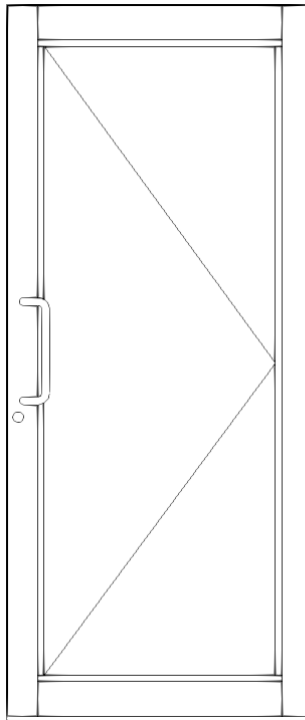


# ACRO

## Acro Aluminum (2024) Ltd

### 400T ACRO THERMALLY BROKEN DOOR Medium STILE



#### Overview

The Acro 400-T Series Thermal Aluminum Door combines durability with advanced thermal performance, making it ideal for modern commercial applications.

#### Key Features

- 3-1/2" (89 mm) Medium Stiles
- High performance glass reinforced nylon thermal break.
- Mechanically fastened
- Optional Foam Insulation to Lower Standard U-Value When Required.
- NFRC Rated.
- Accommodates 1" double or 1- 1 2" triple glazing units.

## **Specifications**

- Medium stile has 3 ½" (88.9mm) vertical stile, 4" (102mm) top and 4" (102mm) bottom
- Option for 4" (101.6mm) or 7 ½" (190.5mm) or 10" (254mm) bottom
- Door depth 2 ¼" (57mm)

## **MATERIALS**

- All aluminum to be 6063-T6 tempered.
- Thermal Break polyamide 6.6, 25% glass fiber reinforced.
- Gaskets to be silicone or EPDM.
- Stainless steel fasteners.

## **Performance**

- Designed for superior thermal efficiency, air tightness, and water resistance. Suitable for demanding building envelope conditions.

## **Available finishes**

- Clear Anodized.
- Dark Bronze Anodized (black).
- Custom color powder or Duracron. Compliant to AAMA 2604
- Option for different finish on interior and exterior

## **Hardware configuration**

- Continuous gear hinge
- Compatible with North American door locking and panic hardware
- Standard 9" commercial d-pull. Other pull styles available

## **COMPATIBILITY**

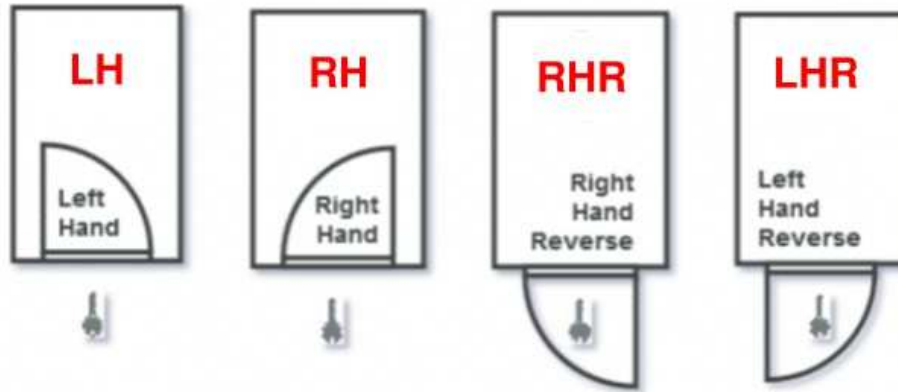
- Compatible with most store front and curtain wall systems
- Compatible with most commercial door hardware

## **Product Applications**

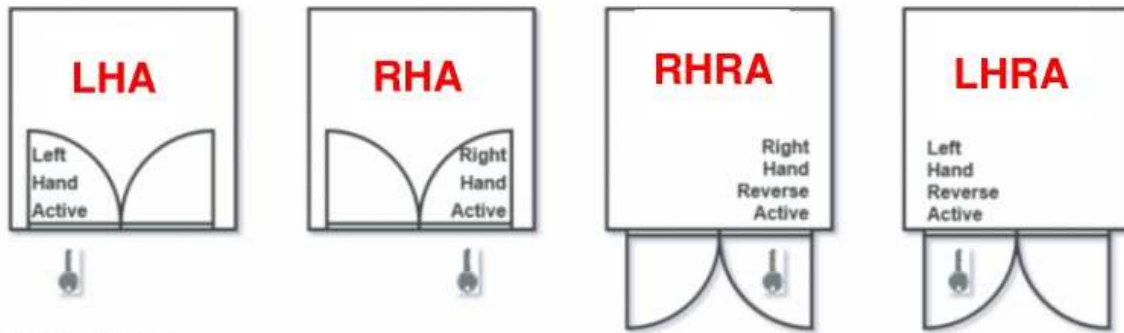
- Swing door entrances requiring durability of aluminum, high thermal performance, and high air/water penetration performance.

