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| Version | Date | Description of Revisions |
| 1 | August 30, 2006 | Approved final document. |
| 2 | November 13, 2009 | Modified ‘Related Section’ |
| 3 | June 12, 2012 | Addition of References and Replacement Parts sections on this page |
| 4 | July 9, 2012 | Reformatted to Reduce White Space |
| 5 | April 23, 2015 | General formatting |
| 6 | September 15, 2015 | First review Phase 1 spec update (AV) |
| **7** | **December 14, 2015** | **Updated, Finalized Specification – Legal Reference eDOCS #6295418 v3 (AV)** |

NOTE:

This is a CONTROLLED Document. Any documents appearing in paper form are not controlled and should be checked against the on-line file version prior to use.

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**The on-line copy is the current version of the document.**

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## Related Sections

### *[Under "Related Sections", identify other Sections that are related to, and/or dependent on, the work results or information specified elsewhere. The list should be limited to Sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. For example, if hardware for aluminum entrances is specified in the aluminum entrance Section, a cross-reference would be appropriate in the finish hardware Section. The purpose of this cross-referencing is for information only, to aid in finding those other requirements—not to define the scope of the Section.*

### *Cross-referencing here may also be used to coordinate assemblies or systems whose components may span multiple Sections and which must meet certain performance requirements as an assembly or system.*

### *Contractor is responsible for coordination of the Work.*

### *This Section is to be completed/updated during the design development by the Consultant. If it is not applicable to the section for the specific project it may be deleted.]*

### *[List Sections specifying installation of products supplied but not installed under this Section and indicate specific items.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Execution requirements for ...[item]... specified under this Section.

### *[List Sections specifying products installed but not supplied under this Section and indicate specific items.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Product requirements for ...[item]... for installation under this Section.

### *[List Sections specifying related requirements.]*

### Sections:

#### Section 01300 – Submittals.

#### Section 07900 – Joint Sealers

#### Section 08710 – Door Hardware.

#### Section 08710 – Door Hardware.

#### Section 08800 – Glazing

## References

### Comply with the latest edition of the following statutes, codes, standards and all amendments thereto:

#### Aluminum Association (AA).

##### DAF 45:2003 (R2009), Designation System for Aluminum Finishes.

#### American Architectural Manufacturers Association (AAMA).

##### AAMA 609 & 610:2009, Cleaning and Maintenance Guide for Architecturally Finished Aluminum.

#### American Society for Testing and Materials International, (ASTM).

##### ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

#### Canadian General Standards Board (CGSB).

##### CAN/CGSB 12.1-M90, Tempered or Laminated Safety Glass.

##### CAN/CGSB 12.20-M89, Structural Design of Glass for Buildings.

#### Canadian Standards Association (CSA International).

##### *[Consultant to amend with applicable CSA standards replacing withdrawn CSA standards CAN/CSA 40.20/G40.21-98 and CAN/CSA G164-M92 (R2003)]]*

## System Description

### Design Criteria

#### Design frames and doors in exterior walls to:

##### Accommodate expansion and contraction within service temperature range of [ 35] [\_\_\_] to [35] [\_\_\_] degrees Celsius.

##### Limit deflection of mullions to a maximum of 1/175th of clear span when tested in accordance with ASTM E330/E330M-14 under wind load of [1.2] [\_\_\_] kPa. [Submit certificate(s) of test(s) performed] [\_\_\_].

##### Limit movement within system to acceptable values as defined in the Contract Documents. *[Consultant to ensure Contract Documents are amended to include such details]*

##### Limit movement between system and perimeter framing components or substrate to acceptable values as defined in the Contract Documents. *[Consultant to ensure Contract Documents are amended to include such details]*

### Size glass thickness and glass unit dimensions to limits in accordance with CAN/CGSB-12.20-M89.

### Design door system to provide average thermal resistance of:

#### Door system (excluding vision glass areas): RSI of [\_\_\_].

#### Vision glass areas: RSI of [\_\_\_].

### Provide continuous air barrier and vapour retarder through door system. Primarily in line with [inside] [\_\_\_] pane of glass and heel bead of glazing compound.

## Submittals

### Product Data:

#### Submit the manufacturer's printed product literature, specifications and data sheets in accordance with Section [01300 - Submittals].

#### Submit [two] [\_\_\_] copies of WHMIS MSDS Material Safety Data Sheets in accordance with Section [01300 - Submittals]. Indicate VOC's for caulking materials during application [and curing] [\_\_\_].

### Shop Drawings:

#### Submit shop drawings in accordance with Section [01300 - Submittals].

#### Indicate materials and profiles and provide full-size, scaled details of components for each type of door and frame. Indicate the following:

##### Interior trim and exterior junctions with adjacent construction.

##### Junctions between combination units.

##### Elevations of units.

##### Core thicknesses of components.

##### Type and location of exposed finishes, method of anchorage, number of anchors, supports, reinforcement, and accessories.

##### Location of caulking.

##### Each type of door system including location.

##### Arrangement of hardware and required clearances.

#### Submit catalogue details for each type of door and frame illustrating profiles, dimensions and methods of assembly.

### Samples:

#### Submit samples in accordance with Section [01300 - Submittals].

#### Submit one [300 x 300] [\_\_\_] mm corner sample of each type door and frame.

#### Submit sample showing glazing detail, reinforcement, finish and location of manufacturer's nameplates.

#### Frame sample to show glazing stop, door stop, jointing detail, finish, [wall trim] [\_\_\_].

#### Manufacturer's Instructions:

##### Submit the manufacturer's installation instructions.

#### Manufacturers' Field Reports: Submit [two] [\_\_\_] copies of manufacturers field reports to the Consultant.

### Closeout Submittals:

#### Provide maintenance data for cleaning and maintenance of aluminum finishes.

## Quality Assurance

### Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

### Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

### Pre-installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with the requirements of Division 1 – General Requirements.

## Delivery, Storage, and Handling

### Storage and Protection:

#### Apply temporary protective coating to finished surfaces. Remove coating after erection. Do not use coatings that will become hard to remove or leave residue.

#### Leave protective covering in place until final cleaning of building.

## Measurement and Payment

*[Choose one of the following payment language provisions that best suits the individual project.*

*If this Section is not specifically referenced by an item in the Bid Form, please use the following language:*

### The work of this Section will not be measured separately for payment. All costs associated with the work of this Section shall be included in the Contract Price.

*OR If this Section is specifically referenced in the Bid Form, use the following language and identify the relevant item in the Bid Form:*

### All costs associated with the work of this Section shall be included in the price(s) for Item No(s). \_\_\_ in the Bid Form.

*If the work of this Section is to be measured and paid for by several different methods, please amend the standard wording given above to reflect the different methods of measurement and payment.*]

# PRODUCTS

## Materials

### Aluminum extrusions: Aluminum Association alloy AA6063 [T5] [or] [T6] anodizing quality.

### Sheet aluminum: Aluminum Association alloy [AA1100 [H14]] [or] [AA5005 [H32] [or] [H34]] anodizing quality.

### Steel reinforcement: t*o [Consultant to provide alternative standard to withdrawn CAN/CSA G40.20/G40.21]*, grade [300 W] [\_\_\_].

### Fasteners: [aluminum] [cadmium plated steel] [stainless steel], finished to match adjacent material.

### Weatherstrip: [replaceable] [mohair] [[metal] [plastic] backed wool pile].

### Door bumpers: black neoprene.

### Door bottom seal: [operable and automatic] [adjustable] door seal of anodized extruded aluminum frame and vinyl weather seal, [recessed in door bottom] [surface mounted with drip cap], closed ends, [automatic retract mechanism when door is open] [\_\_\_].

### Isolation coating: [alkali resistant] [bituminous paint] [epoxy resin solution].

### Glass: tempered glass to CAN/CGSB 12.1-M90, Type [1] [2], Class [A] [B].

### Glazing materials: [\_\_\_].

### Sealants: [\_\_\_], [\_\_\_] colour [selected by the [Consultant].

### Door Hardware: As specified in Section 08710 – Door Hardware.

## Aluminum Doors

### Construct doors of porthole extrusions with minimum wall thickness of [2.4] [3] mm.

### Door stiles nominal [150] [\_\_\_] mm wide plus or minus [6] [\_\_\_] mm.

### Top rail nominal [150] [\_\_\_] mm wide plus or minus [6] [\_\_\_] mm.

### Bottom and mid rail nominal [250] [\_\_\_] mm wide plus or minus [6] [\_\_\_] mm.

### Reinforce mechanically joined corners of doors to produce sturdy door unit.

### Glazing stops: interlocking snap in type for dry glazing. Exterior stops: tamperproof type.

### Provide thermally broken doors for exterior.

## Aluminum Frames

### Construct [thermally broken] [and] [insulated] frames of aluminum extrusions with minimum wall thickness of [\_\_\_] mm.

