**SECTION 08 34 53**

**TSS BR DOOR AND FRAME ASSEMBLY – ALUMINUM**

(**Specifier Note**: The purpose of this guide specification is to assist the Specifier in correctly specifying bullet resistant aluminum framing assemblies with their installation as security doors.

The Specifier must edit this guide specification to fit the needs of each specific project. References have been made within the text of the specification to MasterFormat section numbers and titles. The Specifier must coordinate these numbers and titles with sections included for the specific project.

Throughout the guide specification, there are Specifier Notes to assist in the editing of the file. Brackets have been used to indicate when a selection is required. Contact a TSS representative for further assistance with appropriate product selections.)

**PART 1 - GENERAL**

* + - 1. SECTION INCLUDES
				1. Bullet resistant aluminum door and frame assembly.
			2. REFERENCES
				1. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment.
				2. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass.
				3. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
				4. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

1.3 ACTION SUBMITTALS

* + - * 1. Refer to Section[01 33 00 Submittal Procedures] [Insert section number and title].
				2. Product Data: For each type of framing [and glass] including manufacturer recommended installation instructions.
				3. Shop Drawings: Include plans, elevations, sections, details, attachment to other work.
				4. Samples: For each exposed finish.

1.4 INFORMATION SUBMITTALS

* + - * 1. Product Test Reports: Indicating compliance with requirements
				2. Warranty: Sample of finish warranty
	1. CLOSEOUT SUBMITTALS
		+ - 1. Refer to Section [01 78 00 Closeout Submittals] [Insert section number and title].
				2. Maintenance data.

1.6 DELIVERY, STORAGE AND HANDLING

##### Refer to Section [01 60 00 Product Requirements] [Insert section number and title].

* + - * 1. Deliver materials to the project site with the manufacturer’s UL Listed Labels intact and legible. Handle the materials with care to prevent damage. Store materials inside and under cover, stack flat and off floor. Project conditions (temperature, humidity, and ventilation) shall be within the maximum limit recommendations provided by manufacturer. Do not install products stored in conditions outside manufacturer’s recommended limits.

1.7 WARRANTY

(**Specifier Note**: The 5 year finish warranty applies to the Class I anodic finishes and the 10 year applies to the 70% PVDF coating finish.)

##### Workmanship Warranty: All materials shall be warranted against defects for a period of[1] year for the date of receipt at the project site. Provide certificates of manufacturer’s standard limited warranty with closeout documents.

* + - * 1. Finish Warranty: Manufacturer’s warranty against deterioration of factory finishes for the period of [5] [10] years from the date of Substantial Completion.

(**Specifier Note**: Product information is proprietary to TSS If additional products are required for competitive procurement, contact TSS for assistance in listing competitive products that may be available.)

**PART 2 - PRODUCTS**

2.1 MANUFACTURED UNITS

* + - * 1. Basis of Design:

Subject to compliance with requirements, provide products by the following:

Total Security Solutions, Inc., 935 Garden Lane, Fowlerville, MI 48836, 866 734-6277. Attn: Sales Department, sales@tssbulletproof.com. Web: [www.tssbulletproof.com](http://www.tssbulletproof.com).

Subject to compliance with requirements, manufacturers of products of equivalent design may be acceptable if approved in accordance with [Section 01 25 00 Substitution Procedures] [Insert section number and title].

(**Specifier Note**: Unlike most other doors, a bullet- or blast-resistant door is provided by one manufacturer as a complete assembly including the door, frame, hardware, and accessories. This must be done because items such as the door, frame, latches, and hinges are of special manufacture and are interdependent parts of resistance. To facilitate the specification of individual door assemblies, the door type, bullet or blast effects, rebound, deformation limits, operating forces, hardware, and accessories for each door are brought together under a blast door assembly specification in Part 2 where assembly specification paragraphs for the various door types are provided.)

* + - * 1. Design Performance:

Through the design, manufacturing techniques and material application the TSS BL3-DR Bullet Resistant Aluminum Door and Frame Assembly shall be constructed of extruded aluminum in 6061-T6 alloy/tempered.

Door and shall to have no exposed fasteners.

Corner joints shall consist of extruded and keyed aluminum spline with continuous 3/8” diameter steel tie rod at door top and bottom rails.

All joints and connections shall be tight, providing hairline points and true alignment of adjacent members.

Panels shall not be removable from threat side.

Door assembly swing: [right hand] [eft hand] [reverse swing].

* + - * 1. Door and Frame Assembly Dimensions: As indicated on the Drawings.
				2. Door and Frame Performance:

Standard door and frame assembly shall be manufactured to defeat ballistic assaults from a .44 magnum superpower small arms handgun, in accordance with UL Standard 752, Level 3.

Door assembly stiles, top rails and bottom rails shall be lined with hardened steel to meet Level 4 and 5 UL standards.

* + - * 1. Standard Aluminum Doors:

Top rail and stile: 2-3/4”.

Bottom rail, including glass stops: [8-1/2”] [5-1/4”].

Aluminum Door and Sidelight Frames and Extrusions: 1-3/4” x 4” with structural section .125” thick.