**DOOR SWINGS**

**Single Door Panels**



**Double Door Panels**



 = Key side of opening

## Summary of Test Results



Client: Acro Aluminum (2024) Ltd.  
 Project No.: QA-5048-DW-A-Revision 1  
 Date: April 28, 2026  
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**PRODUCT RATINGS:**

Table 1: Summary of Test Results

Test Name	AAMA/WDMA/CSA 101/I.S.2/A440-22 NAFS and CSA A440S1-25 Results:
<b>Operating Force Test (Clause 8.3.1)</b>	Max. allowable force to open/close latching devices: 100 N (~22.5 lbf) Force to open/close latching device: Avg. force to open latching device = 37.2 N (~8.4 lbf) Avg. force to close latching device = 43.3 N (~9.7 lbf) Overall result - Pass requirements for CW classification.
<b>Air Leakage Resistance Test (ASTM E283)</b>	Pressure differential = 75 Pa Infiltration result = 0.353 L/s/m <sup>2</sup> (0.069 cfm/ft <sup>2</sup> ) Exfiltration result = 0.871 L/s/m <sup>2</sup> (0.171 cfm/ft <sup>2</sup> ) Max. allowable air leakage at ±75 Pa for CW Class = 1.000 L/s/m <sup>2</sup> (0.200 cfm/ft <sup>2</sup> ) Overall result – Pass requirements for CW classification.
<b>Water Penetration Resistance Test (ASTM E547)</b>	Maximum pressure differential = 0 Pa (DP LW – ~0.00 psf)
<b>Uniform Load Deflection Test at Design Pressure (ASTM E330 – Procedure A)</b>	Design pressure = 2400 Pa (DP 50 – ~50.13 psf) Maximum pressure differential = 2520 Pa (~52.63 psf) Maximum deflection at test pressure = 4.67 mm (~0.184") Max. L/175 deflection limit for LC Class = 12.62 mm (~0.497") The deflection measurement was taken along the locking side stile.
<b>Uniform Load Structural Test at 150% Design Pressure (ASTM E330 – Procedure A)</b>	Design pressure = 1680 Pa (DP 35 – ~35.09 psf) Maximum pressure differential = 2520 Pa (~52.63 psf) Maximum deformation after test pressure = 0.15 mm (~0.006") Maximum L*0.3% deformation limit for CW Class = 6.63 mm (~0.261")
<b>Forced Entry Resistance Test (AAMA 1304)</b>	Pass
<b>Vertical Loading Resistance Test (Clause 6.2.6.3)</b>	Load applied = 1112 N (~250.0 lbf) Overall result - Pass
<b>Operation / Cycle Performance (Clauses 6.2.6.2)</b>	Number of cycles required for CW class - 250,000 cycles Overall result - Pass

Table 2. Product Classification to NAFS 2022 and to CSA A440S1-25

<b>400T Series Out-Swing Side Hinged Door</b>	
<b>Maximum Size Tested:</b>	1085 mm wide x 2222 mm tall (~43 x 83 in)
<b>Performance Classification:</b>	CW
<b>Performance Grade:</b>	PG35
<b>Product Type:</b>	LW - SHD
<b>Primary Designator:</b> Class CW - PG35: Size tested 1085 x 2222 mm (~43 x 83 in) – Type LW - SHD	
<b>Secondary Designator:</b> Positive ASD Design Pressure (DP) = 1680 Pa (~35.09 psf) Negative ASD Design Pressure (DP) = -1680 Pa (~-35.09 psf) Water Penetration Resistance Test Pressure = 0 Pa (~0.00 psf) Air Infiltration / Exfiltration = Pass	

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Client: Acro Aluminum (2024) Ltd.  
 Project No.: QA-6407-DW-A  
 Date: April 28, 2026  
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**TEST RESULTS SUMMARY:**  
**400T Series Out-Swing Side-Hinged Door**  
**Size: 960 mm x 2090 mm**

Class / Grille Bar Option #	Model Code	Number of Layers	Exterior Layer (mm)	Middle Layer (mm)	Interior Layer (mm)	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Cavity 1 and 2 (mm)	Spacer Bar Type	Grille Bar	Foam Insulation or Reinforcement	Visual Transmittance Total Product	Product U-Factor (W/m <sup>2</sup> K)	Product SHGC
G01	AA-SSOSH-D-6,180(2)-6,CL-15AR90EN-F1	2	6 Cardinal LoE 180	-	6 Clear	-	0.068	-	-	-	-	14.5 90% Argon	EN	-	F1	0.44	2.54	0.37
G02	AA-SSOSH-D-6,270(2)-6,CL-15AR90EN-F1	2	6 Cardinal LoE 270	-	6 Clear	-	0.035	-	-	-	-	14.5 90% Argon	EN	-	F1	0.39	2.50	0.23
G03	AA-SSOSH-D-6,366(2)-6,CL-15AR90EN-F1	2	6 Cardinal LoE 366	-	6 Clear	-	0.020	-	-	-	-	14.5 90% Argon	EN	-	F1	0.36	2.48	0.18
G04	AA-SSOSH-D-6,180(2)-6,189(4)-15AR90EN-F1	2	6 Cardinal LoE 180	-	6 Cardinal LoE 189	-	0.035	-	0.149	-	-	14.5 90% Argon	EN	-	F1	0.44	2.28	0.36
G05	AA-SSOSH-D-6,270(2)-6,189(4)-15AR90EN-F1	2	6 Cardinal LoE 270	-	6 Cardinal LoE 189	-	0.068	-	0.149	-	-	14.5 90% Argon	EN	-	F1	0.38	2.39	0.22
G06	AA-SSOSH-D-6,366(2)-6,189(4)-15AR90EN-F1	2	6 Cardinal LoE 366	-	6 Cardinal LoE 189	-	0.020	-	0.149	-	-	14.5 90% Argon	EN	-	F1	0.36	2.30	0.17
G07	AA-SSOSH-D-6,180(2)-6,CL-15AR90EN	2	6 Cardinal LoE 180	-	6 Clear	-	0.068	-	-	-	-	14.5 90% Argon	EN	-	-	0.44	2.85	0.37
G08	AA-SSOSH-D-6,270(2)-6,CL-15AR90EN	2	6 Cardinal LoE 270	-	6 Clear	-	0.035	-	-	-	-	14.5 90% Argon	EN	-	-	0.39	2.82	0.23
G09	AA-SSOSH-D-6,366(2)-6,CL-15AR90EN	2	6 Cardinal LoE 366	-	6 Clear	-	0.020	-	-	-	-	14.5 90% Argon	EN	-	-	0.36	2.80	0.18
G10	AA-SSOSH-D-6,180(2)-6,189(4)-15AR90EN	2	6 Cardinal LoE 180	-	6 Cardinal LoE 189	-	0.035	-	0.149	-	-	14.5 90% Argon	EN	-	-	0.44	2.66	0.36

