ArcticFront™ SERIES 375-T
High Performance Thermal Door
HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.
   All aluminum materials at job site must be stored in a safe place, well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. CHECK ARRIVING MATERIALS.
   Check for quantities and keep records of where various materials are stored.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.
   Prevent cement, plaster or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.
   Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. If any of these materials come in contact with the aluminum, IMMEDIATELY remove with water and mild soap.

IMPORTANT: READ THIS MANUAL THOROUGHLY BEFORE BEGINNING INSTALLATION.

GENERAL INSTALLATION NOTES

Recommended Guidelines for All Installations:

1. REVIEW CONTRACT DOCUMENTS. Check shop drawings, installation instructions, architectural drawings, and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.

2. INSTALLATION. All materials are to be installed plumb, level, and true.

3. BENCH MARKS. All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
   a) The plane of the wall in reference to offset lines provided on each floor.
   b) The finish floor lines in reference to bench marks on the outer building columns.
   c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.

4. FIELD WELDING. All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.

5. SURROUNDING CONDITIONS. Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.

6. ISOLATION OF ALUMINUM. Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.

7. SEALANTS. Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.
8. **FASTENING.** Within the body of these instructions “fastening” means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.

9. **BUILDING CODES.** Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.

10. **EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gaps between expansion members should be based on temperature at time of installation.

11. **WATER HOSE TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m²) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46.5 m²) during the glazing operation.

12. **COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.)

13. **CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.

14. **SEALANTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with all sealants referenced in these instructions, which must be a one part elastomeric acetic or neutral cure silicone and must be applied according to the silicone manufacturer’s recommendations.

15. **APPLICATION.** Structural silicone must be applied from the interior, and weather seal from the exterior, after the interior structural silicone has fully cured.

16. **MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass lite is controlled by the width and depth of the silicone joint combined with the specified design windload (PSF or Pa). The stress on the structural silicone must not exceed 20 PSI (137 KPa) for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.

17. **ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.

18. **GLAZING CONTRACTOR.** It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.

19. **U.S. ALUMINUM.** It is the responsibility of U.S. Aluminum to supply a system to meet the architect’s specifications.
# ORDER OF ASSEMBLY AND INSTALLATION

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDLING, STORAGE, AND PROTECTION OF ALUMINUM</td>
<td>2</td>
</tr>
<tr>
<td>GENERAL INSTALLATION NOTES</td>
<td>2 - 3</td>
</tr>
<tr>
<td>PARTS IDENTIFICATION</td>
<td>5</td>
</tr>
<tr>
<td>DOOR GLASS FABRICATION</td>
<td>6</td>
</tr>
<tr>
<td>STANDARD HARDWARE LOCATIONS</td>
<td>7</td>
</tr>
<tr>
<td>FLOOR SLAB SLOPE GUIDELINES</td>
<td>7</td>
</tr>
<tr>
<td>FRAME ASSEMBLY</td>
<td>8 - 13</td>
</tr>
<tr>
<td>375-T Door Frame with 375T450 Jamb</td>
<td>8</td>
</tr>
<tr>
<td>375T451 Common Lock Jamb</td>
<td>9</td>
</tr>
<tr>
<td>375T452 Common Hinge Jamb</td>
<td>9</td>
</tr>
<tr>
<td>Series 45X Door Frame</td>
<td>10 - 11</td>
</tr>
<tr>
<td>Series 45X Door Frame with Transom</td>
<td>12 - 13</td>
</tr>
<tr>
<td>FRAME INSTALLATION</td>
<td>14 - 17</td>
</tr>
<tr>
<td>Series 45X Door Frame Installation</td>
<td>14</td>
</tr>
<tr>
<td>375-T Door Frame Installation</td>
<td>14</td>
</tr>
<tr>
<td>Threshold Installation</td>
<td>15</td>
</tr>
<tr>
<td>Mid-Seal Gasket Installation</td>
<td>16</td>
</tr>
<tr>
<td>Door Stop Installation</td>
<td>17</td>
</tr>
<tr>
<td>DOOR GLASS INSTALLATION</td>
<td>18</td>
</tr>
<tr>
<td>DOOR INSTALLATION</td>
<td>19 - 20</td>
</tr>
<tr>
<td>Offset Hung on Butt Hinges</td>
<td>19</td>
</tr>
<tr>
<td>Offset Hung on Gear Hinges</td>
<td>19</td>
</tr>
<tr>
<td>Pairs of Doors</td>
<td>20</td>
</tr>
<tr>
<td>FINAL ADJUSTMENTS</td>
<td>21</td>
</tr>
</tbody>
</table>
### ArcticFront™ SERIES 375-T HIGH PERFORMANCE THERMAL DOOR

