DISCLAIMER: This BrandedSPEC specification section includes requirements specific to the manufactured product(s) cited, in a format that is compatible with other Spex.ca master specifications and software. BrandedSPEC sections are written or reviewed by Digicon Information Inc. for grammar quality, referential integrity, and technical coherence. The distribution of this section does not imply Digicon's nor Spex.ca's endorsement of any information provided herein, nor its suitability for use.

CODE REVIEW: Specifier should confirm the code requirements with local authorities having jurisdiction. Review of local codes will determine applicable reference standards that will be used to edit this specification. Some current code references are as follows:
1) 2018 International Building Code references NAFS 2017.
2) National Building Code of Canada 2020 references NAFS 2017.
3) British Columbia Building Code (BCBC) 2024 references NAFS 2017.
4) Ontario Building Code (OBC) 2017 references NAFS 2011
5) National Building Code of Canada (Alberta Edition) 2023 references NAFS 2017

Part 1 General

1.1 SECTION INCLUDES

In this article, select the components or assemblies that are intended to be part of the content of this section and will not be included in other sections.

.1 Factory fabricated composite door frames having a swinging operation.

.2 Insulating glass units.

.3 Aluminum exterior brickmould [with] [without] integral nailing flange.

.4 Operating hardware.

1.2 RELATED SECTIONS

In this article, indicate those sections that inter-rely on this section. The listing below is only partial and should be edited to include those sections specific to the project that describes subjects or products that affect this section directly.

.1 Section [_____-_____]: Preparation of adjacent work to receive work of this section.

.2 Section [05 41 00] - Structural Metal Stud Framing: Framing for rough openings.

.3 Section [06 10 00] - Rough Carpentry: Framing for rough openings.

.4 Section [06 20 00] - Finish Carpentry: [_____].

.5 Section [07 21 19] - Foamed-In-Place Insulation.

.6 Section [07 26 00] [_____] - Vapour Retarders: Perimeter vapour seal between frame and adjacent construction.

.7 Section [07 27 00] [_____] - Air Barriers: Perimeter air seal between frame and adjacent construction.

.8 Section [07 92 00] [_____] - Joint Sealants: Perimeter sealant and back-up materials.

.9 Section [08 80 00] [_____] - Glazing.

1.3 REFERENCES

Edit this article after editing the rest of this section. Only list reference standards below, that are included within the text of this section, when edited for a project specification - delete other references that do not apply.

.1 AAMA (American Architectural Manufacturers Association)

.1 AAMA 2400-10 - Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction.

.2 AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

.3 Designation System for Aluminum Finishes (2000).

.2 ASTM (American Society for Testing and Materials)

.1 ASTM A123/A123M-12 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.2 ASTM A653/A653M-11 - Specification for Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.

.3 ASTM B209/B209M-10 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

.4 ASTM E283-04(2012) - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

.5 ASTM E330-02(2010) - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

.6 ASTM E547-00(2009) - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.

.7 ASTM E783-02(2010) - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors

.8 ASTM E1105-00(2008) - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors and Curtain Walls by Uniform or Cyclic Static Air Pressure Difference

.9 ASTM E1300 - 12ae1 - Standard Practice for Determining Load Resistance of Glass in Buildings.

.3 Canadian General Standards Board (CGSB)

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

.2 CAN/CGSB-12.2-M91 - Flat, Clear Sheet Glass.

.3 CAN/CGSB-12.3-M91 - Flat, Clear Float Glass.

.4 CAN/CGSB-12.8-M90 - Insulating Glass Units.

.4 Canadian Standards Association (CSA)

.1 AAMA/WDMA/CSA 101/I.S.2/A440-[11][17] - NAFS - North American Fenestration Standard / Specification for Windows, Doors, and Skylights; including A440S1-[17][19] - Canadian Supplement.

.2 CAN/CSA-A440-00 (R2005) - Windows.

.3 CAN/CSA-A440.2-09 - Fenestration Energy Performance.

.4 CAN/CSA-A440.4-07(R2012) - Window, Door, and Skylight Installation.

.5 CAN/CSA-G164-M92 (R2003) - Hot Dip Galvanizing of Irregularly Shaped Articles.

.5 Insulating Glass Manufacturers Alliance (IGMA)

.1 IGMAC Certification Program for manufacturers of insulating glass units.

.6 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC S705.1-01 – Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material – Specification.

.2 CAN/ULC S705.2-05 - Standard for Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density, Installation.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Section [01 31 00]: Project management and coordination procedures.

.2 Pre-installation Meetings: Convene [one (1) week] [[_____] weeks] before starting work of this section.

1.5 SUBMITTALS FOR REVIEW

.1 Section [01 33 00] [_____]: Submission procedures.

