining Fenestration Attachment Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
 - c. NFRC 500 Procedure for Determining Fenestration Product Condensation Resistance Values.
5. US Green Building Council (USGBC).
 - a. LEED NC Version 2.2, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Contract Conditions and Section 01 33 00 - Submittal Procedures.

1.3 SUBMITTALS

- A. Make submittals in accordance with [Section 01 33 00 - Submittal Procedures].
- B. Product Data: Manufacturer's standard specifications and descriptive literature, including:
 1. Certified test laboratory reports to show compliance with requirements.
 - a. Doors with sizes exceeding the gateway sizes do not qualify under these tests.

- b. Doors manufactured with configurations different from the tested configurations do not qualify under these tests.
- c. Doors can be tested for performance outside the already tested gateway sizes.
- d. Doors with hardware not referenced on the test reports do not qualify under these tests.
- 2. Manufacturer's standard head, jamb and sill details.
- 3. Installation methods.
 - a. Submit manufacturer's written installation instructions.
- C. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
 - 1. Provide shop drawings indicating details of construction and installation including but not limited to door location chart, door schedule, size, muntin type and design, sections and details of multiple door assemblies, hardware, glazing details, frame type, STC, glass types, screens and handing operation. Show locations.
- D. Samples
 - 1. Door section:
 - a. Submit 8 × 8 inch minimum corner section sample of frame for each glazing type specified.
 - b. Sample will be used to verify construction, corner joint and frame finish and color.
 - c. Quantity [5].
 - 2. Glazing:
 - a. [Insulated Glazing; 12 × 12 inch].
 - b. [Single Glazing; 12 × 12 inch].
 - 3. Finish: AAMA 611-98 Anodized Architectural Coatings; AAMA 2605 for Organic Coatings on Aluminum Extrusions.
 - a. [Class 1 Anodized].
 - b. [Kynar].

Specifier Note: Specify submittals intended to document manufacturer storage, installation and other instructions.

- E. Manufacturer's written instructions, including:
 - 1. Delivery, storage and handling recommendations.
 - 2. Preparation and installation recommendations.
- F. Installer's Experience: Submit verification of evidence of similar work of this section.

Specifier Note: Coordinate article below with Contract Conditions and with Section [01 78 36 - Warranties].

- G. Warranty: Fully executed, issued in [Owner's] name and registered with manufacturer, including:
 - 1. Manufacturer's [1 year] warranty, from date of substantial completion, covering defects in materials.

Specifier Note: Retain the following only if specifying for a LEED project. Specify only the technical submittal requirements necessary to achieve the credits desired for this Project.

- H. Sustainable Design (LEED) Submittals:
 - 1. LEED Submittals: In accordance with Section [01 35 21 – LEED Requirements].
 - 2. Submit verification for items when appropriate as follows:
 - a. MR 5 Regional Materials.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 10 years' experience in producing aluminum doors of the type specified.
 - 1. Manufacturer must be certified through PPG Certified Window and Door Fabricator Program.
- B. Installer Qualifications:
 - 1. Licensed with a minimum 3 years' experience installing similar doors.

- C. Mock-ups: Provide and install at job site a mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color and workmanship standard.
1. Size: []
 2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
 3. Incorporation: Mock-up may be incorporated into final construction upon Owner's and Architect's approval.
 4. Modify mock-up as required to produce acceptable work.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Delivery:
1. Deliver materials in accordance with manufacturer's written instructions.
 2. Deliver materials in manufacturer's original, unopened, undamaged containers or packaging with identification labels intact, product name and manufacturer clearly visible.
 3. Deliver in sizes to suit project.
- B. Material Storage:
1. Store materials protected from exposure to harmful environmental conditions, clean, dry, frost-free and at manufacturer's recommended temperature and humidity levels.
- C. Handling:
1. Exercise care during off-loading and installation to avoid damage and marring of finishes.
 2. Handle in a manner to distribute material load evenly to prevent twisting, bending and cracking of windows, doors and associated parts.
 3. Replace any products damaged during handling with new materials.

