

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01330 - Submittal Procedures.
- .2 Section 01780 - Closeout Submittals.
- .3 Section 05500 - Metal Fabrications.
- .4 Section 06101 - Rough Carpentry Short Form.
- .5 Section 06200 - Finish Carpentry.
- .6 Section 07213 - Batt and Blanket Insulation.
- .7 Section 07900 - Joints Sealers.
- .8 Section 08700 - Door Hardware.

1.2 REFERENCES

- .1 Aluminum Association (AA).
 - .1 DAF 45-03, Designation System for Aluminum Finishes.
- .2 American Architectural Manufacturers Association (AAMA).
 - .1 AAMA 609-93, Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.
- .3 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM E330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- .4 Canadian General Standards Board (CGSB).
 - .1 CGSB 1.40-97, Primer, Structural Steel, Oil Alkyd Type.
 - .2 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
 - .3 CAN/CGSB-12.20-M89, Structural Design of Glass for Buildings.
- .5 Canadian Standards Association (CSA International).
 - .1 CAN/CSA-G40.20/G40.21-98, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
 - .2 CAN/CSA G164-M92, Hot Dip Galvanizing of Irregularly Shaped Articles.

1.3 SYSTEM DESCRIPTION

- .1 Design Criteria.
 - .1 Design frames and doors in exterior walls to:
 - .1 Accommodate expansion and contraction within service temperature range of -35 to 35 degrees C.
 - .2 Limit deflection of mullions to maximum 1/175th of clear span when tested to ASTM E330 under wind load of 1.2 kpa
 - .3 Movement within system.
 - .4 Movement between system and perimeter framing components or substrate.
 - .2 Size glass thickness and glass unit dimensions to limits in accordance with CAN/CGSB-12.20.
 - .3 Design door system to provide average thermal resistance of:
 - .1 Door system excluding vision glass areas: RSI of 0.50.
 - .2 Vision glass areas: RSI of 0.67.
 - .4 Provide continuous air barrier and vapour retarder through door system. Primarily in line with inside pane of glass and heel bead of glazing compound.

1.4 SUBMITTALS

- .1 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and data sheets in accordance with Section 01330 - Submittal Procedures.

1.5 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01330 - Submittal Procedures.
- .2 Indicate materials and profiles and provide full-size, scaled details of components for each type of door and frame. Indicate:
 - .1 Interior trim and exterior junctions with adjacent construction.
 - .2 Junctions between combination units.
 - .3 Elevations of units.
 - .4 Core thicknesses of components.
 - .5 Type and location of exposed finishes, method of anchorage, number of anchors, supports, reinforcement, and accessories.
 - .6 Location of caulking.
 - .7 Each type of door system including location.
 - .8 Arrangement of hardware and required clearances.
- .3 Submit catalogue details for each type of door and frame illustrating profiles, dimensions and methods of assembly.

1.6 SAMPLES

- .1 Submit samples in accordance with Section 01330 - Submittal Procedures.
- .2 Submit one 300 x 300 mm corner sample of each type door and frame.
- .3 Submit sample showing glazing detail, reinforcement, finish and location of manufacturer's nameplates.
- .4 Frame sample to show glazing stop, jointing detail, finish.
- .5 Manufacturer's Instructions:
 - .1 Submit manufacturer's installation instructions.

1.7 CLOSEOUT SUBMITTALS

- .1 Provide maintenance data for cleaning and maintenance of aluminum finishes for incorporation into manual specified in Section 01780 - Closeout Submittals.

1.8 QUALITY ASSURANCE

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Section.

1.9 DELIVERY, STORAGE, AND HANDLING

- .1 Storage and Protection:
 - .1 Apply temporary protective coating to finished surfaces. Remove coating after erection. Do not use coatings that will become hard to remove or leave residue.
 - .2 Leave protective covering in place until final cleaning of building.

1.10 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

Part 2 Products

2.1 MATERIALS

- .1 Aluminum extrusions: Aluminum Association alloy AA6063-T5 or T6 anodizing quality.
- .2 Sheet aluminum: Aluminum Association alloy AA5005-H32 anodizing quality.