.2 Shop Drawings:

.1 Indicate net unit frame dimensions, framed opening tolerances, elevations of unit, and frame details.

.2 Illustrate door opening criteria, sizes, types, swings, [and] [_____].

.3 Product Data: Provide data for hardware accessories.

.4 Manufacturer's Certificate: Certify that door and frame assemblies meet or exceed specified requirements.

Use the following paragraph for submission of physical samples for selection of finish, colour, texture, etc.

.5 Samples:

.1 Submit one representative corner section for each typical unit specified, sized 150 x 250 mm (6 x 10 inch).

.2 Submit samples if requested of operating hardware.

1.6 SUBMITTALS FOR INFORMATION

The following submittals are informational; responsive action by the Consultant is not required.

.1 Section [01 33 00] [_____]: Submission procedures.

.2 Installation Data: Provide application instructions.

1.7 CLOSEOUT SUBMITTALS

The following submittals are for project close-out purposes; do not request these submittals if the information submitted will be assessed for acceptability.

.1 Section [01 78 10]: Submission procedures.

.2 Warranty Documentation: [_____].

1.8 QUALITY ASSURANCE

.1 Manufacturer Qualifications:

.1 Manufacturer to have established recycling program in place for waste plastic, aluminum and glass.

.2 Installer Qualifications:

.1 Company specializing in performing the work of this section with minimum [five (5)] [_____] years documented experience [and approved by the manufacturer].

.3 Certifications:

.1 Insulating glass units must be supplied by an IGMAC certified manufacturer.

.2 Provide products of this section with ENERGY STAR label and associated performance certification label, in accordance with ENERGY STAR labeling guidelines.

Use the following when applicable local code references NAFS.

.4 NAFS Marking Requirements:

.1 Permanent marking indicating the manufacturer in a location visible when the product is installed.

.2 Temporary markings indicating primary and secondary performance designators including;

.1 positive design pressure, where applicable;

.2 negative design pressure, where applicable;

.3 water penetration test pressure; and

.4 Canadian air infiltration and exfiltration level.

.5 Perform Work in accordance with IGMAC for glazing installation methods.

1.9 MOCK-UP

Use this article for assessing full sized erected assemblies for review of construction, coordination of work of several sections, testing, or observation of operation. A mock-up may also be used for assessing field applied finishes.

.1 Section [01 43 00]: Requirements for mock-up.

.2 Provide mock-up of [full size door and frame unit selected by Consultant] installed in each exterior wall assembly, which includes anchorage, shims, insulation continuity and air and vapour barrier interface.

.3 Locate [where directed by Consultant] [_____].

.4 Approved mock-up [may] [may not] remain as part of the Work.

1.10 DELIVERY, STORAGE, AND PROTECTION

.1 Section [01 61 00] [_____]: Transport, handle, store, and protect products as per manufacturers instructions.

.2 Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

.3 Jig, brace, and box the assemblies for transport to minimize flexing of members or joints.

.4 Fully support and brace the frames assemblies for handling and moving into position for installation.

1.11 WARRANTY

.1 Section [01 78 00] [_____]: Warranties.

.2 Provide a five (5) year manufacturer's limited warranty on components from date of manufacture against defects in materials and workmanship;

.3 Provide twenty (20) year manufacturer's limited warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same.

Part 2 Products

In this article, select the types of doors required, or both, if multiple units of varying configurations and operation are required for the Project.

2.1 ACCEPTABLE PRODUCT

.1 Swing Doors: Entry as manufactured by:

All Weather at Home
Canada Toll Free: 1-800-638-5709
Web site: allweatherathome.ca
E-mail: info@allweathergroup.ca

2.2 SYSTEM DESCRIPTION

.1 Doors and Frames: Exterior composite sections, factory fabricated, vision glass, threshold, related flashings, anchorage and attachment devices.

Edit the handing of door units; either in the following paragraph or in a schedule at the end of this section or on drawings. Transom is optional.

.2 Configuration:

.1 Doors: One panel configuration.

.3 Air and Vapour Seal: Maintain continuous air barrier and vapour retarder throughout assembly, primarily in line with [inside] pane of glass and heel bead of glazing compound. [Position thermal insulation on exterior surface of air barrier and vapour retarder].

.4 Thermal Movement: Design sections to permit movement caused by thermal expansion and contraction of plastic to suit glass, infill, and perimeter opening construction.

Edit this article carefully; restrict statements to identify system performance requirements or function criteria only as required by local code.

2.3 PERFORMANCE REQUIREMENTS

Use the following three paragraphs when specifying to NAFS 2011 or 2017 criteria.

.1 Conform to performance requirements of AAMA/WDMA/CSA 101/I.S.2/A440 and A440S1-[17][19], Product Designation [R-PG25] [_____].

