



F

BLAST MITIGATION

- BR604/BR606/BT601 Storefront
 - BR7500/BW7600/BW8000 BW8100/BW8200 Windows
 - Accessory Hardware
-

Toll Free Phone Service
(800) 262-5151

Toll Free Fax Service
(866) 262-3299

U.S. and Canada

GRL[®]
U.S. ALUMINUM

usalum.com

F BLAST MITIGATION



National Guard Readiness Center
Spokane, WA

U.S. Aluminum Blast Mitigation Systems are engineered and successfully tested to withstand explosions from pressure levels of one to six pounds per square inch. The Series BT601 has been engineered and tested to perform in accordance with UFC 4-010-01 (Jan 07) Protocols, allowing the system to be specified for DoD, GSA, and private sector projects.

Our Defender Blast Resistant Windows are available in single hung, fixed, and horizontal sliding versions that are all DoD Blast Rated for one PSI. All of these windows utilize high performance glazing, are AAMA Rated, NFRC Certified, and can be ordered in an array of architectural coatings and anodized finishes.

SYSTEM

PAGES

- **BR604/BR606/BT601 Storefront**01-F1 thru 21-F1
- **BR7500 Windows**01-F2 thru 05-F2
- **BW7600 Windows**.....01-F3 thru 05-F3
- **BW8000/BW8100/BW8200 Windows**01-F4 thru 09-F4

For information or other assistance, use our toll free phone
or fax service numbers from anywhere in the U.S. or Canada

Toll Free Phone (800) 262-5151

Toll Free Fax (866) 262-3299

Contact us through our web site at usalum.com

BLAST MITIGATION

Specifications

Blast Resistant Storefront • Defender Series BT601

SECTION 08 41 13 ALUMINUM STOREFRONTS

SERIES	BLAST LOAD	FACE WIDTH	DEPTH	GLAZING INFILL	GLAZING METHOD
BT601	1 PSI	2-1/2" (63.5)	5" (127)	1-5/16" (33)	Exterior

I. GENERAL DESCRIPTION

Work included: Furnish all necessary materials, labor, and equipment for the complete installation of aluminum framing as shown on the drawings and specified herein. *(Specifier Note: It is suggested that related items such as aluminum entrance doors, glass, and sealants be included whenever possible).*

Work not included: Structural support of the framing system, interior closures, trim. *(Specifier list other exclusions).* Related Work Specified Elsewhere: *(Specifier list).*

QUALITY ASSURANCE

Drawings and specifications are based on the Series BT601 System as manufactured by U.S. Aluminum. Whenever substitute products are to be considered, supporting technical literature, samples, drawings, and performance data must be submitted 10 days prior to bid in order to make a valid comparison of the products involved. Test reports certified by an independent test laboratory must be made available upon request.

PERFORMANCE REQUIREMENTS

Air Infiltration: Shall be tested in accordance with ASTM E 283-91 (99). Infiltration shall not exceed:

- BT601 Storefront - .06 cfm/ft² @6.24 psf = (5.08 L/s/m²)

Water Infiltration: Shall be tested in accordance with ASTM E 331-93. No water penetration at test pressure of:

- BT601 Storefront - 12 psf

Structural Performance: Shall be tested in accordance with ASTM 330-96 and based on:

- Maximum deflection of L/175 of the span. (3/4" (19.1) max.)
- Allowable stress with a safety factor of 1.65. The system shall perform to this criteria under a windload of *(Specify)* psf.

- BT601 Storefront and Doors
- Design 65 psf (1.59)
- Structural +/- 97.5 psf (195 mph)

Forced Entry Resistance: Shall be tested with a 300 lb. force applied to the active door panel simultaneously with a 150 lb. force applied in both perpendicular directions to the 300 lb. force.

Blast Test: Shall be tested in accordance with DoD, GSA, and ASTM test proceeds:

- 1 psi
- 32 psi - msec impulse
- 19 msec duration
- DoD response - High and medium
- GSA response - Condition 1 and 2
- ASTM response - No hazard and minimal hazard

Large Missile Impact Test: Shall be tested in accordance with: Dade County Protocol PA 201-94 with a 9 lb. 2x4 traveling at 50 fps.

Cycle Load Test: Shall be tested in accordance with: Dade County Protocol PA 201-94 for 9,000 cycles.