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Client: Acro Aluminum (2024) Ltd.  
 Project No.: QA-6407-DW-A  
 Date: April 28, 2026  
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Class / Grille Bar Option #	Model Code	Number of Layers	Exterior Layer (mm)	Middle Layer (mm)	Interior Layer (mm)	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Cavity 1 and 2 (mm)	Spacer Bar Type	Grille Bar	Reinforcement or Foam Insulation	Visual Transmittance Total Product	Product U-Factor (W/m <sup>2</sup> K)	Product SHGC
G11	AA-SSOSH-D-6,270(2)-6,189(4)-15AR90EN	2	6 Cardinal LoE 270	-	6 Cardinal LoE 189	-	0.068	-	0.149	-	-	14.5 90% Argon	EN	-	-	0.36	2.63	0.22
G12	AA-SSOSH-D-6,366(2)-6,189(4)-15AR90EN	2	6 Cardinal LoE 366	-	6 Cardinal LoE 189	-	0.020	-	0.149	-	-	14.5 90% Argon	EN	-	-	0.36	2.62	0.17
G13	AA-SSOSH-D-6,270(2)-6,CL-6,180(6)-10AR90EN-F1	3	6 Cardinal LoE 270	6 Clear	6 Cardinal LoE 180	-	0.068	-	-	-	0.035	14.5 90% Argon	EN	-	F1	0.34	2.12	0.20
G14	AA-SSOSH-D-6,366(2)-6,CL-6,180(6)-10AR90EN-F1	3	6 Cardinal LoE 366	6 Clear	6 Cardinal LoE 180	-	0.020	-	-	-	0.035	14.5 90% Argon	EN	-	F1	0.31	2.12	0.16
G15	AA-SSOSH-D-6,270(2)-6,CL-6,189(6)-10AR90EN-F1	3	6 Cardinal LoE 270	6 Clear	6 Cardinal LoE 189	-	0.068	-	-	-	0.149	14.5 90% Argon	EN	-	F1	0.34	2.15	0.21
G16	AA-SSOSH-D-6,366(2)-6,CL-6,189(6)-10AR90EN-F1	3	6 Cardinal LoE 366	6 Clear	6 Cardinal LoE 189	-	0.020	-	-	-	0.149	14.5 90% Argon	EN	-	F1	0.32	2.14	0.16
G17	AA-SSOSH-D-6,270(2)-6,180(4)-6,189(6)-10AR90EN-F1	3	6 Cardinal LoE 270	6 Cardinal LoE 180	6 Cardinal LoE 189	-	0.068	-	0.020	-	0.149	14.5 90% Argon	EN	-	F1	0.33	2.03	0.20
G18	AA-SSOSH-D-6,270(2)-6,CL-6,180(6)-10AR90EN	3	6 Cardinal LoE 270	6 Clear	6 Cardinal LoE 180	-	0.068	-	-	-	0.035	14.5 90% Argon	EN	-	-	0.34	2.43	0.20
G19	AA-SSOSH-D-6,366(2)-6,CL-6,180(6)-10AR90EN	3	6 Cardinal LoE 366	6 Clear	6 Cardinal LoE 180	-	0.020	-	-	-	0.035	14.5 90% Argon	EN	-	-	0.31	2.43	0.16
G20	AA-SSOSH-D-6,270(2)-6,CL-6,189(6)-10AR90EN	3	6 Cardinal LoE 270	6 Clear	6 Cardinal LoE 189	-	0.068	-	-	-	0.149	14.5 90% Argon	EN	-	-	0.34	2.45	0.21
G21	AA-SSOSH-D-6,366(2)-6,CL-6,189(6)-10AR90EN	3	6 Cardinal LoE 366	6 Clear	6 Cardinal LoE 189	-	0.020	-	-	-	0.149	14.5 90% Argon	EN	-	-	0.32	2.45	0.16
G22	AA-SSOSH-D-6,270(2)-6,180(4)-6,189(6)-10AR90EN	3	6 Cardinal LoE 270	6 Cardinal LoE 180	6 Cardinal LoE 189	-	0.068	-	0.020	-	0.149	14.5 90% Argon	EN	-	-	0.33	2.34	0.20

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## ENERGY PERFORMANCE – U-VALUE BY GLASS TYPE

 THERMAL PERFORMANCE TABLE (ALL OPTIONS)

## ◆ DOUBLE GLAZING – WITH FOAM (BEST PERFORMANCE PRODUCT)

Option	Glass Configuration	U (W/m <sup>2</sup> ·K)	U (Btu/ft <sup>2</sup> ·hr·°F)	SHGC
G01	LoE180 / Argon / Clear	2.54	0.447	0.37
G02	LoE270 / Argon / Clear	2.50	0.440	0.23
G03	LoE366 / Argon / Clear	2.48	0.437	0.18
G04	LoE180 / Argon / i89	2.28	0.401	0.36
G05	LoE270 / Argon / i89	2.39	0.421	0.22
G06	LoE366 / Argon / i89	2.30	0.405	0.17

