



# 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/ft<sup>2</sup> @6.24 psf = (5.08 L/s/m<sup>2</sup>)

**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®.