#### PARTS IDENTIFICATION

<table>
<thead>
<tr>
<th>Part Code</th>
<th>Description</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>375T454</td>
<td>2&quot; Door Jamb</td>
<td><img src="image1.png" alt="2&quot; Door Jamb" /></td>
</tr>
<tr>
<td>375T455</td>
<td>2&quot; Door Header</td>
<td><img src="image2.png" alt="2&quot; Door Header" /></td>
</tr>
<tr>
<td>375T450</td>
<td>1&quot; Subframe</td>
<td><img src="image3.png" alt="1&quot; Subframe" /></td>
</tr>
<tr>
<td>375T451</td>
<td>2&quot; Common Lock Jamb</td>
<td><img src="image4.png" alt="2&quot; Common Lock Jamb" /></td>
</tr>
<tr>
<td>375T452</td>
<td>5-1/4&quot; Common Hinge Jamb</td>
<td><img src="image5.png" alt="5-1/4&quot; Common Hinge Jamb" /></td>
</tr>
<tr>
<td>375TTTH61</td>
<td>Thermal Threshold</td>
<td><img src="image6.png" alt="Thermal Threshold" /></td>
</tr>
<tr>
<td>45XHB</td>
<td>Outside Glazed Sill / Inside Glazed Head</td>
<td><img src="image7.png" alt="Outside Glazed Sill / Inside Glazed Head" /></td>
</tr>
<tr>
<td>375T406</td>
<td>Transom Sash Kit</td>
<td><img src="image8.png" alt="Transom Sash Kit" /></td>
</tr>
<tr>
<td>375T407</td>
<td>Transom Sash Kit</td>
<td><img src="image9.png" alt="Transom Sash Kit" /></td>
</tr>
<tr>
<td>375T112</td>
<td>1&quot; Door Glass Stop with 45A1133 Gasket</td>
<td><img src="image10.png" alt="1&quot; Door Glass Stop with 45A1133 Gasket" /></td>
</tr>
<tr>
<td>375TGP155</td>
<td>Door Frame Mid Seal Gasket</td>
<td><img src="image11.png" alt="Door Frame Mid Seal Gasket" /></td>
</tr>
<tr>
<td>375TGP159</td>
<td>1&quot; Door Setting Block</td>
<td><img src="image12.png" alt="1&quot; Door Setting Block" /></td>
</tr>
<tr>
<td>375TTC22</td>
<td>Threshold Clip Kit</td>
<td><img src="image13.png" alt="Threshold Clip Kit" /></td>
</tr>
<tr>
<td>AC13001</td>
<td>Shear Block</td>
<td><img src="image14.png" alt="Shear Block" /></td>
</tr>
<tr>
<td>AC13301</td>
<td>Shear Block</td>
<td><img src="image15.png" alt="Shear Block" /></td>
</tr>
<tr>
<td>375T403</td>
<td>Door Stop with Gasket</td>
<td><img src="image16.png" alt="Door Stop with Gasket" /></td>
</tr>
<tr>
<td>375TSC1</td>
<td>Spring Clip</td>
<td><img src="image17.png" alt="Spring Clip" /></td>
</tr>
<tr>
<td>45AFS15</td>
<td>3/16&quot; x 7/16&quot; Drive Rivet Fastener for 375T451, 375T452</td>
<td><img src="image18.png" alt="3/16&quot; x 7/16&quot; Drive Rivet Fastener" /></td>
</tr>
<tr>
<td>45AFS24</td>
<td>7/32&quot; x 3/4&quot; Roll Pin</td>
<td><img src="image19.png" alt="7/32&quot; x 3/4&quot; Roll Pin" /></td>
</tr>
<tr>
<td>45AC119</td>
<td>Shear Block</td>
<td><img src="image20.png" alt="Shear Block" /></td>
</tr>
<tr>
<td>375TFS55</td>
<td>#10 x 1/2&quot; PHPMS</td>
<td><img src="image21.png" alt="#10 x 1/2&quot; PHPMS" /></td>
</tr>
<tr>
<td>375TFS67</td>
<td>#10 x 3/4&quot; FHP</td>
<td><img src="image22.png" alt="#10 x 3/4&quot; FHP" /></td>
</tr>
<tr>
<td>375TWP086</td>
<td>#14 x 1-1/2&quot; HH STS</td>
<td><img src="image23.png" alt="#14 x 1-1/2&quot; HH STS" /></td>
</tr>
<tr>
<td>375TFS22</td>
<td>#12-24 x 1/2&quot; FHPMS</td>
<td><img src="image24.png" alt="#12-24 x 1/2&quot; FHPMS" /></td>
</tr>
<tr>
<td>45AFS7</td>
<td>#10-32 x 1/4&quot; FHPUC</td>
<td><img src="image25.png" alt="#10-32 x 1/4&quot; FHPUC" /></td>
</tr>
<tr>
<td>34538/34539</td>
<td>Push / Pull Hardware Kit</td>
<td><img src="image26.png" alt="Push / Pull Hardware Kit" /></td>
</tr>
<tr>
<td>34538/34539</td>
<td>Bolt for Back-to-Back Pull Handles</td>
<td><img src="image27.png" alt="Bolt for Back-to-Back Pull Handles" /></td>
</tr>
<tr>
<td>375TWP086</td>
<td>Wool Pile for Meeting Stiles</td>
<td><img src="image28.png" alt="Wool Pile for Meeting Stiles" /></td>
</tr>
<tr>
<td>45AFP59</td>
<td>Head Anchor</td>
<td><img src="image29.png" alt="Head Anchor" /></td>
</tr>
<tr>
<td>45XFA</td>
<td>Vinyl Filler Caulk Stop</td>
<td><img src="image30.png" alt="Vinyl Filler Caulk Stop" /></td>
</tr>
</tbody>
</table>