## ◆ DOUBLE GLAZING – NO FOAM (STANDARD PRODUCT)

Option	Glass Configuration	U (W/m <sup>2</sup> ·K)	U (Btu/ft <sup>2</sup> ·hr·°F)	SHGC
G07	LoE180 / Argon / Clear	2.85	0.502	0.37
G08	LoE270 / Argon / Clear	2.82	0.497	0.23
G09	LoE366 / Argon / Clear	2.80	0.493	0.18
G10	LoE180 / Argon / i89	2.66	0.468	0.36
G11	LoE270 / Argon / i89	2.63	0.463	0.22
G12	LoE366 / Argon / i89	2.62	0.461	0.17

## ◆ TRIPLE GLAZING – (WITH FOAM) (BEST PERFORMANCE PRODUCT)

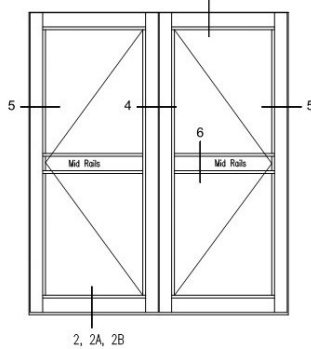
Option	Glass Configuration	U (W/m <sup>2</sup> ·K)	U (Btu/ft <sup>2</sup> ·hr·°F)	SHGC
G13	LoE270 / Clear / LoE180	2.12	0.373	0.20
G14	LoE366 / Clear / LoE180	2.12	0.373	0.16
G15	LoE270 / Clear / i89	2.15	0.379	0.21
G16	LoE366 / Clear / i89	2.14	0.377	0.16
G17	LoE270 / LoE180 / i89	<b>2.03</b>	<b>0.357</b>	0.20

## ◆ TRIPLE GLAZING – WITHOUT FOAM (STANDARD PRODUCT)

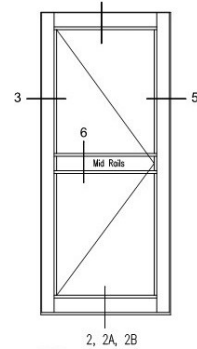
Option	Glass Configuration	U (W/m <sup>2</sup> ·K)	U (Btu/ft <sup>2</sup> ·hr·°F)	SHGC
G18	LoE270 / Clear / LoE180	2.43	0.428	0.20
G19	LoE366 / Clear / LoE180	2.43	0.428	0.16
G20	LoE270 / Clear / i89	2.45	0.432	0.21
G21	LoE366 / Clear / i89	2.45	0.432	0.16
G22	LoE270 / LoE180 / i89	2.34	0.412	0.20

## ACRO THERMALLY BROKEN DOOR 400T Medium STILE

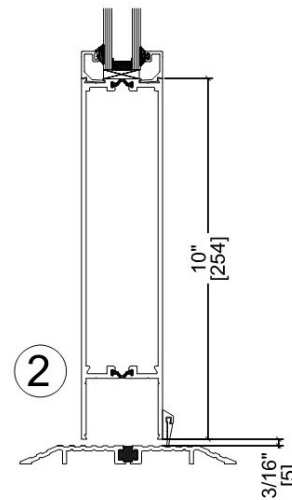
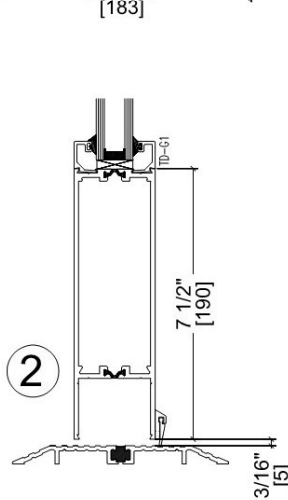
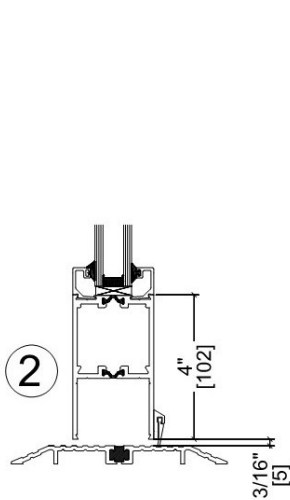
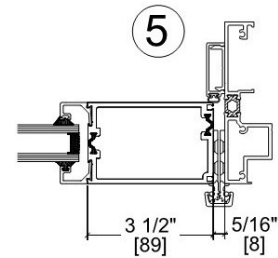
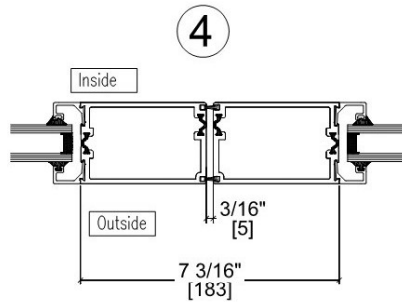
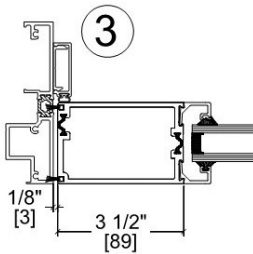
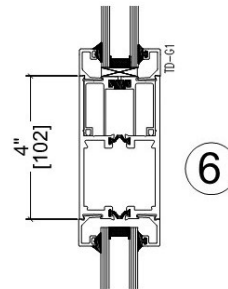
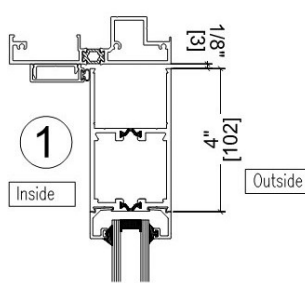
### Double Glazed



