



PART 1 – GENERAL

1.1 Section Includes [Note: Delete items below not required for project.]

Aluminum Flush Doors.
Aluminum Panels.
Aluminum Door Frames.

1.2 Related Sections [Note: Delete any sections below not relevant to this project; add others as required.]

Section 06 10 00 [06100] – Rough Carpentry (hardware installation).
Section 04 20 00 [04200] – Masonry (frame installation).
Section 07 90 00 [07900] – Joint Sealers.
Section 08 71 00 [08710] – Door Hardware.
Section 08 80 00 [08800] – Glazing.
Section 09 90 00 [09900] – Field Painting.

1.3 References [Note: Select references from the lists below that are required by the edited section.]

Aluminum Association, Inc. (AA).

AA 5005-H14 – Sheet Architectural.
AA 6061-T6 – Heavy Duty Structures.
AA 6063-T5 – Extrusions, Pipe, Architectural.
AA DAF-45 – Designation System for Aluminum Finishes.

American Architectural Manufacturers Association (AAMA).

AAMA 2603-98 – Pigmented Organic Coatings (Polycron).
AAMA 2605-98 – Superior Performing Organic Coatings (Kynar).
AAMA 609 – Anodized Architectural Finishes Cleaning and Maintenance.
AAMA 610-02 – Painted Architectural Products Cleaning and Maintenance.
AAMA 611-98 – Anodized Architectural Standards.
AAMA 701 – Pile Weather Strip.

American Society for Testing Materials (ASTM).

A 123 – Zinc (Hot-Dip Galvanized) Coatings.
C 728-97 – Insulation Board, Mineral Aggregate.
E 330-97el – Structural Performance of Exterior Doors.

1.4 Testing and Performance Requirements

- A. Structural Test Unit: Minimum size of 3-feet (91.44 cm) by 7-feet (213.36 cm) with 24-inch (60.96 cm) by 34-inch (86.36 cm) vision light shall be evaluated compliant with ASTM E 330 testing method.
- B. Test Procedures and Performances:
1. With door closed and locked, test unit in accordance with ASTM E 330 at static air pressure difference of 90.0 pounds per square foot (3.83 kPa) positive pressure and 90.0 pounds per square foot negative pressure with 155 miles (249.5 km) per hour wind load.
 2. At conclusion of test, there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanism, or any other damage that would cause the door to be inoperable.

1.5 Submittals

Submit under provisions of Section 01 30 00 [01300].

Product Data: Manufacturer's descriptive literature for each type door and frame: include the following information:

Fabrication methods.
Finishing.
Hardware preparation.
Accessories.

Shop Drawings: Indicate the following:

- Elevations and details of each door and frame type.
- Schedule of doors and frames.
- Conditions at openings with various wall thicknesses and materials.
- Location and installation requirements for hardware.
- Thicknesses of materials, joints.
- Connections and trim.

Samples:

- Two sets of color chips representing specified colors and finishes. Verification Samples:
- Submit samples of each type, consisting of aluminum door corner construction, minimum 6-inch by 6-inch (150 mm) legs.
- Where color or texture variations are anticipated, such as anodized finishes, include two or more units in each set of samples indicating extreme limits of variations.

Hardware Templates:

- Provide finish hardware mounting details.

Manufacturer's Installation Instructions:

- Printed installation instructions for each product, including product storage requirements.
- Operations and Maintenance Data: Printed instructions for each product.

1.6 Quality Assurance

Manufacturer Qualifications: Company specializing in manufacturing aluminum door and frame systems of the type required for this project, with a minimum ten continuous years documented experience.

Product Qualifications: Wind-load test certification conforming to ASTM E 330 on samples of previous products shall be provided for the type of door to be used.

- A. Installer's Qualifications: Workmen skilled in handling aluminum door and frame systems of the type required for this project.
- B. Instruction: The manufacturer or his representative will be available for consultation to all parties engaged in the project, including instruction to installation personnel.

1.7 Delivery, Storage and Handling

- A. Deliver doors and frames palleted, wrapped or individually crated. Doors shall be side protected with surrounding grooved 2-inch (50.8 mm) by 4-inch (101.6 mm) wood frame and covered with 275-pound (124.74 kg) test corrugated cardboard.
- B. Inspect delivered doors and frames for damage; unload and store with minimum handling. Repair minor damage if refinished items are equal in all respects to new work; otherwise, remove damaged items and replace with new.
- C. Store products of this section under cover in manufacturer's unopened packaging until installation.
1. Place units on minimum 4-inch (101.6 mm) wood blocking.
 2. Avoid non-vented plastic or canvas covers.
 3. Remove packaging immediately if packaging becomes wet.
 4. Provide 0.25-inch (6.35 mm) air spaces between stacked doors.

1.8 Project Conditions

Field Measurements: Take field measurements of areas to receive aluminum frames.

Note discrepancies on submitted shop drawings.

