**SECTION 08 56 53**

**TSS BR FRAMING SYSTEM - HOLLOW METAL**

(**Specifier Note**: The purpose of this guide specification is to assist the Specifier in correctly specifying bullet resistant steel door and frame 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 hollow metal frame.
			2. REFERENCES
				1. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment.
				2. ASTM A 666-Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.
				3. ASTM A36/A36M-08 Standard Specification for Carbon Steel.

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

1.5 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].

* + - * 1. Design Performance:

Through the design, manufacturing techniques and material application the TSS Bullet Resistant Hollow Metal Frame shall be of the non-ricochet type. This design is intended to permit the retention of an attacking projectile lessening the potential of a random injury or lateral penetration.

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

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

Frame shall be manufactured to defeat ballistic assaults in accordance with UL Standard 752, Levels 1 through 8.

* + - * 1. Frame Construction:

Frame construction:

16 gauge commercial cold rolled steel.

Steel shall be free of scale, pitting, coil breaks or other surface defects.

Frames shall be welded and ground flush.

Standard tolerances shall be +/- 1/16” for frame opening width, height, and diagonal.

* + - * 1. Glazing: Shall comply with UL 752, Level 1 through 8 and shall not be removable from threat side of sash.

Bullet-Resisting Glazing Material Options: 3/4" to 2-1/2" thick glazing can be used

Bullet Resistant Level 1

 1-1/4" Uncoated Acrylic

3/4” GCP 750

3/4" LP 750 Laminated Polycarbonate Acrylic

3/4" LP 750 All Polycarbonate

Bullet Resistant Level 2

1-3/8" Uncoated Acrylic

1” TSS 002 L/S

1" LP 1000 Laminated

1" LP 1000 All Polycarbonate

Bullet Resistant Level 3

1-1/4" LP 1250 Laminated

1-1/4” TSS 003 L/S

1 1/4" LP 1200 All Polycarbonate

Bullet Resistant Level 4, 5 and 8

1-3/8” TSS 004 L/S

1-5/8” TSS 005 L/S

2-1/2” 008 L/S

* + - * 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.

2.2 PERFORMANCE CRITERIA

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

A. Ballistic Resistant:

Level [**1**] [**2**] [**3**] [**4**] [**5**] [**7**] [**8**] in accordance with UL 752 – Testing for Ballistic Resistance for the complete assembly including framing, glazing and panels.

**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.

B. Notify Architect of any unsatisfactory preparation that is responsibility of others.

C. Clean and prepare all surfaces per manufacturers recommendations as required for achieving the best results for the substrate under the project conditions.

D. Verify field dimensions of openings prior to fabrication of framing.

1. Coordinate structural requirements to ensure proper attachment and support.

F. Do not begin installation of material until all unsatisfactory conditions have been resolved and approved by Architect.

3.2 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.

* + - * 1. All products shall be installed per installation instructions provided by manufacturer.
				2. Door and frame assembly shall arrive on site completely pre-fabricated to field dimensions approved by Shop Drawings.
				3. Install framing and secure to structure in accordance with manufacturer's recommendations and approved shop drawings.
				4. Provide required support and securely fasten and set doors and frame plumb, square, and level without twist or bow.
				5. Apply sealant in accordance with manufacturer's recommendations as indicated in installation instructions.
				6. 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**