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ArcticFront™ SERIES 375-T HIGH PERFORMANCE THERMAL DOOR

DOOR GLASS FABRICATION

Thermal doors are available as a single, pair or sets of single doors that are separated by a 2" common lock or 5-1/2" hinge jamb. Two optional bottom rails are available; 6" or 10". Muntins are not available for the ArcticFront 375T Thermal Door. Size glass as listed below.

Standard Door:

<table>
<thead>
<tr>
<th>Door Opening Size</th>
<th>Door Size</th>
<th>Glass Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6&quot; (152 mm) Bottom Rail</td>
<td>10&quot; (254 mm) Bottom Rail</td>
</tr>
<tr>
<td>36&quot; x 84&quot; (914 x 2134 mm)</td>
<td>35-1/2&quot; x 83-3/4&quot; (902 x 2127 mm)</td>
<td>27-7/8&quot; x 74-9/16&quot; (708 x 1894 mm)</td>
</tr>
<tr>
<td>36&quot; x 96&quot; (914 x 2438 mm)</td>
<td>35-1/2&quot; x 95-3/4&quot; (902 x 2432 mm)</td>
<td>27-7/8&quot; x 86-9/16&quot; (708 x 2199 mm)</td>
</tr>
<tr>
<td>42&quot; x 84&quot; (1067 x 2134 mm)</td>
<td>41-1/2&quot; x 83-3/4&quot; (1054 x 2127 mm)</td>
<td>33-7/8&quot; x 74-9/16&quot; (860 x 1894 mm)</td>
</tr>
<tr>
<td>42&quot; x 96&quot; (1067 x 2438 mm)</td>
<td>41-1/2&quot; x 95-3/4&quot; (1054 x 2432 mm)</td>
<td>33-7/8&quot; x 86-9/16&quot; (860 x 2199 mm)</td>
</tr>
</tbody>
</table>