Testing Procedures:

ASTM 283, E 331, and E 330 - Laboratory performance testing. AAMA 503-08 - Newly installed storefronts. AAMA 511-08 - Installed storefronts after six months.

II. PRODUCTS MATERIALS

Extrusions shall be 6063-T5 alloy and temper (ASTM B221 alloy T5 temper). Fasteners, where exposed, shall be aluminum, stainless steel or zinc plated steel in accordance with ASTM A 164. Perimeter anchors shall be aluminum or steel, providing the steel is properly isolated from the aluminum. Glazing gaskets shall be E.P.D.M. elastomeric extrusions.

FINISH

All exposed framing surfaces shall be free of scratches and other serious blemishes. Aluminum extrusions shall be given a caustic etch followed by an anodic oxide treatment to obtain... *(Specify one of the following):*

- ___ #11 Clear anodic coating
 - ___ #22 Dark Bronze anodic coating
 - ___ #33 Black anodic coating
- A Fluoropolymer paint coating conforming with the requirements of AAMA 2605. Color shall be *(Specify a U.S. Aluminum standard color).*

FABRICATION

The framing system shall provide for flush glazing on all sides with no projecting stops. Vertical and horizontal framing members shall have a nominal face dimension of 2-1/2" (63.5). Overall depth shall be 5" (127). Entrance framing members shall be compatible with glass framing in appearance. Provide for internal drainage of infiltrated water into an extruded aluminum subsill channel where it is drained to the exterior through weep slots.

GLAZING - UFC 4-010-9

- BT601 Storefront and Entrance doors: 1-5/16" (33) thick IG unit made up of 1/4" HS + 1/2" air space + 1/2" HS laminate using .090 butacite by Dupont®.

BLAST MITIGATION

Specifications

Blast Resistant Storefront • Defender Series BT601

SECTION 08 41 13 ALUMINUM STOREFRONTS

SEALANTS

The framing system shall use Tremco Proglaze SSG or DOW 995 Structural Silicone to adhere glass to framing. All metal-to-metal joints shall use Tremco Spectrum II or DOW 795 Silicone, except at fillers where Tremco Proglaze SSG or DOW 995 Silicone is used (see installation instructions). Door seal gaskets shall require small joint sealer.

III. EXECUTION INSTALLATION

All glass framing shall be set in correct location as shown in the details and shall be level, square, plumb, and in alignment with other work in accordance with the manufacturer's installation instructions and approved shop drawings. All joints between framing and the building structure shall be sealed in order to secure a watertight installation.

PROTECTION AND CLEANING

After installation the General Contractor shall adequately protect exposed portions of aluminum surfaces from damage by grinding and polishing compounds, plaster, lime, acid, cement or other contaminants. The General Contractor shall be responsible for final cleaning.



