ALUMICOR GUIDE NOTE: This master specification section includes ALUMICOR GUIDE NOTEs identified as “ALUMICOR GUIDE NOTE” for information purposes and to assist the specification writer in making appropriate decisions. The ALUMICOR GUIDE NOTE always immediately precedes the text to which it is referring. The section serves as a guideline only and should be edited with deletions and additions to meet specific project requirements.

ALUMICOR GUIDE NOTE: This specification section follows the recommendations of the Construction Specifications Canada, Manual of Practice including MasterFormat, SectionFormat, and PageFormat. Optional text is indicated by square brackets [ ]; delete the optional text including the brackets in the final copy of the specification. Delete the ALUMICOR GUIDE NOTEs in the final copy of the specification. Trade/brand names with appropriate product model numbers, styles and types are used in ALUMICOR GUIDE NOTEs and in the specification text Article or Paragraph titled “Acceptable Material”.

1 GENERAL

1.01 SUMMARY OF WORK

.1 This Section specifies aluminum swing doors, thermally broken aluminum swing doors and accessories.

.1 Section does not include framing of door opening.

1.02 RELATED REQUIREMENTS

ALUMICOR GUIDE 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 Paragraph 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 a legal part of the Contract. Edit the following paragraphs to suit specific project conditions.

.1 Section: [08 44 13 - Glazed Aluminum Curtain Wall] [08 43 13 Aluminum Framed Storefronts].

.2 Section: [08 80 50 – Glazing: Insulating glass units].

ALUMICOR GUIDE NOTE: Only include defined terms for items that appear in the final specification section and which are not commonly known terms in the industry or are open to interpretation.

ALUMICOR GUIDE NOTE: In the following Article, include only those reference standards which appear in the finished version of the project specification.

1.03 REFERENCE STANDARDS

.1 Aluminum Association (AA)

.1 DAF 45 [2003], Designation System For Aluminum Finishes.

.2 American Architectural Manufacturers Association (AAMA).

.1 AAMA-2603-[2013], Voluntary Specification, Performance Requirements and

Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.

.2 AAMA-2604-[2013], Voluntary Specification, Performance Requirements and

Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

.3 AAMA-2605-[2013], Voluntary Specification, Performance Requirements and

Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

.4 AAMA CW-10-[2012], Care and Handling of Architectural Aluminum From Shop to Site.

.5 AAMA 1503-[2009], Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.

.6 AAMA TIR-A8-[04], Structural Performance of Composite Thermal Barrier Framings Systems

.7 AAMA 1304, Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.

.3 ASTM International (ASTM).

.1 ASTM B209-[2010], Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

.2 ASTM B221-[2013], Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

.3 ASTM C612 – [2014], Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

.4 ASTM E283‑[2012], Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

.5 ASTM D2240 – [2010], Standard Test Method for Rubber Property—Durometer Hardness.

.4 Canada Green Building Council (CaGBC).

.1 LEED® Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations including Addendum 2007.

.5 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-12.8-[97], Insulating Glass Units.

.2 CAN/CGSB-12.20-[M89], Structural Design of Glass for Buildings.

.3 CAN/CGSB-19.13-[M87], Sealing Compound, One-Component, Elastomeric, Chemical

Curing.

.6 CSA International (CSA)

.1 CAN/CSA-S157‑[2005], Strength Design in Aluminum.

.2 CAN**/**CSA W59.2‑[M1991(R2003)], Welded Aluminum Construction.

.3 CSA A440 [00]

.7 Environmental Choice Program (ECP)

.1 CCD‑45‑[1995], Sealants and Caulking Compounds.

1.04 ADMINISTRATIVE REQUIREMENTS

.1 Co-ordination: Co-ordinate work of this Section with work of other trades for proper time and sequence to avoid construction delays.

.2 Pre-installation Meeting: Convene pre-installation meeting after Award of Contract and one week prior to commencing work of this Section to verify project requirements, substrate conditions and coordination with other building sub-trades, and to review manufacturers written installation instructions.