Custom Door:

<table>
<thead>
<tr>
<th>Door Size</th>
<th>Glass Size Single Door</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6&quot; (152 mm) Bottom Rail</td>
</tr>
<tr>
<td>Door Width</td>
<td>Door Opening minus 8-1/8&quot; (206 mm)</td>
</tr>
<tr>
<td>Door Height</td>
<td>Door Opening minus 9-7/16&quot; (240 mm)</td>
</tr>
</tbody>
</table>

ArcticFront 375T Thermal Doors will use the 375T450 Sub-Frame standard. This sub-frame is 1" wide x 4-1/2" deep. Center hung doors are not available. All doors shall use a minimum of 1-1/2 pair of butt hinges or FM-SLI continuous gear hinge. Offset Pivots are not available.

Rough Opening:

With 375T450 1" Sub-Frame:

Width:  Door Opening plus 2-1/2" (64 mm)
Height: Door Opening plus 1-1/4" (32 mm) Minimum

With 375T454 2" Door Frame for 45X Storefront:

Width:  Door Opening plus 4-1/2" (114 mm)
Height: Door Opening plus 2-1/4" (57 mm) Minimum
Substrate at exterior of door must slope a minimum of 1 degree to maintain water flow to the exterior.
FRAME ASSEMBLY
375-T Door Frame with 375T450 Jamb

1. Install Shear Blocks on Jambs.
2. Install Left and Right Threshold Clips.
3. Apply Sealant to Shear Blocks.
4. Slide Header over Shear Blocks.
5. Attach Header to Shear Blocks.
6. Clean excess sealant.
7. Temporarily attach Threshold to Left and Right Threshold Clips.

NOTE: Screws are included with Shear Blocks and Threshold Clips.

NOTE: After the frame is installed into opening, the Threshold will be removed to seal and drill for anchors.
FRAME ASSEMBLY (CONTINUED)

375T451 Common Lock Jamb

1. Install Shear Blocks on Header.
2. Apply Sealant to Shear Blocks.
3. Slide Lock Jamb over Shear Blocks.
4. Attach Lock Jamb to Shear Blocks.
5. Clean excess sealant.

375T452 Common Hinge Jamb

1. Install Shear Blocks on Header.
2. Apply Sealant to Shear Blocks.
3. Slide Hinge Jamb over Shear Blocks.
4. Attach Hinge Jamb to Shear Blocks.
5. Clean excess sealant.

NOTE: Screws are included with Shear Blocks

NOTE: Screws are included with Shear Blocks
FRAME ASSEMBLY (CONTINUED)

Series 45X Door Frame

1. Install Shear Blocks on Jambs.
2. Install Left and Right Threshold Clips.
3. Apply Sealant to Shear Blocks.
4. Slide Header over Shear Blocks.
5. Attach Header to Shear Blocks.
6. Clean excess sealant.
7. Temporarily attach Threshold to Left and Right Threshold Clips.

NOTE: Screws are included with Shear Blocks and Threshold Clips.

NOTE: After the frame is installed into opening, the Threshold will be removed to seal and drill for anchors.
8. Install 45AFP59 Head Anchors on each end of Head, 4” away from each Jamb and at all Anchor Points on Jambs.

9. Drill through Anchors, Head and Jambs at all Anchor Points. Refer to Shop Drawings for Anchor size and frequency.

10. Install 45XFA PVC Filler between Anchors at Head (required) and at Jambs (optional) to improve perimeter seals.
FRAME ASSEMBLY (CONTINUED)
Series 45X Door Frame with Transom

1. Install Shear Blocks on Jambs.
2. Install Left and Right Threshold Clips.
3. Apply Sealant to Shear Blocks.
4. Slide Header over Shear Blocks.
5. Attach Header to Shear Blocks.
6. Clean excess sealant.
7. Temporarily attach Threshold to Left and Right Threshold Clips.