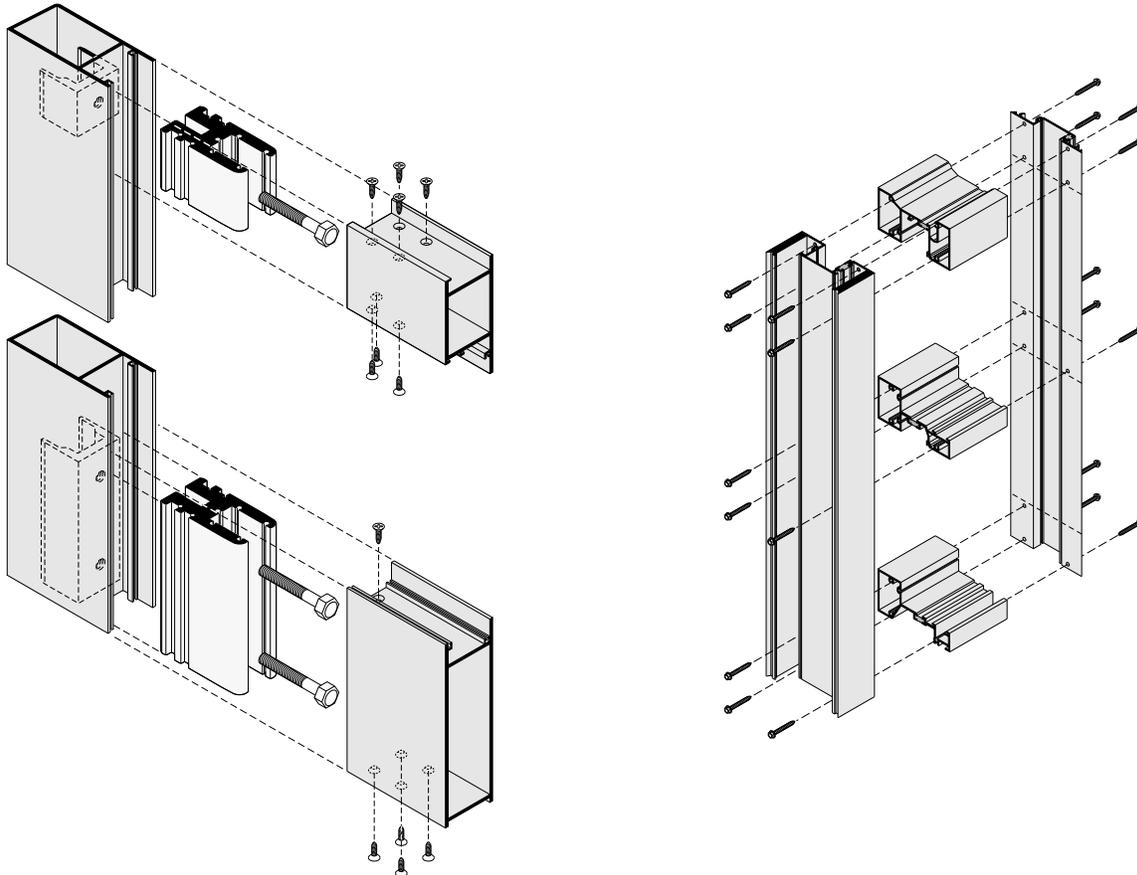
Project: National Guard Readiness Center, Spokane, WA

BLAST MITIGATION

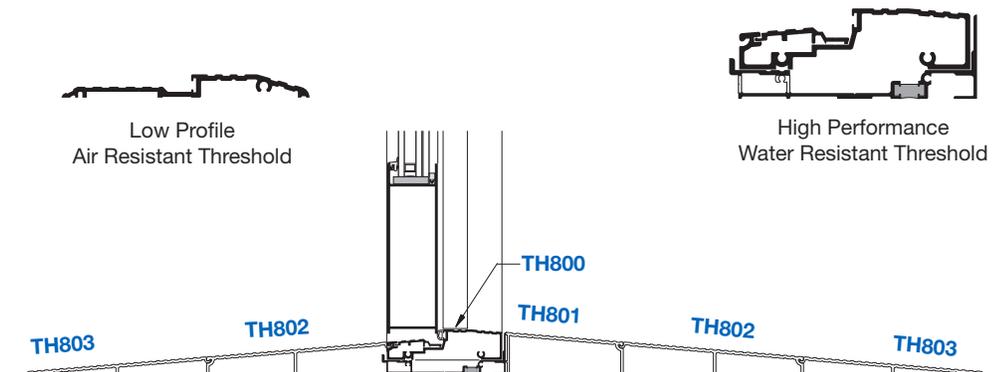
Special Features

Blast Resistant Storefront • Defender Series BT601

The BT601 Blast Resistant Storefront System is engineered and successfully tested to withstand a blast pressure of 1 psi. This unique Storefront System utilizes our High Performance BT601 Entrance and features screw spline assembly for panel erection, insulating glass silenced in place, high performance subsill, and steel reinforced mullions. Made in the U.S.A.



A Low Profile Air Resistant Threshold is offered for installations that have soffit overhangs greater than the entrance frame height. High Performance Water Resistant Thresholds are offered to provide superior water and air management, along with ramps to meet A.D.A. requirements.