.1 Comply with Section 01 31 19 ‑ Project Meetings and co-ordinate with other similar pre‑installation meetings.

.2 Notify attendees two weeks prior to meeting and ensure meeting attendees include as minimum:

.1 Owner;

.2 Consultant;

.3 Glazing subcontractor;

.4 Manufacturer’s Technical Representative.

.3 Ensure meeting agenda includes review of methods and procedures related to aluminum door installation including co-ordination with related work.

.4 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within 1 week of meeting.

ALUMICOR GUIDE NOTE: Article below includes submittal of relevant data to be submitted by Contractor.

1.05 ACTION AND INFORMATIONAL SUBMITTALS

.1 Make submittals in accordance with Contract Conditions and Section 01 33 00 ‑ Submittal Procedures.

.2 Product Data: Submit product data including manufacturer’s literature for aluminum, panels, stiles, rails , components and accessories, indicating compliance with specified requirements and material characteristics.

.1 Submit list on aluminum door manufacturer’s letterhead of materials, components and accessories to be incorporated into Work.

.2 Include product names, types and series numbers.

.3 Include contact information for manufacturer and their representative for this Project.

.3 Shop Drawings: Submit drawings stamped and signed by Professional Engineer registered or licensed in [Province] [Territory] of [\_\_\_\_\_], Canada. Include on shop drawings:

.1 Indicate materials and profiles and provide full-size, scaled details of components for each type of door. Indicate:

.1 Core thicknesses of components.

.2 Type and location of exposed finishes.

.3 Size of door opening and tolerances.

.4 Arrangement of hardware and required clearances.

.2 Include catalogue details for each type of door illustrating profiles, dimensions and methods of assembly.

.4 Samples:

.1 Submit duplicate 300 x 300 mm (12 x 12 inches) sample sections showing prefinished aluminum surface, finish, colour and texture, and including section of infill panel.

.1 Include corner sample of each type of door.

.2 Submit duplicate 300 x 300 mm (12 x 12 inches) sample sections of insulating glass unit showing glazing materials and edge and corner details.

.5 Test Reports:

.1 Submit test reports showing compliance with specified performance characteristics and physical properties including air infiltration and water infiltration.

.6 Field Reports: Submit manufacturer’s field reports within 3 days of manufacturer representatives site visit and inspection.

.7 Sustainable Design (LEED).

.1 LEED Submittals: In accordance with Section [01 35 21 – LEED Requirements]

.8 Installer Qualifications:

.1 Submit letter verifying installer’s experience with work similar to work of this Section.

1.06 CLOSEOUT SUBMITTALS

.1 Operation and Maintenance Data: Supply maintenance data for curtain wall for incorporation into manual specified in Section 01 78 00 ‑ Closeout Submittals.

ALUMICOR GUIDE NOTE: If LEED is not a part of the project delete the following Paragraph in its entirety.

.2 Sustainable Design Closeout Documentation (LEED).

.1 Provide calculations on end-of-project recycling rates, salvage rates, and landfill rates for work of this Section demonstrating percentage of construction wastes which were recycled.

.2 Submit verification from recycling facility showing receipt of materials.

.3 Record Documentation: In accordance with Section [01 78 00 ‑ Closeout Submittals].

.1 List materials used in door work.

.2 Warranty: Submit warranty documents specified.

1.07 QUALITY ASSURANCE

.1 Sustainability Standards Certification (LEED).

.1 LEED Canada-NC Version 1.0 submittals: in accordance with Section [01 35 21 ‑ LEED Requirements].

ALUMICOR GUIDE NOTE: Aluminum doors may be incorporated into a curtain wall system. Co-ordinate the following paragraph with the curtain wall section in the Project Manual.

.2 Mock-up: Co-ordinate mock-up of aluminum door with Section [08 44 13 – Glazed Aluminum Curtain Wall].