1.9 Scheduling

- A. Ensure that all approvals and/or shop drawings are supplied or returned to the manufacturer in time for fabrication without affecting construction progress schedule.
- B. Ensure that templates and/or actual hardware requested by manufacturer are available in time for fabrication without affecting construction progress schedule.

1.10 Warranty

- A. Manufacturer: Ten year warranty against defects in workmanship and materials, including warping, rotting, decaying or bowing.
- B. Installer: Warrant installation procedures and performance for five years against defects due to workmanship and materials handling.

PART 2 – PRODUCTS

2.1 Manufacturers

- A. Acceptable Manufacturer: Model: Series 100BE Cline Aluminum Doors, Inc. 112 – 32nd Avenue West, Bradenton, Florida 34205-8907. Telephone: (800) 648-6736; (941) 746-4104, Fax: (941) 746-5153. Website: www.clinedoors.com.
- B. Email: inquire@clinedoors.com.
- C. Requests for substitution will be considered in accordance with provisions of Section 01 60 00 [01600].

2.2 Components

- A. Aluminum Members: Alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish.
- B. Aluminum Door Components: Minimum 5-ply composite laminated construction to include:
 - 1. Facing: One-piece 0.040-inch (1.02 mm) smooth 5005-H14 stretcher-leveled aluminum alloy.
– or select –
 - 2. Facing: One-piece 0.040-inch (1.02 mm) vertically ribbed embossed pattern 5005-H14 stretcher-leveled aluminum alloy.
- C. [Note: Retain one of the above to specify facing.]
 - 1. Substrate: One-piece oil-tempered hardboard backer.
 - 2. Core: Organic materials shall be used to form a marine-grade honeycomb core with high compression strength of 94.8 psi (ASTM C365), and internal aluminum hardware backup tube.
 - 3. Hardware Backup: The hardware backup tube shall be a minimum of 4.25-inches (107.95 mm) in width, 1.375-inches (34.93 mm) in depth with a wall thickness of 0.0125-inches (3.18 mm). Contiguous for the full perimeter of the door to allow for all specified and non specified hardware reinforcement.
 - 4. Hardware Prep: Basic to include mortise lock edge prep or cylindrical lock prep; and pairs prepped for flush bolts, if required.
 - 5. Bonding Agent: Environmentally friendly adhesive with strength buildup of 350 pounds per square inch (24.6 kg/cm²).
 - 6. Perimeter Door Trim: Wall thickness of 0.050-inch (1.25 mm) minimum in 6063-T5 extruded aluminum alloy with special beveled edge cap design and integral weather stripping on lock stile.
 - 7. Replaceable Door Trim: Mechanically fastened to the hardware backup tube, allowing for replacement in the field, if damaged.
 - 8. Trim Finish: To have minimum of a Class I anodized finish.
 - 9. Weather Stripping: Replaceable wool pile with nylon fabric, polypropylene backing meeting AAMA 701 standards. Applied weather stripping is not acceptable.
 - 10. Materials: Only nonferrous, non-rusting members shall be acceptable, including tie rods, screws and reinforcement plates.
 - 11. Regulations: All components and agents to meet EPA standards.

D. Glazing: [Note: Select items below relevant to this project.]

1. Glass shall be 0.25-inch (6.36 mm) tempered. (Standard thickness).
– or select –
2. Glass shall be 1-inch (25 mm) insulating, tempered.
– or select –
3. Glass shall be 0.5625-inch (14.29 mm) laminated hurricane glass.

E. [Note: Retain one of the above to specify glass thickness.]

1. Glass stops shall be snap-in, non-removable type, 6063-T5 extruded aluminum alloy and 0.050-inch (1.25 mm) thickness.
2. Seals shall be vinyl inserts.
3. No fasteners shall be exposed.

F. Door Louvers:

1. Blades and Frames: 6063-T5 extruded aluminum alloy, 0.062-inch (1.57 mm) minimum thickness. Louver blades shall be inverted “Y” type.
2. Insect Screens: 14-18 mesh, 0.011-inch (0.28 mm) diameter aluminum, set in 6063-T5 extruded aluminum alloy frame, 0.050-inch (1.25 mm) minimum thickness.
3. Louver shall have a minimum of 50-percent free airflow.

G. Aluminum Frames:

1. Frame Components: Extruded channel 6063-T5 aluminum alloy, minimum wall thickness 0.125-inch (3.18 mm); cut corners square and joinery shall be mechanical with no exposed fasteners.
2. Profile: Open Back with Applied Stop (OBS), 1.75-inch by 5-inch (44 x127 mm).
– or select –
3. Profile: Open Back with Applied Stop (OBS), 1.75-inch by 6-inch (44 x152.39 mm).
4. Hinge and Strike Mounting Plates: Extruded aluminum alloy bar stock, 0.1875-inch (4.75 mm) thick mounted in a concealed integral channel with no exposed fasteners.
5. Replaceable Weather Stripping: AAMA 701, wool pile with nylon fabric, polypropylene backing, at head and jambs.
6. Door Stop: No screw-on stops acceptable.