1.6 WARRANTY

- A. Manufacturer's Warranty
1. Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official.
 2. Manufacturer's warranty is in addition to and not intended to limit other rights.
 3. Replace any products damaged during handling.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes performance characteristics, material standards and descriptions in other articles as applicable. Use of such phrases as or equal, approved equal or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining or equal products.

2.1 MANUFACTURER

- A. Acceptable Manufacturer: **All Weather Architectural Aluminum**; Address: 777 Aldridge Road, Vacaville, California 95688; Phone: (707) 452-1600; Fax: (707) 452-1616; Email: randy.agno@allweatheraa.com; Website: www.allweatheraa.com.
- B. Basis for Design: **Series 7000 Aluminum Swing Doors by All Weather Architectural Aluminum.**

Specifier Note: Retain and edit the following paragraph to meet the project requirements.

- C. Related Requirements:
1. Section [01 60 00 Product Requirements] for requirements for submitting comparable product submittals for products by listed manufacturers.

2. Information, including sample (size and configuration per Architect's requirements) must be submitted for consideration a minimum of 10 days before project bid date.

2.2 PERFORMANCE REQUIREMENTS

- A. Design pressure, air infiltration and water penetration to AAMA/WDMA/CSA 101/I.S.2/A440 [AW-PG80].
- B. Uniform Load Deflection and Uniform Load Structural to ASTM E330.
- C. Air Leakage to ASTM E283 at 6.27 psf: 0.5 cfm/ft² maximum.
- D. Water Penetration to ASTM E547 at 4.59 psf: No leakage.
- E. Forced Entry Resistance to ASTM F588, Type B Grade 10.
- F. U-Value [____].
- G. Solar Heat Gain Coefficient (SHGC) [____].
- H. Acoustical Performance: STC [____].

2.3 DESCRIPTION

Specifier Note: Retain and edit the following paragraph to meet the project requirements and configurations of aluminum doors specified. If multiple types and configurations of aluminum doors are specified edit the paragraphs below to meet project requirements. Configurations can be incorporated into various combinations which should be chosen in consultation with the door manufacturer.

- A. Acceptable Material: **Series 7000 Aluminum Swing Doors by All Weather Architectural Aluminum** .
- B. Aluminum framed [Inswing] [Outswing][Standard sill] [Low profile sill to meet ADA] Thermally broken aluminum framed swing doors with integral glazing units (IGU), [transoms], [sidelites] and accessories.
 1. Door Dimensions:
 - a. See drawings for door types and configurations.

2.4 MATERIALS

- A. Frames: [3 1/4 inches, Thermally Broken, Thermal Strut, extruded aluminum Type 6063 age hardened to T-6 rating for strength and durability.
 1. Finish Type: [____].

Specifier Note: Retain and edit one of the following two paragraphs to meet door finishes required. If the frames are to be custom anodized, insert the color in the "blank" square brackets.

- a. Aluminum to AA DAF-45, [Class 1, clear anodized] [Class 1, bronze anodized] [Custom anodized color [____]].

Specifier Note: If a specific Kynar paint color is required insert the color name in the "blank" square brackets and then edit the rest of the paragraph to suit.

- b. 70% Kynar paint color [____] [custom] [selected by Architect from manufacturer's standard range].
- c. Dual Finish:
 - 1) Inner frame color [____].
 - 2) Outer frame color [____].

Specifier Note: Retain and edit the following Paragraph to suit door configuration specified. If all doors are the same, describe them below. If there are different door types or configurations indicate them on the drawings or on a schedule attached at the end of this Section.

- B. Glazing: In accordance with Section [08 80 00 – Glazing].

1. [Insulated Glass] [1 inch OA] [1 1/4 inch].

2.5 FABRICATION

- A. Fabricator: Use only fabricators who have training and [three] years minimum experience of work similar to work of this Section.
- B. Fabricate swing door frame, stile, rails and sill from extruded aluminum sections to sizes and profiles indicated.
- C. Assemble corners of the frame, the sash, sidelites and transoms using a die-cast aluminum corner key for structural integrity.
- D. Fill corners with silicone for additional reinforcement.
- E. Fit by snap bead surfaces to be glazed.
 1. Using an EPDM gasket, fit into the channels of the aluminum profiles.
- F. Install hardware specified.