NOTE: Screws are included with Shear Blocks and Clips. 45AFS24 Roll Pin is packaged separately.

NOTE: After the frame is installed into opening, the threshold will be removed to seal and drill for anchors.
FRAME ASSEMBLY (CONTINUED)

Series 45X Door Frame with Transom (Continued)

Follow Steps 8 through 10 on Page 11 to install Anchors and Filler and then follow instructions on Pages 14 - 21 to install and adjust frame and door.

9. Install Interior Transom Sash Kit.

10. Install Interior Gaskets.

11. Install Setting Block.

12. Install Transom Glass and center.

13. Snap Exterior Transom Sash Kit and Glass Stop into place.

Install Door Frame completely assembled with all joints neatly aligned and tight. Ensure frame is plumb and square.

Series 45X Door Frame Installation

375-T Door Frame Installation
FRAME INSTALLATION (CONTINUED)

Threshold Installation

1. Mark front and back of Threshold.
3. Detach Threshold and remove.

4. Apply continuous bead of sealant inside lines marked.
5. Drill for Anchor Bolts.

6. Install Threshold and attach to Threshold Clips.
7. Fill cavity with silicone.
8. Fill Anchor Holes with silicone and then install Anchor Bolts.

NOTE: Flat Head Anchor Bolts to be specified by a qualified engineer.
FRAME INSTALLATION (CONTINUED)
Mid-Seal Gasket Installation

1. Cut Mid-Seal Gasket for Jambs and Header.
   Notch both ends of length to be installed in Header.

2. Install Gasket in Header. Jamb Gaskets will butt against notched ends.
   NOTE: Spray gaskets with Glass Cleaner to prevent binding during installation.

3. Seal ends of gaskets together at top corners.

Length = Door Opening
plus an additional
1/8” (3 mm) every foot

Notch 5/16”
(8 mm)

Clean before sealing

Cat. No. 1973
Glass Cleaner

Cat. No. 795
Sealant
1. Install 375TSC1 Spring Clips with 45AFS15 Drive Rivets in Door Jamb at factory drilled holes.
2. Apply bead of sealant on vertical Door Jamb as shown.
3. Snap Door Stop in place and tool excess sealant.
4. Seal Door Stop at Threshold and over Threshold Bulb Gasket. Continue to seal Threshold to Door Jamb.
DOOR GLASS INSTALLATION

Glass setting blocks are installed in their proper positions at the factory.

NOTE: If glazing after installation, lock the door to prevent swinging and ensure glass is firmly against interior stops before installing exterior stops.

1. Lay door on saw horses and remove Exterior Glass Stops.
2. Cut and install Interior Gaskets.
4. Install glass.
5. Center glass.
6. Tighten Glass Jack so it rests lightly on glass.
7. Install Vertical Exterior Glass Stops.
8. Install Horizontal Exterior Glass Stops.

Gasket Length = Glass Stop Length plus an additional 1/4" (6 mm) every foot
DOOR INSTALLATION
Offset Hung on Butt Hinges

Align Butt Hinges with cutouts in frame

Block door while securing with included fasteners.

Offset Hung on Gear Hinges

Align Gear Hinge with holes in frame

Block door while securing with included fasteners.
2. Adjust Astragal so Wool Pile seals lightly, touching at center.

1. Adjust each Astragal so Bulb Gaskets lightly touch at center.

3. Seal and tool flat 1" (25 mm)
FINAL ADJUSTMENTS

After door is installed, check to assure clearances are consistent. Use Glass Jack to adjust up to 1/8” (3 mm) up or down.

NOTE: Butt Hinge Doors may be shimmed out at Butt Hinges to reduce gap at Lock Stile.