Pair Door



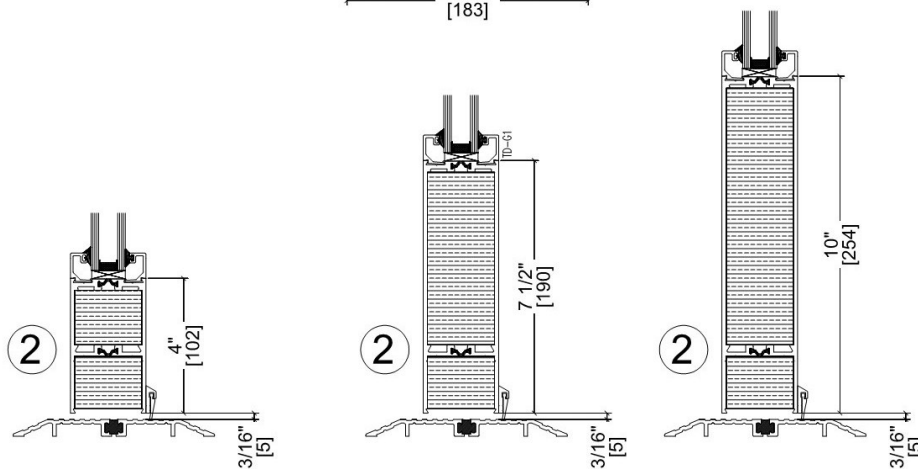
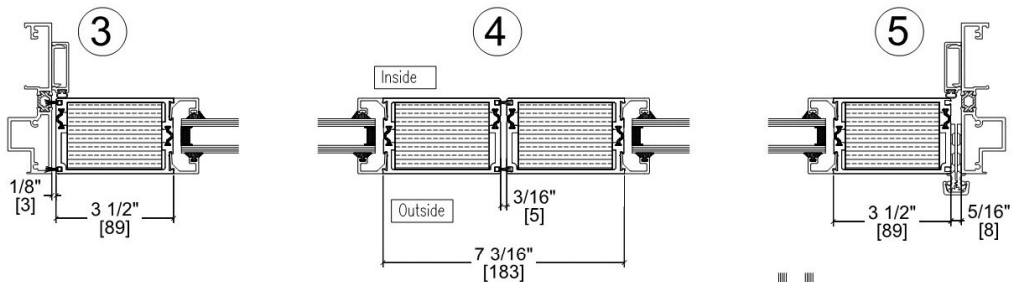
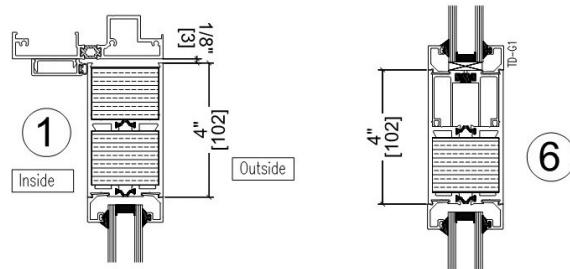
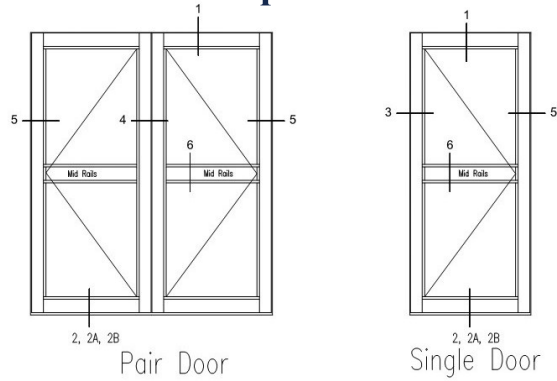
Single Door