**(Specifier Note:** Door can be glazed to meet levels 1-5 per UL standards. Edit Item 4 as required for project specifics.)

Glazing: LP-1250 Polycarbonate/Acrylic Laminate, 1-1/4” thick, 7.7lbs/sf to comply with UL 752, Level 3 protection.

Door Hardware:

Hinges: Select SL-11HD continuous aluminum gear hinge.

Deadlock: Adams Rite MS1850 deadlock.

Thumb Turn: Adams Rite 4510 Series mortise thumb turn.

Keyed Mortise Cylinder: Adams Rite 4510 Series.

Door Pull and Push Bar: 9” aluminum pull handle and door width push bar as selected by Architect from manufacturer’s standard options.

Door Closer: LCN 400 series Heavy Duty.

**(Specifier Note:** Contact TSS for optional door hardware upgrades.)

Optional Door Hardware Upgrades: exit devices, electric strike plate, and custom security hardware, as selected by Architect from manufacturer’s standard options.

* + - * 1. Door Frame Construction:

Frame assembly shall provide UL Level 3 protection level to match bullet resistance of door.

Non-ricochet type, ballistic extruded aluminum in 6061-T6 alloy, aluminum finish.

Sizes: 2 3/8” thick medium stile door rails with 1-3/4” x 4” BR aluminum jamb.

* + - * 1. Factory-applied finish:

(**Specifier Note**: SELECT the project specific finish from the following.)

[**Clear Anodic Finish**]: Architectural Class I, clear coating AA-M10C22A41 Mechanical Finish Chemical Finish: etched, medium matte; 0.70 mils minimum complying with AAMA 611 "Voluntary Specification for Anodized Architectural Aluminum"

[**Color Anodic Finish**]: Architectural Class I, color coating AA-M10C22A42/A44 Mechanical Finish Chemical Finish: etched, medium matte; 0.70 mils minimum complying with AAMA 611 "Voluntary Specification for Anodized Architectural Aluminum".

Color: Dark Bronze.

**[Baked-Enamel or Powder-Coat Finish]:** [AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.]

Color and Gloss: **[As selected by Architect from manufacturer's full range].**

* + - * 1. Field alterations to the construction of the assembly fabricated under the acceptable standards are not allowed unless approved in writing by the manufacturer and the Architect.
				2. Standard manufacturing tolerances +/- 1/16" shall be maintained.
	1. PERFORMANCE CRITERIA

(**Specifier Note**: DELETE Ballistic and Blast resistance requirements that are not project specific.)

A. Ballistic Resistant: anu

Level [**1**] [**2**] [**3**] [**4**] [**5**] in accordance with UL 752 – Testing for Ballistic Resistance for the complete assembly including framing, glazing and panels.

2.3 FABRICATION

* + - * 1. Aluminum sections to be manufactured in accordance with ASTM B209, Extruded aluminum alloy 6063 T5 Anodized to match the existing décor and be free of sharp edges or burrs when in place.
				2. Glazing Channel: U-Channel specifically designed for securing transparencies tightly in place. Angles and stops are only acceptable for top attachment. All exposed aluminum edges shall be clean cut and have no burrs. Exposed corners shall be rounded and sanded.
				3. Tolerances: All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members

2.4 ACCESSORIES

* + - * 1. Anchors: Fully concealed manufacturer recommended.

**PART 3 - EXECUTION**

3.1 PREPARATION

* + - * 1. Prior to beginning installation, verify that all supports have been installed as required by the Contract Documents and architectural drawings, and Shop Drawings have been approved.
				2. Notify Architect of any unsatisfactory preparation that is responsibility of others.
				3. Clean and prepare all surfaces per manufacturers recommendations as required for achieving the best results for the substrate under the project conditions.
				4. Verify field dimensions of openings prior to fabrication of framing.
				5. Coordinate structural requirements to ensure proper attachment and support.
				6. Do not begin installation of material until all unsatisfactory conditions have been resolved and approved by Architect.
	1. INSTALLATION
		+ - 1. Do not begin installation until openings have been verified and surfaces properly prepared in accordance with Drawings.
				2. Install in accordance with manufacturer’s instructions and UL 752. Set all equipment plumb.
				3. All products shall be installed per installation instructions provided by manufacturer.

* + - * 1. Door and frame assembly shall arrive on site completely pre-fabricated to field dimensions approved by Shop Drawings.
				2. Install framing and secure to structure in accordance with manufacturer's recommendations and approved shop drawings.
				3. Provide required support and securely fasten and set doors and frame plumb, square, and level without twist or bow.
				4. Apply sealant in accordance with manufacturer's recommendations as indicated in installation instructions.
				5. Remove excess sealant and leave exposed surfaces clean and smooth

3.3 PROTECTION

* + - * 1. Clean and protect door and frame assembly from damage during ongoing construction operations. If damage occurs, remove and replace as required to provide assembly in their original, undamaged condition.
				2. Inspection and Cleaning: Verify installation is complete and complies with manufacturer’s requirements.
				3. Provide final cleaning of product and accessories, removing excess sealant, labels and protective covers.
				4. Touch-up, repair or replace damaged products prior to Substantial Completion.

**END OF SECTION**