ALUMICOR GUIDE NOTE: The following Article although not part of Quality Assurance, can be used to enhance the quality of materials by ensuring that they are delivered and handled properly at the work site.

1.08 DELIVERY STORAGE AND HANDLING

.1 Delivery and Acceptance Requirements:

.1 Deliver material in accordance with Section [01 61 00 ‑ Common Product Requirements].

.2 Deliver aluminum door materials and components in manufacturers original packaging with identification labels intact and in sizes to suit project.

.2 Material Handling: To AAMA CW-10.

.3 Storage and Handling Requirements: Store materials off ground and protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

.1 Material storage: To AAMA CW-10.

.4 Packaging Waste Management:

ALUMICOR GUIDE NOTE: For smaller projects that do not have a separate Section for waste management and disposal, delete the following paragraph.

.1 Separate and recycle waste packaging materials in accordance with Section [01 74 19 ‑ Construction Waste Management and Disposal].

.2 Remove waste packaging materials from site and dispose of packaging materials at appropriate recycling facilities.

ALUMICOR GUIDE NOTE: For smaller projects that do not have a Waste Management Plan, delete the option referring to a Waste management Plan.

.3 Collect and separate for disposal paper and plastic material in appropriate on-site storage containers for recycling [in accordance with Waste Management Plan].

1.09 WARRANTY

.1 Project Warranty: Refer to Contract Conditions for project warranty provisions.

.2 Manufacturer’s warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to and not intended to limit other rights Owner may have under Contract Conditions.

ALUMICOR GUIDE NOTE: Coordinate article below with manufacturer’s warranty requirements.

.3 Warranty period: [1] [2] years commencing on Date of Substantial Performance of Work.

.1 Insulating glass units: [10] years, on Date of Substantial Performance of Work.

2 PRODUCTS

2.01 MANUFACTURER

.1 Manufacturer: Alumicor Limited, 290 Humberline Drive, Toronto, Ontario, Canada M9W 5S2, Phone: (416) 745-4222 or (877) ALUMICOR, e-mail: [**info@Alumicor.com**](mailto:info@Alumicor.com), URL: [**www.Alumicor.com**](http://www.Alumicor.com).

2.02 DESCRIPTION

.1 Aluminum-framed, thermally broken swing door with [glass] [aluminum panel] insert suitable for inclusion in curtain wall or storefront system.

2.03 DESIGN CRITERIA

.1 Design aluminum components to [CAN/CSA S157].

ALUMICOR GUIDE NOTE: The U value for the glass areas of the door is dependent upon the Insulating Glass Unit (IGU) used. Check the IGU manufacturer’s technical literature before specifying the U values. The thermal performance listed is the centre of glass value of the IGU and not the entire door assembly. Thermal modelling of the specified assembly with the project glass is recommended to determine actual assembly U value.

.3 Vision glass areas: Insulating Glass Unit centre of glass U [ ].

ALUMICOR GUIDE NOTE: Air infiltration in both the AAMA 501 and ASTM E283 standards are measured in m3/s/m2 in lieu of the preferred designation of l/s/m2. Refer to CSC TEK.AID 07195 ‑ Air Barriers for discussion on air infiltration. In Canada the recognized SI Metric unit of measurement is the litre (L) and is used in this specification. There are 1,000 litres in a cubic metre.

.4 Air infiltration: [ ] L/s/m2 ([ ] cfm) maximum of test area to ASTM E283 at differential pressure across assembly of [75] Pa (1.57 psf) [300] Pa (6.24 psf).

.5 Temperature Index: I [ ] to CSAA440[00]

.6 Condensation Resistance Factor (CRF): CRF [ ] to AAMA 1503

.7 Forced Entry: [ ] to AAMA 1304.

2.04 MATERIALS

.1 Aluminum Door Components:

.1 Extruded aluminum: To ASTM B221, 6063 alloy with [T5] [T6] temper.