## ACRO THERMALLY BROKEN DOOR 400T Medium STILE

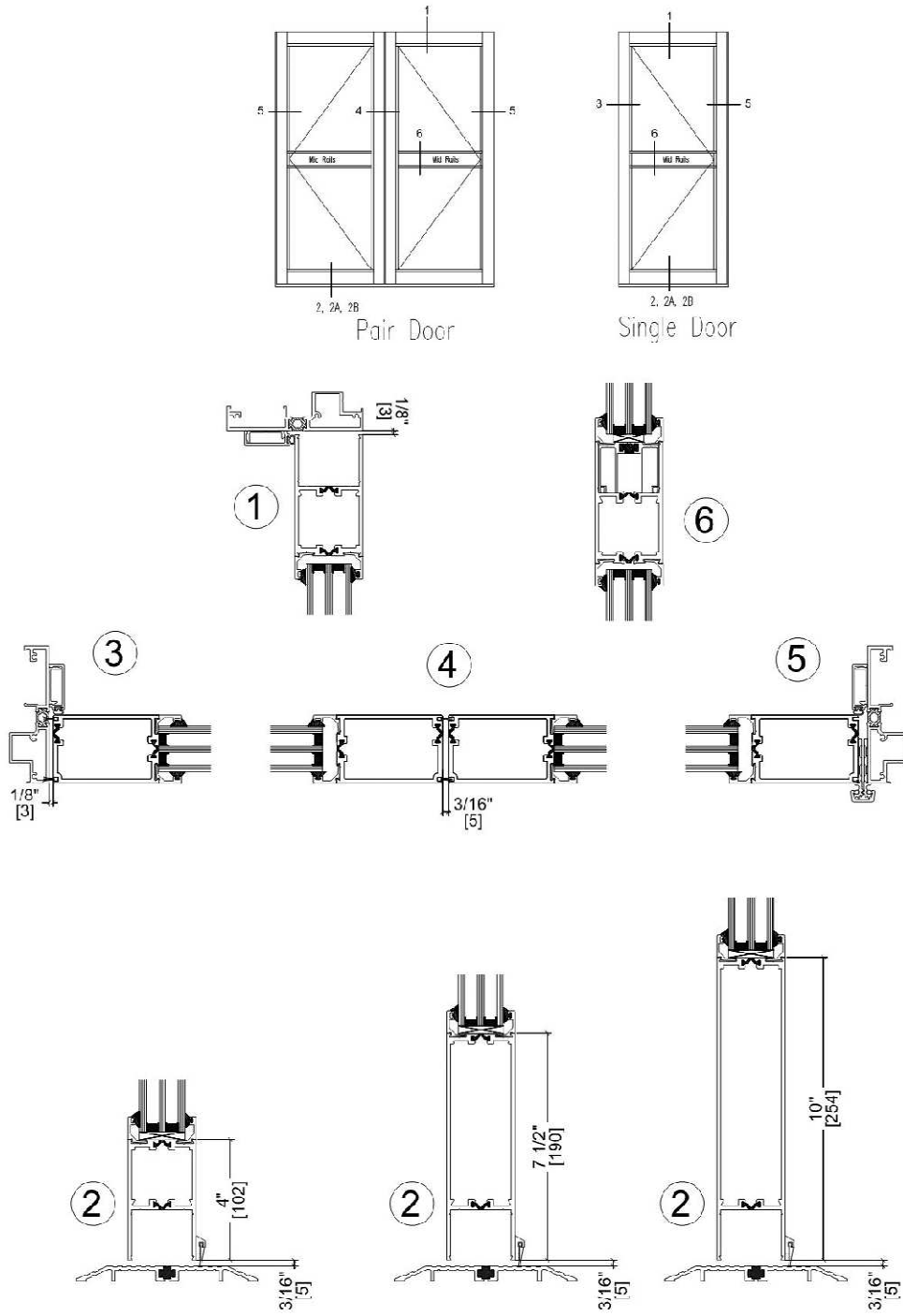
### Double Glazed with Foam option

NOTE: High Performance Series 400T Shown With Optional Foam Insulation to Lower Standard U-Value When Required.



# ACRO THERMALLY BROKEN DOOR 400T Medium STILE

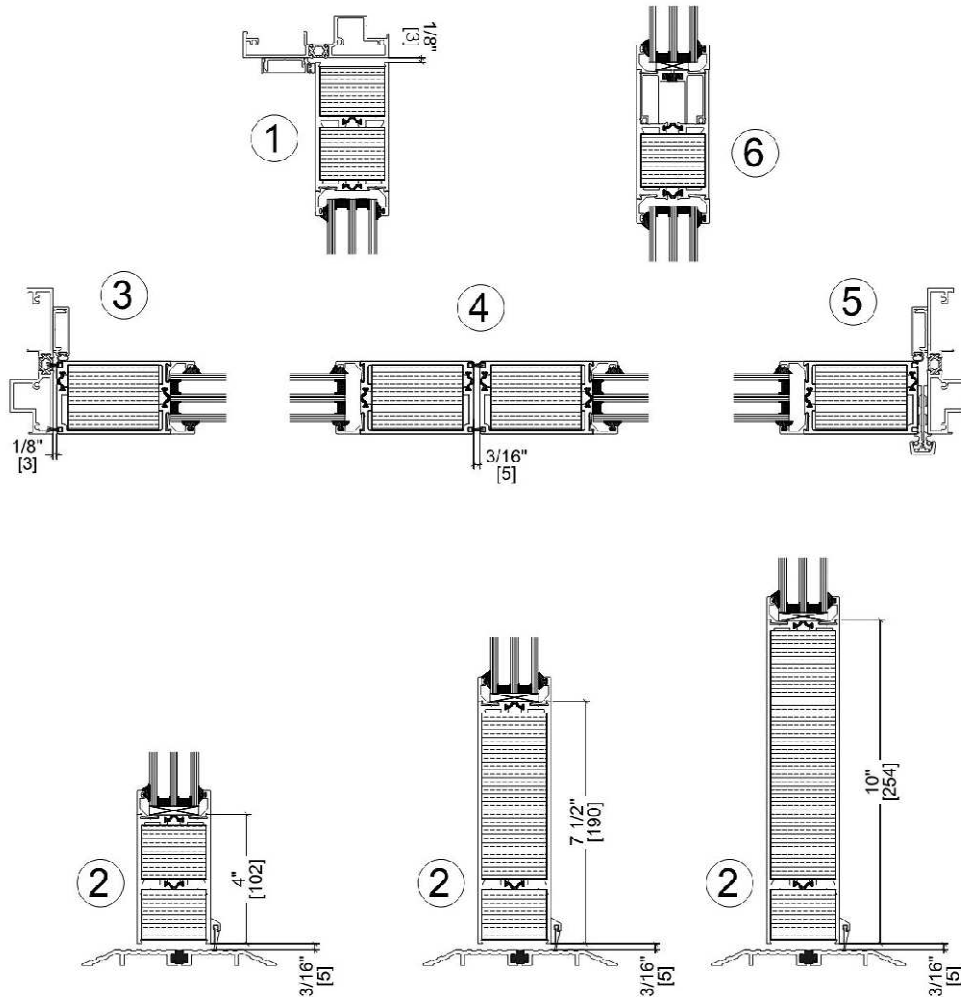
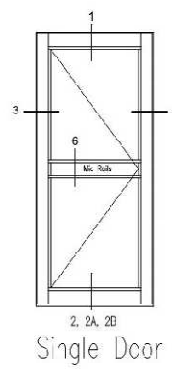
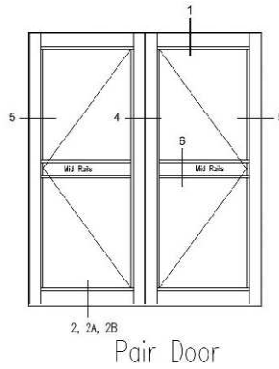
## Triple Glazed