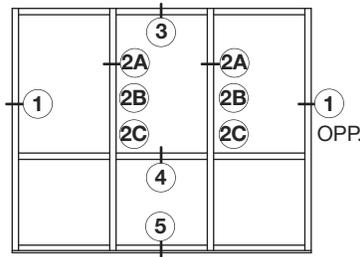
BLAST MITIGATION

Typical Details

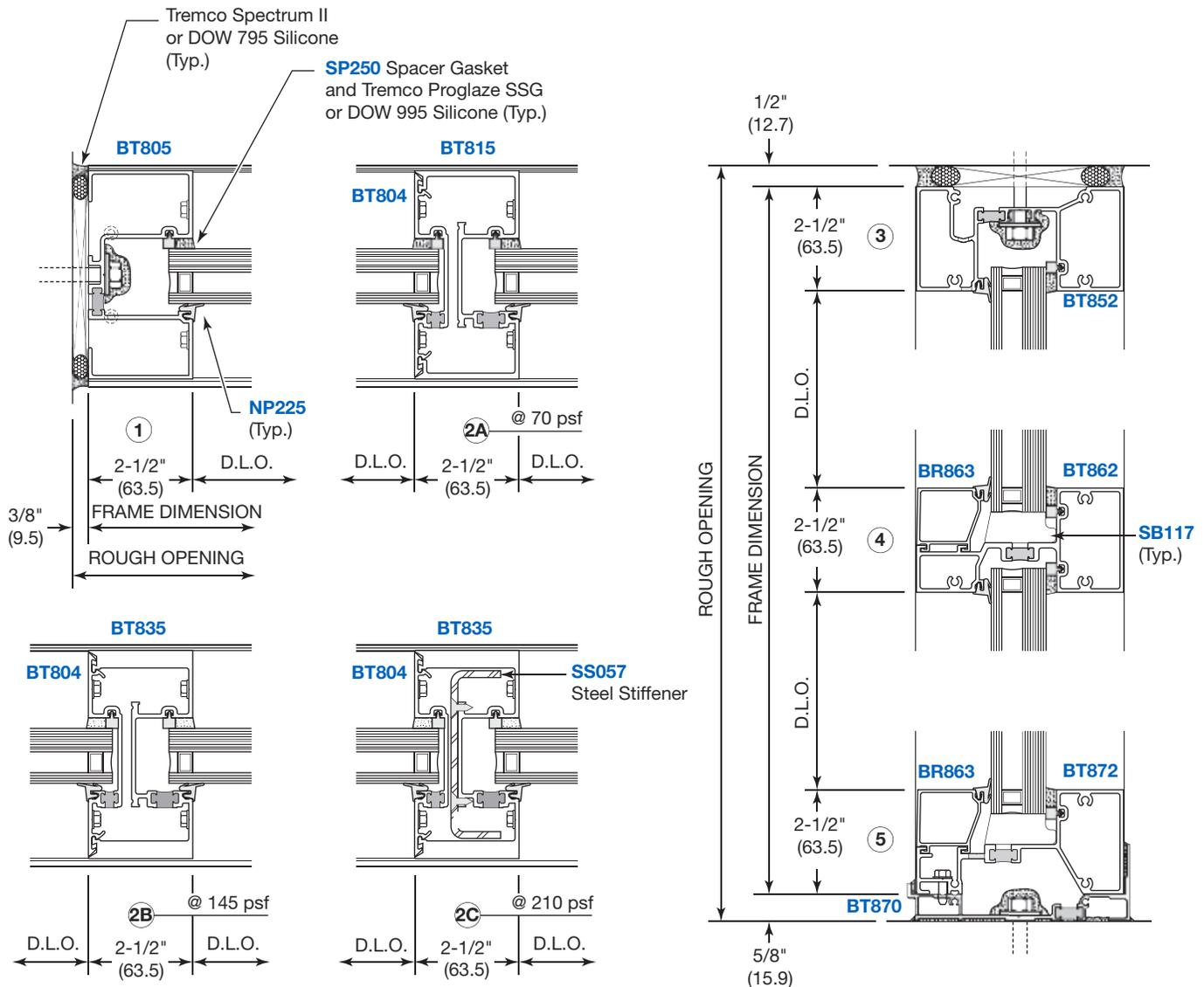
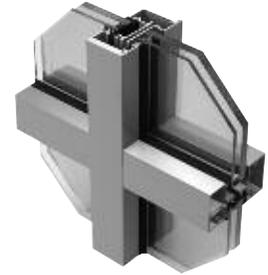
Blast Resistant Storefront • Defender Series BT601

FOR 1-5/16" (33) GLAZING

NOTE: Consult your nearest U.S. Aluminum Service Center for frame size limitations.