Air Leakage per NAFS is measured under ambient temperature conditions (20 ˚C) at an induced pressure differential of 75 Pa or 300 Pa, which represent wind speeds of approximately 11 m/s and 22 m/s, respectively:
.1 A2 — 1.5 L/(s•m2) or 0.5 L/(s•m2) for AW compression seal products
.2 A3 — 0.5 L/(s•m2)
.3 Fixed — 0.2 L/(s•m2)

Level A3 is an optional performance level for operating windows, doors, and unit skylights.

.2 Air Leakage Performance: ASTM E283; Air leakage requirements for both infiltration and exfiltration:

.1 Level [A2] [A3]

.3 Water Penetration Resistance: ASTM E 547 (cyclic static pressure) [and ASTM E 331 (uniform static pressure)]:

.1 no water shall penetrate the door assembly and cause wetting of the interior room surfaces;

.2 no water shall pass through the door into the rough opening or assembly adjoining the door below the sill; and

.3 no water shall remain trapped in the door assembly after the test pressure has been released.

.4 Water Test Pressure [220 Pa] [_____]

Include the following paragraphs in addition to NAFS requirements, if applicable to project.

.4 Thermal Conductivity of Assembly: [[_____]U-Value W/(m²K) - ([_____]U-Value BTU/(h ˚F ft²) -)].

.5 Comply with requirements for North American Energy Star® program.

.6 Frame and Sash Deflection: Tested in accordance with ASTM Standard E330.

2.4 MATERIALS

.1 Doors and Frames:

.1 Composite: Pre-finished white frame or vinyl wrapped Jet Black exterior / Interior.

.2 Aluminum: ASTM B209; Factory finished extruded aluminum.

.2 [Insulating Foam Sealant: [CAN/ULC S705.1-01; low-pressure, low-expansion, polyurethane foam sealant.][As specified by Section 07 21 19].]

.3 Sealant: As specified by Section 07 92 00.

.1 Interior: [White] [_____] coloured [acrylic latex], paintable.

.2 Exterior: [Custom] [_____] coloured [silicone] to match frame components.

.4 Air and Vapour Barrier: [_____] [Self-adhering] transition membrane, compatible with wall assembly air and vapour barrier membranes.

.5 Fasteners: [Stainless] [Galvanized] steel.

2.5 COMPONENTS

The following paragraphs identify the nominal dimensions of the primary members. If performance specifying, ensure no conflict exists.

.1 Frames:

.1 Aluminum-clad composite profile, nominal [116 mm (4-9/16 inch)] [167 mm (6-9/16 inch)] deep profile, [integral attachment flange] [No flange].

.1 Interior composite Finish: Pre-finished white frame or vinyl wrapped Jet Black.

.2 Exterior Aluminum Finish: Aluminum finishes shall meet or exceed all performance requirements of AAMA 2605; [White] [Wicker] [Sable] [Architectural Brown] [Canyon Clay] [Pebble] [Black] [Chocolate Brown][Anthracite Grey] or [Premium Custom] colour.

.2 Doors Panels:

.1 [Metal] [Fibreglass] clad slab, nominal 44 mm (1-3/4 inch) deep profile

.1 Interior Finish: [Unfinished for painting by Section 09 91 00].

.2 Exterior Finish: [Unfinished for painting by Section 09 91 00].

Custom jamb extensions are available up to 324 mm (12-3/4").

.3 Jamb Extensions: [____] mm ([___] inch) nominal thickness, Composite.

1" brickmoulds are standard and 2" brickmoulds are optional components and must be specified.

.4 Brickmould: [18] [51] mm [slim] [wide] face, ([1] [2] inch) nominal width, aluminum brickmould, one piece full height and width of opening.

.5 Weatherstripping:

.1 Head, Jamb, and Sill: Open cell compression foam, with polyethylene liner.

.6 Threshold and Sill Assembly: One piece full width of opening.

.1 Threshold: Heavy gauge extruded PVC.

.2 Sill: Extruded aluminum, sloped for positive wash.

Follow this link to the Glass Performance Chart for performance criteria relevant to available glass types.

2.6 GLAZING

.1 [Type 1] Insulating Glass Unit: CAN/CGSB-12.8, [double] [triple] unit, [25] [____] mm ([1] [____] inch) overall thickness.

.1 Outer Pane: [Clear][Sunstop] tempered glass, 3 mm thick.

.2 Middle Pane: Clear tempered glass, 3 mm thick.

.3 Inner Pane: [Clear][Low E] tempered glass, 3 mm (1/8 inch) thick.

.4 Interpane Space: [13] mm (1/2"), argon gas filled [, with low conductivity spacers].