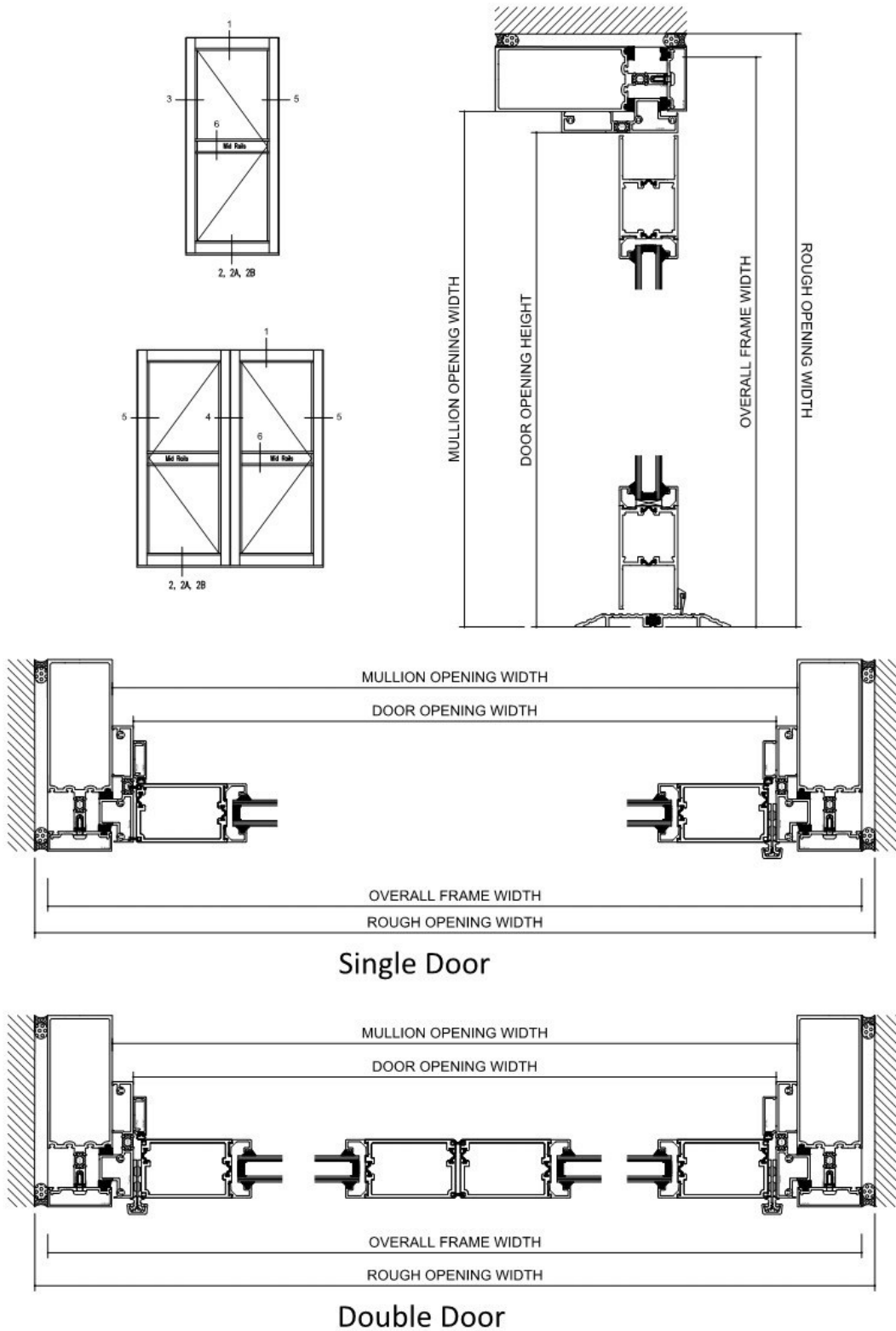
## ACRO THERMALLY BROKEN DOOR 400T Medium STILE