.2 Thermal Break: To AAMA IIR-A8, Glass fibre reinforced polyamide porthole extrusion.

.3 Sheet aluminum: To ASTM B209, utility grade for unexposed surfaces, anodizing quality for exposed surfaces.

.4 Fasteners, screws and bolts: Cadmium plated stainless steel [300] [or] [400] series to meet curtain wall requirements and as recommended by manufacturer.

ALUMICOR GUIDE NOTE: If project includes both interior and exterior doors, select ThermaPorte doors with insulating glass units for the exterior doors and use Canadiana or Canadiana HD doors (separate document) using single glazing vision glass for the interior doors. ThermaPorte doors should be considered for exterior use and are generally not required for interior use.

Alumicor Guide Note: Retain the following paragraph if insulating glass units are specified in another Section. Delete the paragraph if they are specified here.

.5 Insulating glass units for exterior glazed door: In accordance with Section [08 80 50 – Glazing].

.6 Insulating glass units for exterior glazed door: To [CAN/CGSB-12.8], double glazed, hermetically sealed, argon filled insulating glass units with low conductance [black] stainless steel warm edge spacer.

.1 Outer lite: [6] mm ([0.25] inches) clear tempered glass with low-E coating on surface two.

.3 Inner lite: [6] mm ([0.25] inches) clear tempered glass

.7 Aluminum panels: [25.4] mm (1 inch) thick shop fabricated panels.

.1 Finish of panels to match doors.

2.05 Door FABRICATION

.1 Do aluminum welding to CAN/CSA W59.2.

.2 Fabricate aluminum assemblies of extruded sections to sizes and profiles indicated.

.1 Ensure stiles and rails are tubular extrusions designed for mechanical shear block fastening in combination with SIGMA deep penetration plug welds and fillet welds at all stile/rail connections.

.2 Provide complete separation of interior and exterior components of door leaf by means of a porthole extruded structural thermal break.

.3 Door Thickness: [57] mm [2.25] inches).

.4 Construct doors square, plumb and free from distortion, waves, twists, buckles or other defects detrimental to performance or appearance.

.5 Fabricate infill panels of aluminum sheet laminated to marine grade plywood.

.1 Aluminum sheet minimum thickness 3mm (0.125 inches).

.2 Marine grade plywood thickness 19mm (0.750 inches).

.6 Accurately fit and secure joints and corners.

.1 Ensure joints are flush and hairline

.7 Use only concealed or semi-concealed fasteners

.1 Where fasteners cannot be concealed, countersunk screws finished to match adjacent material may be used.

.8 Install door hardware.

.9 Locate manufacturer’s labels on exterior side of door bottom rail.

.10 Acceptable Material: Alumicor Limited; ThermaPorte, thermally broken doors.

ALUMICOR GUIDE NOTE: Refer to the Alumicor product manual for the appropriate door series selection.

.1 Stile width: [63.5] [101.6] [146.1] mm ([2.50] [4.00] [5.750] inches).

.2 Top rail: [54.0] [98.0] [143.0] mm ([2.125] [3.875] [5.625] inches).

.3 Centre rail: [64.0] [108.0] [187.0] [260.0] [314] mm ([2.500] [4.250] [7.375] [10.250] [12.375] inches).

.4 Bottom rail: [98.4] [178.0] [251.0] [305.0] mm ([3.875] [7.000] [9.875] [12.000] inches).

2.06 FINISHES

ALUMICOR GUIDE NOTE: Choose one of the following four paragraphs to specify the finish on exposed aluminum surfaces.

.1 Exposed aluminum surfaces: To [AAMA 2604, 2-coat, thermal setting enamel consisting of primer and topcoat] [AAMA 2605, 3-coat, thermal setting enamel consisting of primer, colour coat and clear coat] with [70] % minimum fluoropolymer resin and polvinyldiene fluoride (PVDF)], [0.025 mm (1 mil)] [0.03 mm (1.2 mil)] minimum total thickness coloured [\_\_\_\_\_\_].