- .3 Steel reinforcement: to CAN/CSA-G40.20/G40.21,
- .4 Fasteners: stainless steel, finished to match adjacent material.
- .5 Weatherstrip: metal
- .6 Door bumpers: black neoprene.
- .7 Door bottom seal: Operable and automatic door seal of anodized extruded aluminum frame and vinyl weather seal, recessed in door bottom, closed ends, automatic retract mechanism when door is open.
- .8 Isolation coating: Epoxy resin solution
- .9 SPEC NOTE: Refer to Section 08800 - Glazing and specify types and thickness of glass. When more than one type of glass is required repeat paragraph and specify.
- .10 Glass: tempered glass to CAN/CGSB-12.1, Type[1] [2], Class [A] [B].
- .11 Glazing materials: Exterior: HSDG, Low-E, Tempered; Interior: 6mm Tempered.
- .12 SPEC NOTE: Insert appropriate text from Section 07900 - Joint Sealers.
- .13 Sealants: Colour selected by Contract Administrator.

2.2 ALUMINUM DOORS

- .1 Doors: Kawneer 560 or equal in accordance with B6.
- .2 Reinforce mechanically-joined corners of doors to produce sturdy door unit.
- .3 Glazing stops: interlocking snap-in type for dry glazing. Exterior stops: tamperproof type.
- .4 Provide thermally broken doors for exterior.

2.3 ALUMINUM FRAMES

- .1 Framing: Tr-Fab 450 with 5mm tempered glass.

2.4 ALUMINUM FINISHES

- .1 Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.
 - .1 Clear anodized
- .2 Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.

2.5 STEEL FINISHES

- .1 Finish steel clips and reinforcing steel with steel primer to CGSB 1.40, zinc coating to CSA G164.

2.6 FABRICATION

- .1 Doors and framing to be by same manufacturer.
- .2 Fabricate doors and frames to profiles and maximum face sizes as shown. Provide minimum 22 mm bite for insulating glazed units.
- .3 Provide structural steel reinforcement as required.
- .4 Fit joints tightly and secure mechanically.
- .5 Conceal fastenings.
- .6 Mortise, reinforce, drill and tap doors, frames and reinforcements to receive hardware using templates provided under Section 08700 - Door Hardware.
- .7 Isolate aluminum from direct contact with dissimilar metals, concrete and masonry.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

3.2 INSTALLATION

- .1 Set frames plumb, square, level at correct elevation in alignment with adjacent work.
- .2 Anchor securely.
- .3 Install doors and hardware in accordance with hardware templates and manufacturer's instructions.
- .4 Adjust operable parts for correct function.
- .5 Make allowances for deflection of structure to ensure that structural loads are not transmitted to frames.

3.3 GLAZING

- .1 Glaze aluminum doors and frames in accordance with Section 08800 - Glazing.

3.4 CAULKING

- .1 Seal joints to provide weathertight seal at outside and air, vapour seal at inside.
- .2 Apply sealant in accordance with Section 07900 - Joint Sealers. Conceal sealant within the aluminum work except where exposed use is permitted by Contract Administrator.

3.5 FIELD QUALITY CONTROL

- .1 Have manufacturer of products supplied under this Section review Work involved in handling, installation/application, protection and cleaning of its products, and submit written reports in acceptable format to verify compliance of Work with Contract.
- .2 Manufacturer's field services: provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
- .3 Schedule site visits to review Work at stages listed:
 - .1 After delivery and storage of products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.
 - .2 Twice during progress of Work at 25% and 60% complete.
 - .3 Upon completion of Work, after cleaning is carried out.
- .4 Obtain reports within three days of review and submit.

3.6 CLEANING

- .1 Perform cleaning of aluminum components in accordance with AAMA 609.1 - Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.
- .2 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.
- .3 Clean aluminum with damp rag and approved non-abrasive cleaner.
- .4 Remove traces of primer, caulking, epoxy and filler materials; clean doors and frames.
- .5 Clean glass and glazing materials with approved non-abrasive cleaner.
- .6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION