

I. GENERAL

Scope

The Doors shall be **160TB SERIES** as manufactured by **Aluminex**.
Furnish materials, labour, plant, equipment, related items and services necessary for fabrication, supply and installation of Insulated Aluminum Doors and their Insulated Framing as shown on the drawings, listed in the door schedule, and required by job conditions and specified herein.

(Note: Aluminum framing, glass, sealants, and others closely related items, should be included wherever possible).

Work Not Included

Structural support for the door framing, wood-liner, interior or exterior J-mouldings, closures, trim, caulking as well as flashings unless specifically detailed and called out as such. (Specifier List of Other Exclusions).

Related Work Specified Elsewhere (Specifier List)

Submittals - Shop Drawings

Prior to fabrication submit shop drawings showing door & frame elevations, all required details, door & frame dimensions, caulking joints with their sizes, and specifications for the system, materials, required hardware and installation's requirements, as well as the Thermal Index (1) or U-value (1/R).

Submittals - Samples

Before any work is fabricated, all requested representative and properly labelled samples, including specified products with their finishes, shall be submitted to the Architect for his approval.

II. PRODUCTS

Door System

° Door System shall be **160T SERIES Institutional - Insulated**, for sealed insulating glass units-Specifier selection) as manufactured by **Aluminex** with ability for painting or anodizing with two colours **"dual colour finish"**.

The Door shall be compatible with the thermally broken framing by **Aluminex**.

° Aluminum framing shall be thermally broken, by dual application of high strength casting resin and mechanical de-bridging.

° The door aluminum profiles nominal dimensions shall be as follows:

- frame metal thickness 3mm / 0.12" minimum,
- glazing stop metal thickness 1.3 mm / 0.05" minimum,
- depth of the frame 51 mm / 2",
- face width of stiles 89 mm / 3.5"
- face width of rails 152 mm / 6"

° Glass retention, as for dry glazing method, shall be achieved by application of thermally separated extruded aluminum profiles.

° Whenever substitute systems and/or products are considered, supporting data must be submitted ten (10) days prior to bid date to allow for valid comparison.

Performance

° Temperature Index, depended upon glass selection, shall remain in the range of I = 54 to 64.

° U-value of the assembly shall remain in 0.39 to 0.45 range dependent upon glass selection. Compliance with SWD-C20 in accordance with ANSI/AAMA 101-93 standard is applicable.

° Structural Load Capacity minimum requirements shall not be less than 1200 N / 270 lbs when tested by the Dual Moment Load, where passing a 45° lever arm rotation angle is considered as the mock-up failure.

° Air infiltration - applicable to single acting offset pivot or butt hung doors. ASTM E 283 Air Infiltration Test Standard is an acceptable alternative.

The permissible rate of air infiltration, for 900 mm x 2100 mm / 3' x 7' and 1800mm x 2100mm / 6' x 7' standard size doors c/w their frame, shall not exceed 8.35 (16.7) m3/h per 1m /4.9 (9.8) ft3/min per 1ft of the perimeter joint, of the single and double doors respectively, at 75 Pa /1.6 PSF differential air pressure.

Materials

° Extruded aluminum shall be AA 6063 T5, Fy = 110 MPa / 16 KSI, alloy and temper.

- ° Any defects impairing strength, durability or appearance are not acceptable.
- ° Sufficient strength and size fasteners shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel, stainless steel or aluminum, to prevent any galvanic action (electrolytic corrosion).
- ° The minimum standard weathering shall be (pile cloth with a vinyl fin - the minimum for Specifier selection) or an extruded thermoplastic elastomer tubular profile with a semi-rigid polymeric backing key.
- ° The **optional** weathering at the bottom rail shall be a sweep blade type strip secured with concealed fasteners.
- ° Glazing shall utilize extruded dense Neoprene, EPDM, or other equal material, wedge or spline gaskets. Gasket profiles shall be designed and sized to work with the system and properly serve glazing rabbet assembly.
- ° Setting of glass must be properly designed, sized, placed, and compatible with the insulating glass sealant.

Finish

All exposed surfaces shall be free from defects, scratches and serious blemishes. Aluminum shall receive one of the following available finishes specified by the Architect:

- Standard commercial clear anodize coating integral colour (02),
- Standard commercial bronze hardcolour anodize coating (04),
- Optional anodize coating finishes are Champagne bronze (03) and black,(05)
- Standard baked enamel paint in white and rideau-brown colours,
- Other paint qualities and colours in baked enamel are available upon request.

Hardware

The door hardware shall be as supplied and/or installed by **Aluminex** and shall include the following (Specifier selection):

- Offset pivots / butt hinges / centre pivots
- A/R M.S. lock with cylinder & thumbturn
- Flushbolt for inactive leaf
- Door closures - standard overhead exposed, overhead or floor concealed
- Thermally broken 150 mm / 6" extruded aluminum threshold
- Push-pull handle & Push - bar - Aluminex standard
- Optional hardware - available upon request.

All applicable hardware and templates shall be furnished by the manufacturer for the door installation.

III. EXECUTION

Construction & Fabrication

° Door assembly shall provide accurately fit tight hairline joints only.

° Thermal break line shall be continuous throughout the door and its perimeter frame, without any offset allowing for thermal bridging.

° All corner joinery shall utilize a 5 mm / 0.19" mm. plated steel reinforcing - assembly bracket, and shall be fastened by means of tension (torque to 12 Nm /100 lbin) applied to a 10mm /0.375" D-UNC Gr.5 mm. plated steel rod to allow for a permanent true and square set of the frame members.

° Welded joints are Standard on 160TB.

° Specified hardware shall be connected accurately to aluminum framing by anti-corrosive fasteners as per manufacturers specifications.

Installation

° Doors shall be installed by an experienced crew, in correct locations as shown on drawings, in prepared openings, set level, plumb, square and aligned with other work, in accordance with manufacturer's instructions, approved shop drawings and published standards.

° All items of the operating hardware, checked and readjusted where required, shall be left in a ready for use condition.

° All perimeter joints shall be sealed and caulked with approved sealant materials to ensure a weather-tight installation.

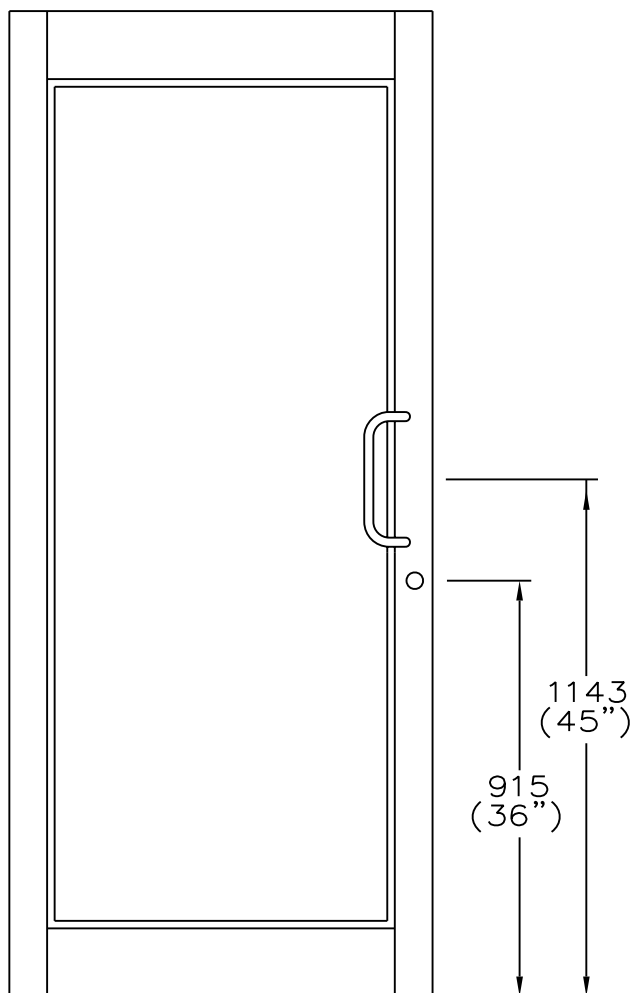
Protection and Cleaning

° All work shall be protected against damage during and after installation.

° After installation all exposed surfaces shall be cleaned of all contaminants.

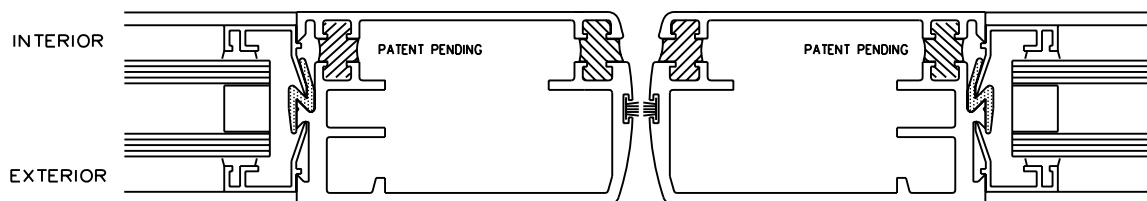
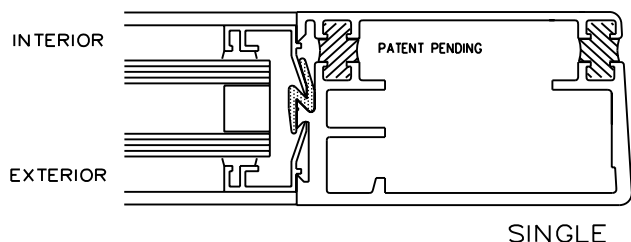
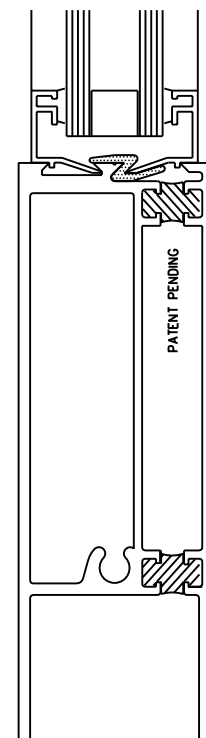
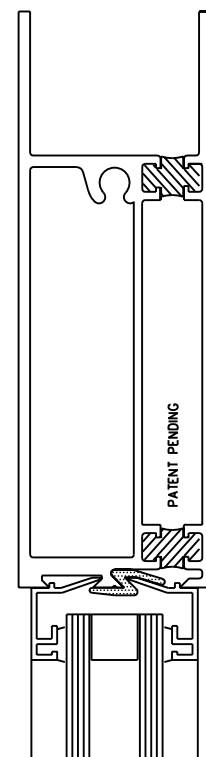
° The General Contractor is responsible for System protection during construction and final cleaning.

160TB SERIES INSULATED DOOR



VERTICAL STILES	89	(3½")
TOP RAIL	152	(6")
BOTTOM RAIL	152	(6")
DOOR THICKNESS	51	(2")

- The "160 T.B." series offers Institutional Door provides the extra strength and durability required for the high traffic conditions found on institutional and many retail installations. The wider stiles and high bottom and top rail with A-5 pulls both sides as standard provide a monumental appearance.
- The door also accommodates most standard hardware available.
- Optional hardware such as concealed closers and panic hardware are available upon request.
- Optional 6" or 12" mid-rails are available, as illustrated on page A-7.4
- Accommodates 25.4mm / 1" double glazing.
- Compatible with all Aluminex framing systems, thermally broken.
- Available in clear, bronze, black and champagne anodized finish, also an unlimited variety of the baked enamel colours.
- We recommend Aluminex offset pivots with an intermediate pivot or 1 ½" Pair stainless steel butt hinges to ensure smooth operations of the Institutional Door.
- Welded corners are standard with the 160TB Door.



SCALE 1:2

PAIRS

THE PURSUIT OF EXCELLENCE

A-4.1

SECTION-PAGE