ALUMICOR GUIDE NOTE: Duranar XL is a thicker more durable finish than Duranar. Some colours such as metallics are only available as Duranar XL finishes.

.1 Acceptable material; PPG Industries Inc., [Duranar] [Duranar XL].

ALUMICOR GUIDE NOTE: For Alumicor products, Class 1 is available in Clear, Champagne, Light Bronze and Black. Class II is only available as a Clear anodized finish.

.2 Exposed aluminum surfaces: To AA DAF-45-M10C21[A41][A44], Architectural Class I, anodized [18 µm (0.0007 inches)] minimum thickness coloured [clear][\_\_\_\_\_\_].

.1 Acceptable material: Alumicor Ltd., Class I Anodic Finish.

.3 Exposed aluminum surfaces: To AA DAF-45-M10C21A31, Architectural Class II, clear anodized [10 µm (0.0004 inches)] minimum thickness.

.1 Acceptable material: Alumicor Ltd., Class II Anodic Finish.

.4 Exposed aluminum surfaces: To [AAMA 2603, 1-coat pigmented organic thermal setting finish] [AAMA 2604, 2-coat, thermal setting enamel consisting of primer and topcoat with [70] % minimum fluoropolymer resin and polvinyldiene fluoride (PVDF)], [0.019 mm (0.75 mil)] [0.025 mm (1 mil)] minimum total thickness coloured [bronze].

ALUMICOR GUIDE NOTE: Duranar is a thicker more durable finish than Duracron, Duracron should not be used for exterior finishes. Some colours such as metallics are only available as Duranar XL finishes.

.1 Acceptable material; PPG Industries Inc., [Duracron] [Duranar].

2.07 Hardware

ALUMICOR GUIDE NOTE: Use the following paragraph if hardware for doors is specified elsewhere.

.1 Hardware: In accordance with Section [08 71 00 – Door Hardware].

.1 Ensure hardware is supplied and factory-installed by door manufacturer.

ALUMICOR GUIDE NOTE: Use the following paragraph if hardware for doors is specified in this section. Refer to Alumicor product manual for hardware selection and edit according to project requirements.

.2 Hardware: Supply and factory-install hardware as follows:

.1 Weatherstripping: Manufacturers standard EPDM and pile weatherstripping.

.2 Sill Sweeps: Manufacturers standard pile sill sweeps on exterior and interior .

.3 Threshold: One piece per door opening, thermally broken extruded aluminum.

.4 Butt hinges: [one pair] [one and one half pair].

.5 Continuous hinges: [\_\_\_\_\_\_].

.6 Offset Pivots: [\_\_\_\_\_\_].

.7 Push: [\_\_\_\_\_\_].

.8 Pull handle: [\_\_\_\_\_\_].

.9 Exit Device: [\_\_\_\_\_\_].

.10 Closer: [\_\_\_\_\_\_].

.11 Lock: [\_\_\_\_\_\_].

.12 Cylinder: [\_\_\_\_\_\_].

.13 Thumbturn: [\_\_\_\_\_\_].

2.08 ACCESSORIES

ALUMICOR GUIDE NOTE: The application of caulking releases volatile organic compounds (VOCs) into the atmosphere. VOCs contribute to numerous environmental problems including the degradation of indoor air quality, the formation of ground level ozone and photochemical smog. The specification of caulking and sealants that have a low VOC content and reduced toxicity will help to protect the environment and reduce possible adverse health effects. The specification of products that are certified to meet the specification of the Environmental Choice Program CCD-45 will provide reduced environmental impacts. The use of lower VOC products contributes more towards LEED credits.

.1 Gasketing: To [CCD-45] EPDM gaskets.

.2 Setting Blocks: To [CCD-45] and [ASTM D2240], [neoprene] [EPDM] [silicone], [80 - 90] Shore A Durometer hardness.