2.3 Finish [Note: Retain one or more of the following paragraphs to specify finish.]

- A. Finish: Clear anodic coating; AA-M12C22A31 Class II mechanical finish, non-specular, with chemical medium-matte etch, minimum thickness 0.4-mil (0.01 mm).
– or select one of the following custom finishes –
- B. Finish: Dark Bronze anodic coating; AA-M12C22A34 Class II mechanical finish, non-specular as fabricated, with medium-matte chemical etch, minimum thickness 0.4-mil (0.01 mm).
- C. Finish: Medium Bronze anodic coating; AA-M12C22A34 Class II mechanical finish, non-specular as fabricated, with medium-matte chemical etch, minimum thickness 0.4-mil (0.01 mm).
- D. Finish: Light Bronze anodic coating; AA-M12C22A34 Class II mechanical finish, non-specular as fabricated, with medium-matte chemical etch, minimum thickness 0.4-mil (0.01 mm).
- E. Finish: Black anodic coating; AA-M12C22A34 Class II mechanical finish, non-specular as fabricated, with medium-matte chemical etch, minimum thickness 0.4-mil (0.01 mm).
- F. Finish: High Performance Organic Coating: Kynar/Polyvinylidene Fluoride (PVDF) (AAMA 605.2).
- G. [Note: Retain one of the following subparagraphs to specify color.]
 1. Color: Selected by Architect from manufacturer’s full range of available colors.
 2. Color: Custom color matching Architect’s sample.

2.4 Fabrication

- A. General: Receive hardware if required by manufacturer.
- B. Aluminum Flush Door Construction: Of type, size and design indicated:
 - 1. Minimum Thickness: 1.75-inches (44 mm), 5-ply composite laminate system.
 - 2. Door Size: Sizes shown are nominal; provide standard clearances as follows:
 - 3. Hinge and Lock Stiles: 0.125-inch (3.18 mm).
 - 4. Between Meeting Stiles: 0.25-inch (6.35 mm).
 - 5. At Top Rails: 0.125-inch (3.18 mm).
 - 6. Between Door Bottom and Threshold: 0.125-inch (3.18 mm).

2.5 Accessories

- A. Fasteners: Aluminum, nonmagnetic stainless steel or other material warranted by manufacturer as non-corrosive and compatible with aluminum components. Do not use exposed fasteners.
- B. Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible, otherwise, nonferrous stainless steel.
- C. Bituminous Coating: Cold-applied asphaltic mastic compounded for 30-mil (0.76 mm) thickness per coat.

PART 3 – EXECUTION

3.1 Examination

- A. Verify that wall surfaces and openings are ready to receive frames and are within tolerances specified in manufacturer's instructions.
- B. Verify that frames installed by other trades for installation of doors of this section are in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.

3.2 Preparation

- A. Perform cutting, fitting, forming, drilling, and grinding of frames as required for project conditions; do not damage sight-exposed finishes.
- B. Separate dissimilar metals to prevent electrolytic action between metals.

3.3 Installation

- A. Install doors and frames in accordance with manufacturer's instructions and approved shop drawings; set frames plumb, square, level, and aligned to receive doors.
- B. Anchor frames to adjacent construction in strict accordance with recommendations and approved shop drawings and within tolerances specified in manufacturer's instructions.
- C. Seal metal-to-metal joints between framing members using good quality elastomeric sealant.
- D. Where aluminum surfaces contact with metals other than stainless steel, zinc or small areas of white bronze, protect from direct contact by one or more of the following methods.
 - 1. Paint dissimilar metal with one coat of heavy-bodied bituminous paint. Apply good quality elastomeric sealant between aluminum and dissimilar metal. Paint dissimilar metal with one coat of primer and one coat of paint recommended for aluminum surface applications.
 - 2. Use non-absorptive tape or gasket in permanently dry locations.
- E. Hang doors with required clearances as follows:
 - 1. Hinge and Lock Stiles: 0.125-inch (3.18 mm).
 - 2. Between Meeting Stiles: 0.250-inch (6.35 mm).
 - 3. At Top Rails: 0.125-inch (3.18 mm).
 - 4. Between Door Bottom and Threshold: 0.125-inch (3.18 mm).

- F. Adjust doors and hardware to operate properly.
 - G. Install glazing in glazing frames.
 - H. Install hardware for doors of this section.
 - I. Installation of door hardware is specified in Section 08 71 00 [08710].
 - J. Installation of glass is specified in Section 08 80 00 [08800].
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3.4 Cleaning

- A. Upon completion of installation, thoroughly clean door and frame surfaces in accordance with AAMA 609.
 - B. Do not use abrasive, caustic or acid cleaning agents.
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3.5 Protection

- A. Protect products of this section from damage caused by subsequent construction until substantial completion.
- B. Repair damaged or defective products to original specified condition in accordance with manufacturer's recommendations.
- C. Replace damaged or defective products that cannot be repaired to architect's acceptance.

End of Section



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