### Frame members [150] x [50] mm nominal size, for [flush glazing] [applied stops].

## Aluminum Finishes

### Finish exposed surfaces of aluminum components in accordance with Aluminum Association Designation System for Aluminum Finishes.

#### Clear anodic finish: designation AA [\_\_\_].

#### Integral colour anodic finish: designation AA [\_\_\_], [\_\_\_] colour [to match [Consultant’s] [\_\_\_] sample].

#### Impregnated colour anodic finish: designation AA [\_\_\_], [\_\_\_] colour [to match [Consultant’s] [\_\_\_] sample].

#### Electrolytically deposited colour anodic finish: designation AA [\_\_\_], [\_\_\_] colour [to match [Consultant’s] [\_\_\_] sample].

### Appearance and properties of anodized finishes designated by the Aluminum Association as Architectural Class 1, Architectural Class 2, and Protective and Decorative.

## Steel Finishes

### Finish steel clips and reinforcing steel with [steel primer in accordance with *[Consultant to provide alternative standard to withdrawn CGSB 1.40]*] [zinc coating in accordance with [*Consultant to provide alternative standard to withdrawn CSA G164]*].

## Fabrication

### Doors and framing shall be by the same manufacturer.

### Fabricate doors and frames to profiles and maximum face sizes as shown. [Provide minimum [22] [\_\_\_] mm bite for insulating glazed units] [\_\_\_].

### Provide structural steel reinforcement as required.

### Fit joints tightly and secure mechanically.

### Conceal fastenings.

### Mortise, reinforce, drill and tap doors, frames and reinforcements to receive hardware specified under Section [08710 - Door Hardware] and indicated in the Door and Hardware Schedule which are part of the Contract Documents. *[Consultant to ensure both schedules are incorporated into the Contract Documents as required]*

### Isolate aluminum from direct contact with dissimilar metals, concrete and masonry.

# EXECUTION

## Manufacturer’s Instructions

### Compliance: Comply with the manufacturer's written data, including product technical bulletins, product catalogue installation instructions, Product carton installation instructions, and data sheets.

## Installation

### Set frames plumb, square, level at correct elevation in alignment with adjacent work.

### Anchor securely.

### Install doors and hardware in accordance with hardware templates and manufacturer's instructions.

### Adjust operable parts for correct function.

### Make allowances for deflection of structure to ensure that structural loads are not transmitted to frames.

## Glazing

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

## Caulking

### Seal joints to provide weather tight seal at outside [and air, vapour seal at inside] [\_\_\_].

### Apply sealant in accordance with Section 07900 - Joint Sealers. Conceal sealant within the aluminum work except where exposed use is permitted by the [Consultant] [\_\_\_].

## Field Quality Control

### The Contractor shall ensure that the manufacturer of Products supplied under this Section will review the items of Work that involve the handling, installation/application, protection and cleaning of its Product[s], and submit written reports in acceptable format to verify compliance with the Contract Documents.

### Manufacturer's field services: Provide the manufacturer's field services consisting of product use recommendations and periodic Site visits for inspection of product installation in accordance with the manufacturer's instructions.

### Schedule Site visits by manufacturer’s field service representative to review the Work at stages listed below:

#### After delivery and storage of Products, and when preparatory Work on which Work of this Section depends is complete, but before installation begins.

#### [Twice] during progress of Work at [25%] and [60%] complete.

#### Upon completion of Work, after cleaning is carried out.

#### Obtain reports from the manufacture’s field representative and submit to the Consultant within [three] Days of review.

## Cleaning

### Perform cleaning of aluminum components in accordance with AAMA 609 & 610:2009, Cleaning and Maintenance Guide for Architecturally Finished Aluminum.

### Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.

### Clean aluminum with damp rag and approved non-abrasive cleaner.

### Remove traces of primer, caulking, epoxy and filler materials; clean doors and frames.

### Clean glass and glazing materials with approved non-abrasive cleaner.

### Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**