.3 Spacers: To [CCD-45] and [ASTM D2240], [neoprene] [EPDM] [silicone], [50 - 60] Shore A Durometer hardness.

.4 Sealant: To [CAN/CGSB-19.13], Class 40, one-component, cold-applied, non-sagging silicone.

.1 Acceptable material: Dow Corning 795.

.5 Sealant Bond Breaker: Open cell foam backer rod sized to suit project requirements.

2.09 PRODUCT SUBSTITUTIONS

.1 Substitutions: [In accordance with Section 01 23 13 - Product Substitution Procedures] [No substitutions permitted].

.2 Ensure components come from one manufacturer.

3 EXECUTION

3.01 INSTALLERS

Alumicor Guide Note: Alumicor authorized installers use only Alumicor manufactured or approved components. Other installers may substitute other manufacturer’s materials.

.1 Use only [Alumicor authorized installers for] [installers with 2 years minimum experience in work similar to] work of this Section.

3.02 EXAMINATION

.1 Verification of Conditions: Verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for door installation in accordance with manufacturer’s written instructions.

.1 Visually inspect substrate in presence of Consultant.

.2 Inform Consultant of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.

3.03 INSTALLATION

.1 Install aluminum swing doors in accordance with manufacturer’s written instructions.

3.04 adjusting

.1 Adjust operable parts for correct function.

.2 Ensure doors do not bind while opening and closing.

3.04 FIELD QUALITY CONTROL

.1 Field Inspection: Coordinate field inspection in accordance with Section [01 45 00 ‑ Quality Control].

ALUMICOR GUIDE NOTE: Specify requirements if manufacturers are to provide field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction.Manufacturer field reports are included under PART 1, Action and Informational Submittals.

.2 Manufacturer’s Services:

ALUMICOR GUIDE NOTE: Use the following Paragraphs only when manufacturer’s technical support and assistance services are required to help assess the suitability of product application and the quality of the fabricated and/or installed components. Establish the nature, number and duration of the technical services to be provided by the manufacturer and specify below. Consult the manufacturer for services required. Delete if field services are not required.

.1 Coordinate manufacturer’s services with Section [01 45 00 - Quality Control].

.2 Submit to Consultant a written agreement from the manufacturer to perform the manufacturer’s services.

.3 Schedule manufacturer’s review of work procedures at stages listed:

1. Product Application: [1] off site review[s].
2. Fabrication and Handling: [1] review[s] at authorized installers fabrication facilities.
3. Installation: [3] site reviews at [commencement of Work] [50% completion of Work] [Upon completion of Work].

.4 Submit manufacturer’s written reports to Consultant describing:

.1 The scope of work requested.

.2 Date, time and location.

.3 Procedures performed.

.4 Observed or detected non-compliances or inconsistencies with manufacturers’ recommended instructions.

.5 Limitations or disclaimers regarding the procedures performed.

.6 Obtain reports within seven days of review and submit immediately to Consultant.

3.05 CLEANING

ALUMICOR GUIDE NOTE: For smaller projects that do not have a separate Division 01 Section for cleaning, delete the reference to Section 01 74 00 – Cleaning in the following two Paragraphs.

.1 Progress Cleaning: Perform cleanup as work progresses [in accordance with Section 01 74 00 ‑ Cleaning and Waste Management].

.1 Leave work area clean end of each day.

.2 Final leaning: Upon completion, remove surplus materials, rubbish, tools, and equipment [in accordance with Section 01 74 00 – Cleaning and Waste Management].

.3 Waste Management:

.1 Co-ordinate recycling of waste materials with 01 74 19 ‑ Construction Waste Management and Disposal.

.2 Collect recyclable waste and dispose of or recycle field generated construction waste created during construction or final cleaning related to work of this Section.

.3 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.06 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by aluminum door installation.

END OF SECTION 08 11 17- Aluminum doors