**SECTION 08 56 53**

**TSS BR TRANSACTION WINDOW - STAINLESS STEEL**

(**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 windows.

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 stainless steel transaction window.
	1. REFERENCES
		+ - 1. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment.
				2. ASTM C 1172 - Standard Specification for Laminated Architectural Flat Glass.
				3. ASTM A36/A36M-08 Standard Specification for Carbon Steel.

1.3 ACTION SUBMITTALS

##### Refer to Section[01 33 00 Submittal Procedures] [Insert section number and title].

* + - * 1. Product Data: For each type of framing [and glass] including manufacturer recommended installation instructions.
				2. Shop Drawings: Include plans, elevations, sections, details, attachment to other work.
				3. Samples: For each exposed finish.

1.4 INFORMATION SUBMITTALS

##### Product Test Reports: Indicating compliance with requirements

* + - * 1. Warranty: Sample of finish warranty
				2. Refer to Section [01 78 00 Closeout Submittals] [Insert section number and title].
				3. Maintenance data.

1.5 DELIVERY, STORAGE AND HANDLING

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

* + - * 1. Protect windows and accessories until Substantial Completion.
				2. 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.

1.6 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.

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

**PART 2 - PRODUCTS**

2.1 MANUFACTURED UNITS

##### 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 Stainless Steel Transaction Window shall be of the non-ricochet type. This design is intended to permit the capture and retention of an attacking projectile lessening the potential of a random injury or lateral penetration.

The assembly shall provide for single or multiple transaction positions.

Panels shall not be removable from threat side.

Provide anchor screws as required to install equipment.

* + - * 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.
				3. Materials shall meet or exceed UL 752 requirements.

2.2 PERFORMANCE CRITERIA

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

##### Ballistic Resistant:

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

2.3 FABRICATION

##### 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.

* + - * 1. Tolerances: All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members

2.4 FRAMING FINISH

##### Factory-applied finish:

Frames shall be factory prepared from 304-#4 stainless steel with 18-gauge stainless steel finish.

* + - * 1. Cap the bottom of glazing with the corresponding finish material selected for frame.

2.5 GLAZING

##### Glazing shall be as shown on the drawings or as specified separately in [08 88 53 Security Glazing] [Insert section number and title].

(**Specifier Note**: SELECT glazing based on threat level and architect’s preferences from the following Bullet-Resisting Glazing Material Options. Remove glazing levels not used.)

Bullet Resistant Level 1
3/4" LP 750 Laminated
3/4" GCP 750 Glass Clad
1 1/4" Uncoated Acrylic
1 1/4" AR Coated Acrylic

Bullet Resistant Level 2
1" LP 1000 Laminated1" All Poly 1000
1 3/8” Uncoated Acrylic
1 3/8" AR Coated Acrylic
1.05” TSS-002 L/S Glass Clad

Bullet Resistant Level 3
1 1/4" LP 1250 Laminated
1 1/4" All Poly 1250

1 1/4” TSS-003 L/S Glass Clad

Bullet Resistant Level 4, 5, & 8
TSS-004 L/S, TSS-005 L/S, & TSS-008 L/S

* + - * 1. Acrylic: All acrylic pieces shall meet or exceed UL 752 testing for ballistic integrity. All edges of acrylic shall be filed, sanded after cutting to remove rough edges and then polished until “water clear” transparent. All through holes for fasteners shall be 3/8” in diameter and be drilled clean. Chipped edges at through-hole exit points are not acceptable. All acrylic pieces shall be supported in the proper glazing channel designed for this purpose.

2.6 ACCESSORIES

##### Anchors: Fully concealed manufacturer recommended.

(**Specifier Note:** SELECT Cash Tray options or remove if not required in project.)

* + - * 1. Cash Tray:

Location: [Counter Mounted] [Recessed].

Finish: Brushed Stainless Steel #4 finish.

Material: 18 gauge stainless steel.

Dimensions: 16" x 8" from the outside edge of flanges with a clear opening.

* + - * 1. Provide a 1-1/2” thick counter to accommodate recessed cash tray. Counter shall be full width of window, 18" deep, centered under the glazing and covered with [black high-pressure laminate] [Stainless steel 18 gauge #4 finish].

**PART 3 - EXECUTION**

3.1 PREPARATION

##### 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.

* + - * 1. Notify Architect of any unsatisfactory preparation that is responsibility of others.
				2. Clean and prepare all surfaces per manufacturers recommendations as required for achieving the best results for the substrate under the project conditions.
				3. Verify field dimensions of openings prior to fabrication of framing.
				4. Coordinate structural requirements to ensure proper attachment and support.
				5. Do not begin installation of material until all unsatisfactory conditions have been resolved and approved by Architect.

3.2 INSTALLATION

##### Do not begin installation until openings have been verified and surfaces properly prepared in accordance with Drawings.

* + - * 1. Install in accordance with manufacturer’s instructions and UL 752. Set all equipment plumb.
				2. All products shall be installed per installation instructions provided by manufacturer.
				3. Security window units shall arrive on site completely pre-fabricated to field dimensions approved by Shop Drawings.
				4. Install framing and secure to structure in accordance with manufacturer's recommendations and approved shop drawings.
				5. Provide required support and securely fasten and set windows plumb, square, and level without twist or bow.
				6. Apply sealant in accordance with window and sealant manufacturer's recommendations as indicated in installation instructions.
				7. Remove excess sealant and leave exposed surfaces clean and smooth

3.3 PROTECTION

##### Clean and protect windows from damage during ongoing construction operations. If damage occurs, remove and replace as required to provide windows in their original, undamaged condition.

* + - * 1. Inspection and Cleaning: Verify installation is complete and complies with manufacturer’s requirements.
				2. Provide final cleaning of product and accessories, removing excess sealant, labels and protective covers.
				3. Touch-up, repair or replace damaged products prior to Substantial Completion.

**END OF SECTION**