TYPICAL ELEVATION



NOT TO SCALE

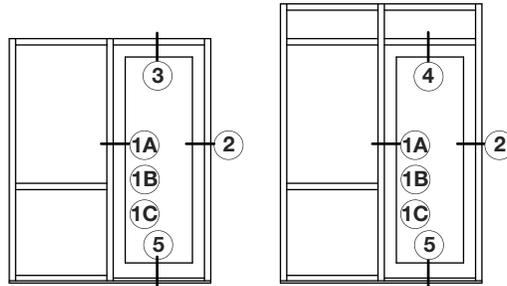
BLAST MITIGATION

Typical Details

Blast Resistant Storefront • Defender Series BT601

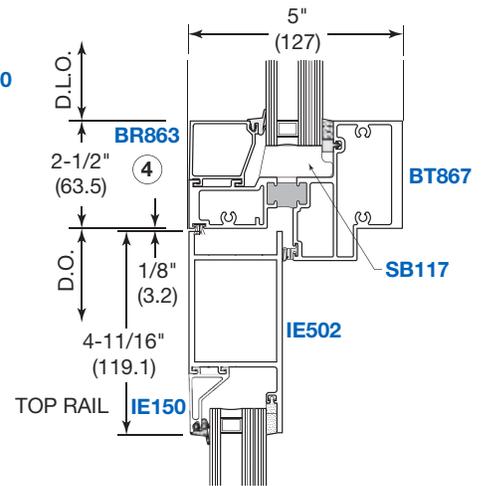
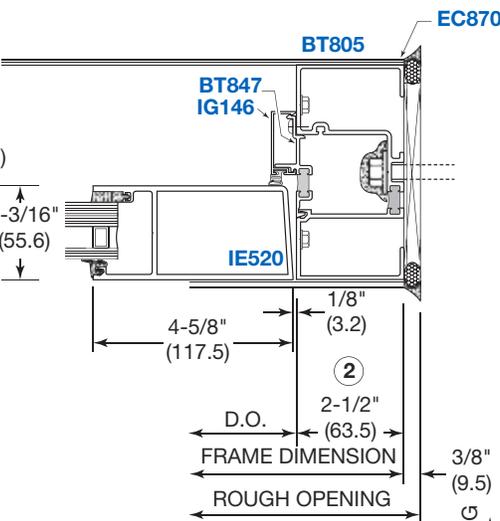
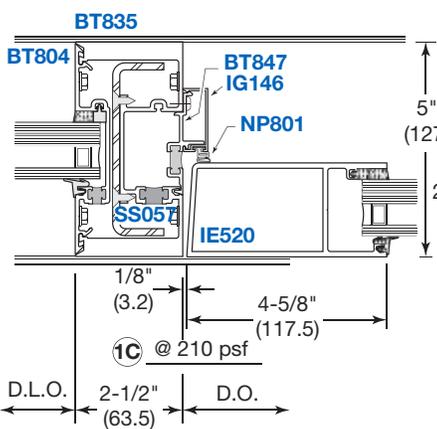
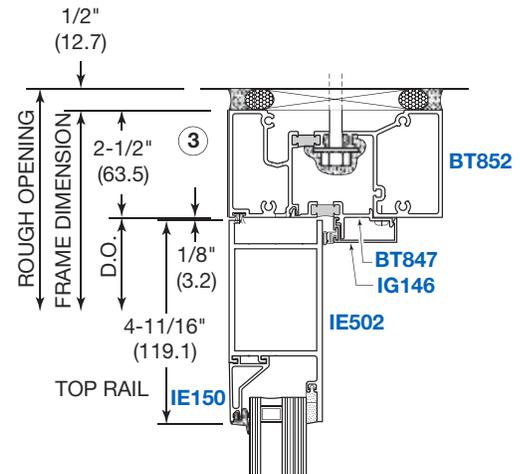
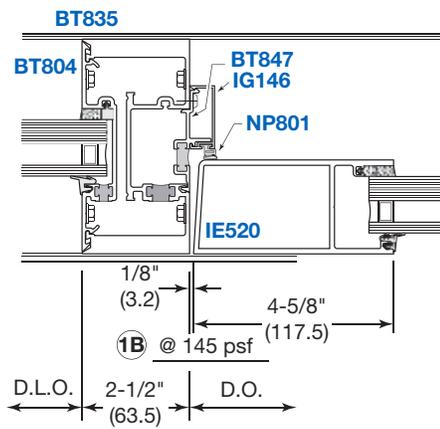
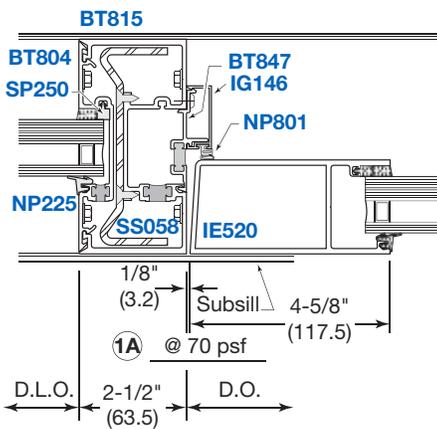
FOR 1-5/16" (33) GLAZING (With Water Resistant Threshold)

