**SECTION 08 34 53**

**TSS BR DOOR AND FRAME ASSEMBLY - ALL GLASS**

(**Specifier Note**: The purpose of this guide specification is to assist the Specifier in correctly specifying bullet resistant all glass door 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 all glass 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.
	1. ACTION SUBMITTALS
		+ - 1. Refer to Section[01 33 00 Submittal Procedures] [Insert section number and title].
				2. Product Data: For each type of door [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

1.5 CLOSEOUT SUBMITTALS

* + - * 1. Refer to Section [01 78 00 Closeout Submittals] [Insert section number and title].
				2. Maintenance data.
	1. 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

##### 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.

**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 Bullet Resistant All Glass Door and Frame Assembly shall be constructed of a single piece of Low Spall Glass Clad Polycarbonate to meet UL Standard 752 Levels 1, 2 or 3 rating.

Door assembly to have no exposed fasteners.

Joint connections to have concealed clips to provide rigid assembly when installed.

Assembly shall include:

Header tube, top shoe, bottom shoe and pivot hinges.

Closer style to be determined.

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

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 manufactured to defeat ballistic assaults from 9mm medium power through.44 magnum superpower small arms handgun as tested with UL Standard 752 at Underwriters Laboratories.

Glazing: LP-1250 Polycarbonate/Acrylic Laminate, 1-1/4” thick, 7.7lbs/sf to comply with UL 752, Level [1] [2] [3] protection.

* + - * 1. Door Frame Construction:

Door shall be of frameless construction and delivered as complete assembly with top header, top shoe, bottom shoe and pivot hinges.

* + - * 1. Door Hardware:

Closer: As selected from manufacturer’s standard range of options.

Locks: As selected from manufacturer’s standard range of options.

Pull handle: As selected from manufacturer’s standard range of options.

* + - * 1. Factory-applied finish: As selected from manufacturer’s standard range of options.
				2. 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.
				3. Standard manufacturing tolerances +/- 1/16" shall be maintained.

2.2 PERFORMANCE CRITERIA

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

A. Ballistic Resistant: anu

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

* 1. FABRICATION
		+ - 1. Units shall be completely shop-fabricated by manufacturer ready for installation.
				2. Tolerances: All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members

**PART 3 - EXECUTION**

* 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.

3.2 INSTALLATION

* + - * 1. TSS FV Bullet Resistant All Glass Door and Frame Assembly can be installed using, screws and bolts. Method of application shall maintain bullet resistive rating at junctures with concrete floor, door and window frames and other penetrations.
				2. Maintain installation tolerance to not exceed 1/16th for squareness, alignment, twist and plumb. Install hardware as specified per manufacturer’s instructions.
				3. Do not begin installation until openings have been verified and surfaces properly prepared in accordance with Drawings.
				4. All products shall be installed per installation instructions provided by manufacturer.
				5. Door and frame assembly shall arrive on site completely pre-fabricated to field dimensions approved by Shop Drawings.
				6. Install framing and secure to structure in accordance with manufacturer's recommendations and approved shop drawings.

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 dust, labels and protective covers.
				4. Touch-up, repair or replace damaged products prior to Substantial Completion.

**END OF SECTION**