2.6 ACCESSORIES

Specifier Note: Retain and edit the following paragraph to match door types and configurations specified.

- A. Hardware:
 1. Hinges: Extruded aluminum with non-removable, non-magnetic stainless steel hinge shaft.
 - a. Ensure hinges have horizontal adjustment of +/- 0.039 inches.
 2. Cylinder Lock: Mortise type with 11 stainless steel pins and cylinder key profile designed to prevent the use of lock picks and break-in tools.
 - a. Ensure cylinder lock has high torsion resistance.
 - b. Operation rating: Cylinder lock rated for 50,000 cycles.
 3. Lock: Reversible, corrosion resistant, multipoint type with adjustable rolling pins, dead bolt and latch, mortise-construction with reinforced lever spring system.
 4. Handles: Aluminum [painted black] [painted gray].
- B. Weather-stripping:
 1. Pile weather-stripping.
 2. Triple fin and Quiet fin technology.

Specifier Note: Contact manufacturer directly for assistance in choosing the most appropriate screen type for the project.

2.7 SOURCE QUALITY CONTROL

- A. Use only fabricators who have training and experience similar to work of this Section.
- B. Ensure all door framing materials come from single manufacturer.

PART 3 EXECUTION

3.1 INSTALLER

- A. Use only installers who have training and experience of work similar to work of this section.
- B. Ensure all door framing materials come from single manufacturer.

3.2 EXAMINATION

- A. Verification of Conditions: Verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for aluminum door installation in accordance with manufacturer's written recommendations.
 1. Visually inspect substrate.

2. Verify openings are dimensionally correct and within allowable tolerances, and substrates are plumb, level and clean.
3. Verify in the presence of the Architect that anchoring surface is in accordance with approved shop drawings.
4. Inform Architect of unacceptable conditions immediately upon discovery.
5. Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Architect.
6. Starting door installation implies substrate conditions are acceptable for work of this section.

Specifier Note: Retain and edit the following article to meet project requirements. Retain only those paragraphs appropriate to the project.

3.3 INSTALLATION

- A. Install aluminum doors in accordance with manufacturer's written recommendations.

3.4 SEALANTS

- A. Apply sealant in accordance with manufacturer's written installation guidelines.

3.5 FIELD QUALITY CONTROL

- A. Comply with AAMA 502-12.
- B. Field Testing Performance:
 1. To AAMA 502-12, Section 1.1.
- C. Proper Execution of Field Test:
 1. Ensure door is plumb, level and square.
 - a. If conditions fall outside the +/-1/8 inch tolerance, do not test the product.
 - b. Test at a pressure greater than 2/3 the fenestration product laboratory test pressure.
- D. Qualification of the agency performing the test:
 1. Ensure AAMA accreditation by independent testing agency.

Specifier Note: Edit the following paragraph to meet project requirements. Coordinate site visits with manufacturer or delete the paragraph and all of its subparagraphs if site visits are not required.

- E. Site Visits:
 1. Schedule site visits to review work at stages listed:
 - a. After delivery and storage of aluminum doors and when preparatory work on which work of this section depends is complete, but before application begins.
 - b. Twice during progress of work at 25% and 60% complete.
 - c. Upon completion of work, after cleaning is carried out.
 - d. Obtain reports within three days of review and submit immediately to Architect..

3.6 CLEANING

- A. Clean sealants, caulking and other materials from surfaces, including adjacent work.
- B. Clean frames, casings and glass using materials and methods recommended by the manufacturer.
 1. Clean using methods which comply with AAMA 609.
- C. Clean glass using methods which comply with GANA 01-0300
- D. Protect installed products until completion of project.

Specifier Note: Specify protection methods completed after installation, but prior to acceptance by the owner. Include only statements unique to this section. Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.



3.7 PROTECTION

- A. Protect installed aluminum doors from damage during construction.
- B. Repair or replace adjacent materials damaged by installation of aluminum doors.

END OF SECTION