(With Water Resistant Threshold)

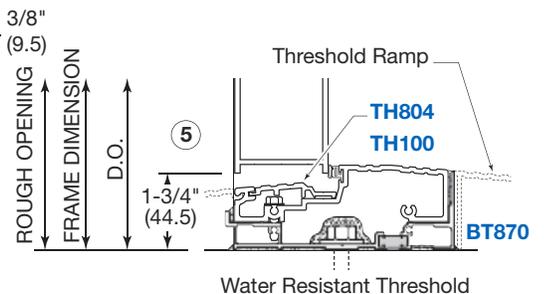


TYPICAL ENTRANCE ELEVATIONS

NOTE: Consult your nearest U.S. Aluminum Service Center for frame size limitations.



NOTE: Water Resistant Thresholds are available for single entrances only.



NOT TO SCALE

Online usalum.com By Phone (800) 262-5151
Online crlaurence.com By Phone (800) 421-6144

BLAST MITIGATION

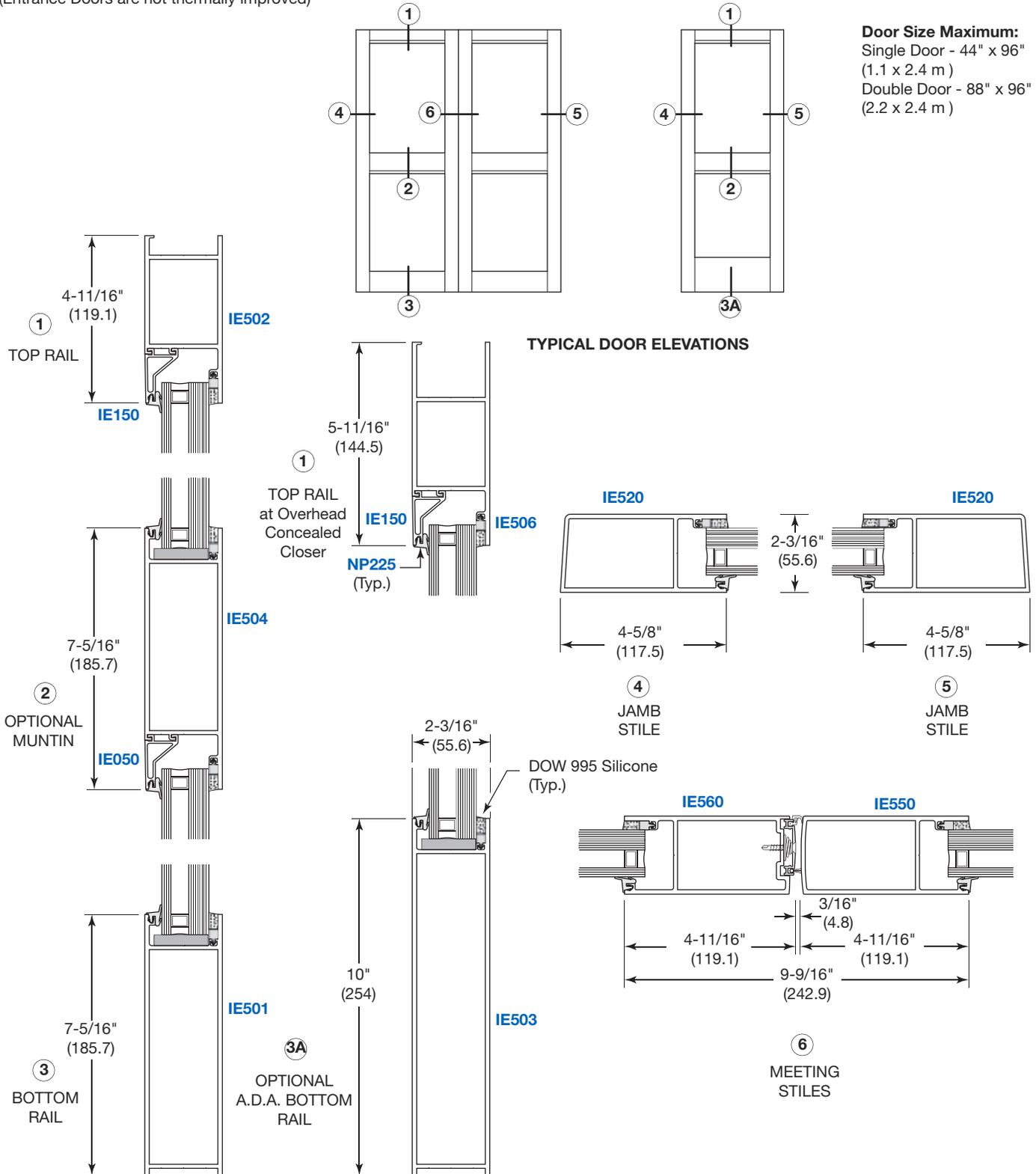
Typical Details

Blast Resistant Storefront • Defender Series BT601

FOR 1-5/16" (33) GLAZING

(Entrance Doors are not thermally improved)

Door Size Maximum:
Single Door - 44" x 96"
(1.1 x 2.4 m)
Double Door - 88" x 96"
(2.2 x 2.4 m)



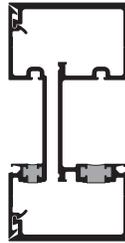
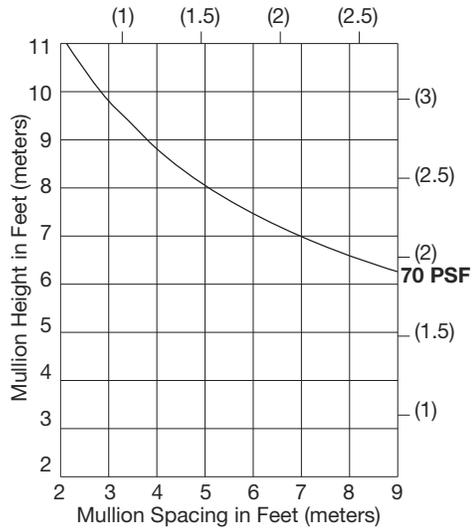
NOT TO SCALE

BLAST MITIGATION

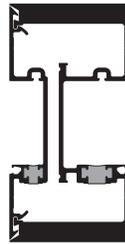
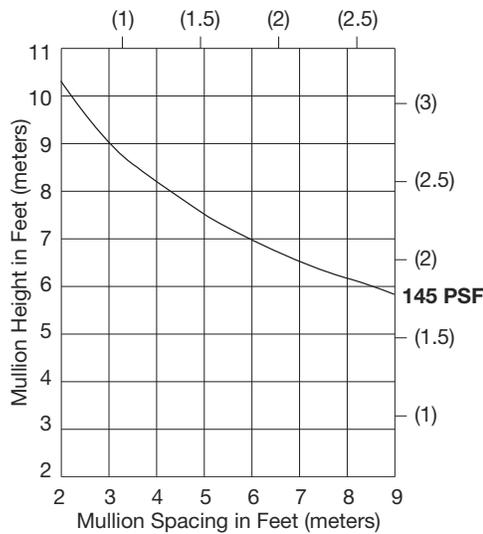
Windload and Deadload Charts

Blast Resistant Storefront • Defender Series BT601

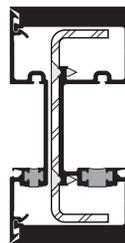
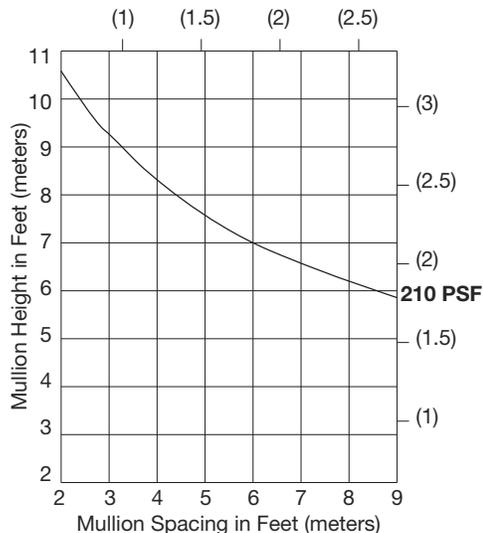
WINDLOAD CHARTS