.5 Heat System: [HS1] [HS4] [HS1V][HS4V] [HS2] [HS3] [HS5][HS6][HS7][HS8][HS9][HS10][HS7V][HS9V]

.6 Specialty Glass: [Obscure] [Glue Chip] [Rain] [Narrow Reeded] [Cross Reeded] or [Opaque] Glass

Decorative grilles fitted between panes are optional and must be specified.

.2 Internal Decorative Grilles - Fitted between glass panes: [8 mm (5/16 inch)] [16 mm (5/8 inch)] [25mm (1 inch)] [flat] [16 mm (5/8 inch) Georgian] face width.

.1 Colour: [Gold] [White] [Patina] [Lead] [Wicker].

.2 Pattern: [rectangular] [perimeter] [ladder] [double ladder] [triple ladder].

.3

Decorative Lites from available collections.

Carefully select and edit the following paragraphs to suit the operating hardware appropriate to the required operation.

2.7 HARDWARE

.1 Hardware prep for [lockset] [deadbolt] [panic hardware][closer blocking].

.2 Hinge Type: Ball Bearing.

.3 Door Viewer: [Black] [Brass] [Satin Chrome].

2.8 FABRICATION

.1 Size and fabricate door assembly to allow for tolerances of rough framed openings, clearances, shim spacing and shims around perimeter of assemblies.

.2 Ensure joints and connections are flush, hairline, and waterproof.

.3 Accurately and rigidly fit joints and corners. Match and align cladding joints for continuity of line and design.

.4 Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware.

.5 Fabricate components with consistent clearances, shim spaces around perimeter of assembly, enabling installation and dynamic movement of frame and perimeter seal.

.6 Arrange fasteners concealed from view.

.7 Factory glaze door and frame units.

Part 3 Execution

3.1 EXAMINATION

.1 Section [01 73 00]: Verification of existing conditions before starting work.

.2 Verify wall openings and adjoining air and vapour seal materials are ready to receive work of this section.

3.2 INSTALLATION

.1 Install in accordance the manufacturer's written instructions and CAN/CSA-A440.4.

.2 Attach frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

.3 Align plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

.4 Plumb and align level with adjacent units unless noted otherwise.

.5 After attachment of frame assembly into the opening, insulate the rough framed opening at the perimeter of frame assembly to maintain continuity of air, vapour, and thermal barrier. Insulation must be positioned to the outer half of the wall cavity from the back side of the attachment flange and inward to a minimum of 75 mm (3 inches).

.6 Coordinate attachment and seal of perimeter air and vapour barrier materials.

.7 Insulate space between frame and rough opening framing using [foam-in-place polyurethane][_____] insulation [as indicated].

.8 Place threshold in bed of [butyl] [_____] sealant.

.9 Install perimeter trim and [interior closures] [stools] [_____].

3.3 ERECTION TOLERANCES

Do not assume that there are industry standards for tolerances. Specify tolerances below as appropriate to the nature or character of the project. Verify that such tolerances are realistic and realizable.

.1 Section 01 73 00: Tolerances.

.2 Maintain dimensional tolerances and alignment with adjacent work.

.3 Maximum Diagonal Distortion (Warp): [3] [____] mm ([1/8] [____] inch) measured with straight edge or taut string, corner to corner, over an imaginary 915 x 2130 mm (36 x 84 inch) surface area.

.4 Maximum Vertical Distortion (Bow): [3] [____] mm ([1/8] [____] inch) measured with straight edge or taut string, top to bottom, over an imaginary 915 X 2130 mm (36 x 84 inch) surface area.

.5 Maximum Width Distortion (Cup): [3] [____] mm ([1/8] [____] inch) measured with straight edge or taut string, edge to edge, over an imaginary 915 X 2130 mm (36 x 84 inch) surface area.

.6 Maximum Variation from Level or Plumb: [<1.5 mm/m><<0.06 inches every 3 ft>>] non-cumulative or [<12 mm per 30 m><<0.5 inches per 100 ft>>], whichever is less.

3.4 CAULKING

.1 Apply sealant in accordance with Section 07 92 00. Conceal sealant within units except where exposed use is permitted by Consultant.

.2 Seal exterior joints using silicone sealant.

.3 Seal interior joints around frame using paintable latex sealant.

3.5 ADJUSTING

.1 Adjust door for smooth and balanced door movement.

.2 Adjust closer for full closure.

3.6 CLEANING

.1 Section [01 73 00] [_____]: Cleaning installed work.

.2 Remove protective material from pre-finished surfaces.

.3 Wash surfaces by method recommended and acceptable to sealant and door manufacturer; rinse and wipe surfaces clean.

.4 Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

END OF SECTION