### Triple Glazed with Foam option

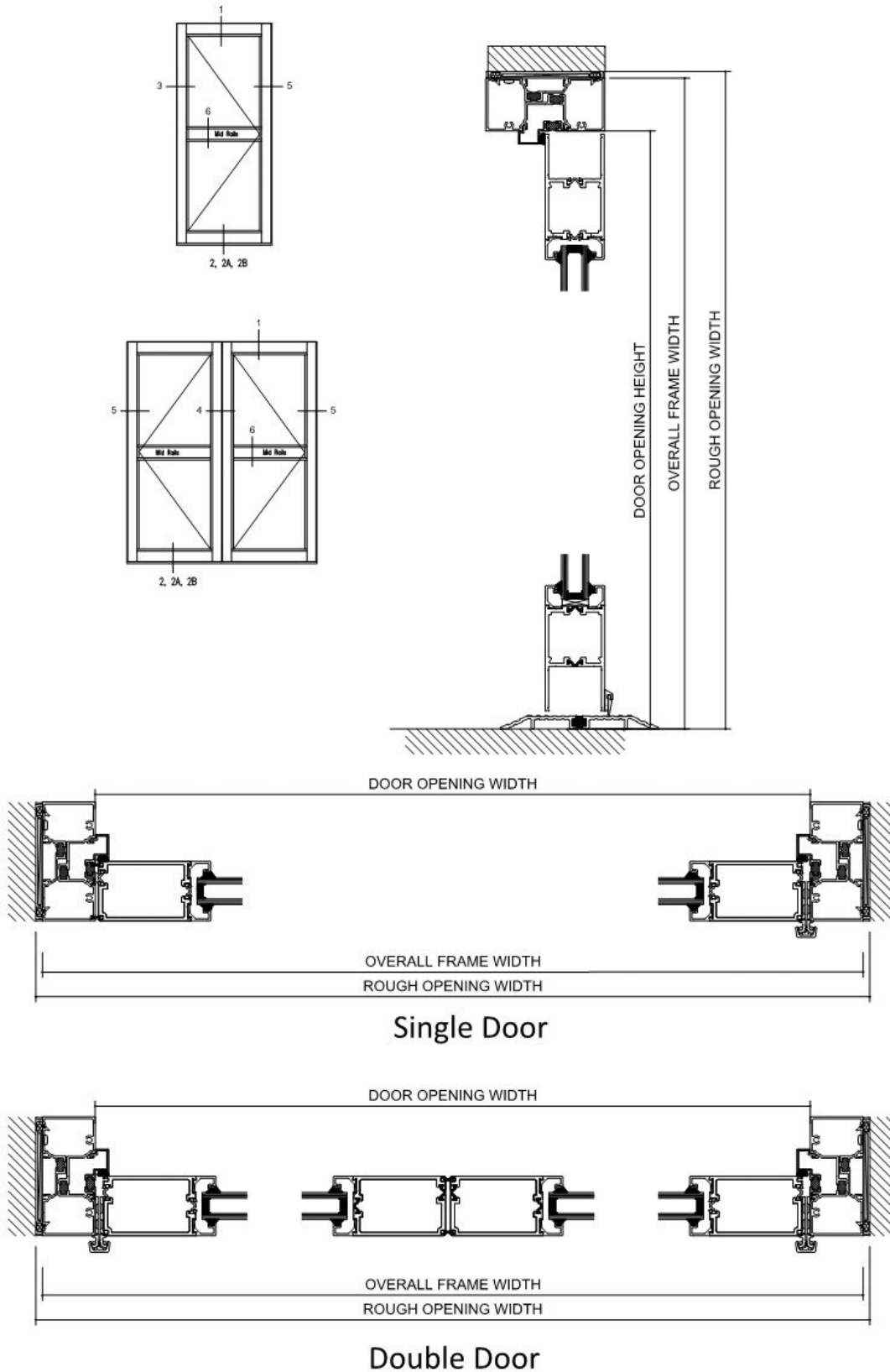
NOTE: High Performance Series 400T Shown With Optional Foam Insulation to Lower Standard U-Value When Required.



### CONSTRUCTION DETAILS - CURTAIN WALL







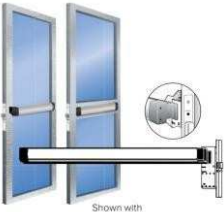

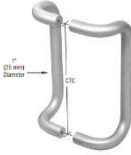
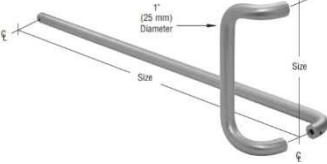

### CONSTRUCTION DETAILS - STOREFRONT



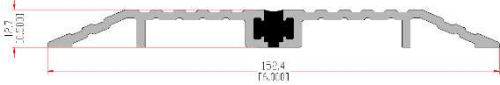



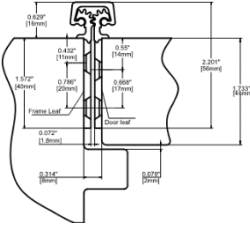


Single Door

Double Door

## Standard Door Hardware

Description	Picture
Security Latch Lock	
Security deadbolt/hook bolt Lock	
Security Key Cylinder	
Security Mortise Thumb turn Cylinder	
8400 Series or similar Narrow Stile Mortise Exit Device CVR and Rim Panic are also available.	 <p style="text-align: center; font-size: small;">Shown with 8475 mid-panel</p>
Security push paddle. Clear or Black.	
Acro Aluminum 9" offset Pull Handle Back- to-back in clear and black Ano. 9" from screw to screw.	
Acro Aluminum Push Bar	
Surface closer. Clear or Black	

<p>Security lever handle.</p>	
<p>Electric strike AR 7100</p>	
<p>Threshold 6 x 1/2" thermally broken</p>	
<p>Door sweep 3/8" brush Clear and black</p>	
<p>Security Flush Bolt</p>	
<p>Astragal (Dog Tail) Clear and Black</p>	
<p>Full concealed gear hinge Clear and Black</p>	
<p>Armored loop cord</p>	