BT815/BT804
Mullion and Filler (Combined)
 $I_{xx} = 6.509 (270.93 \times 10^4)$
 $S_{xx} = 2.865 (46.95 \times 10^3)$

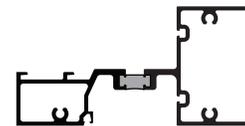
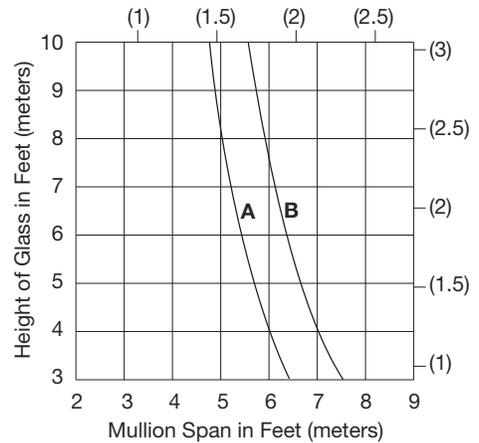


BT835/BT804
Mullion and Filler (Combined)
 $I_{xx} = 10.500 (437.04 \times 10^4)$
 $S_{xx} = 5.174 (84.78 \times 10^3)$



BT835/BT804/SS057
Mullion, Filler, and Steel (Combined)
 $I_{xx} = 10.500 (437.04 \times 10^4)$
 $S_{xx} = 5.174 (84.78 \times 10^3)$
Aluminum + Steel
 $I_{xx} = 16.390 (682.20 \times 10^4)$

DEADLOAD CHART



BT862
Intermediate Horizontal
 $I_{yy} = 1.006 (41.872 \times 10^4)$
 $S_{yy} = 0.664 (10.88 \times 10^3)$

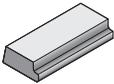
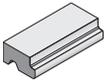
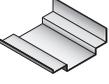
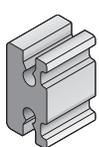
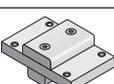
NOTE: Consult your nearest U.S. Aluminum Service Center for frame size limitations.

BLAST MITIGATION

Accessories

Blast Resistant Storefronts

- Defender Series BR604
- Defender Series BR606
- Defender Series BT601

PART NO.	DETAIL	DESCRIPTION	PKG. QTY.	WHERE USED		
				BR604	BR606	BT601
SB117		Setting Block for 1-5/16" (33) Glass	100			●
SB917		Setting Block for 1-5/16" (33) Glass	100	●	●	
WD911		Water Deflector	50	●	●	●
WD912		Water Deflector for BT815/BT835	50	●		
WD913		Water Deflector for BT805	50	●	●	●
EC801		End Caps for Jambs at Subsill for BR604/BR606	20	●	●	
EC870		End Caps for Jambs at Subsill for BT601	20			●
SV102		Splice Sleeve for Subsill	10	●	●	●
AP004		Shear Block Includes: (1) AC004 Shear Block (1) TB601 Back-up Plate (2) MF281 Bolts (2) MF254 Lock Washers	10		●	
DJ801		Drill Guide for Horizontals	1	●	●	●
ST286		Assembly Screw #12 x 2" (51) HWH SMS	100	●	●	●
ST268		Sill to Subsill Attachment #12 x 3/4" (19) HWH SMS	100	●	●	●
ST266		Reinforcement to Vertical Attachment #12 x 1" (25) HWH Tek	100	●		
ST248		Reinforcement to Vertical Attachment #10 x 3/4" (19) FH Tek	100		●	
ST238		Reinforcement to Vertical Attachment #10 x 3/8" (9.5) FH SMS	100			●
ST173		End Dam Attachment #8 x 1/2" (12.7) FH SMS	100	●	●	●
ST206		Splice Sleeve Attachment #8 x 1/2" (12.7) PH SMS	100	●	●	●

Online usalum.com By Phone (800) 262-5151
 Online crlaurence.com By Phone (800) 421-6144