**SECTION 01 56 33**

**TSS BR BARRIERS - MOBILE**

(**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 mobile barriers made of glazing.
	1. REFERENCES
		+ - 1. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment.
				2. ASTM B 209/B 209M- Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
				3. ASTM A 666-Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.
			1. ACTION SUBMITTALS
				1. Refer to Section **[01 33 00 Submittal Procedures] [Insert section number and title].**
				2. Product Data: Manufacturer's data sheets on each product to be used, including:

Preparation instructions and recommendations.

Storage and handling requirements and recommendations.

Installation methods.

* + - * 1. Shop Drawings: Submit Manufacturer approved shop drawings detailing plan, section and elevation views as necessary to ensure proper field installation procedures. Coordinate locations with those listed in the Contract Drawings.
				2. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
				3. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
			1. INFORMATION SUBMITTALS
				1. Product Test Reports: Indicating compliance with requirements
				2. Warranty: Sample of finish warranty
			2. CLOSEOUT SUBMITTALS
				1. Refer to Section **[01 78 00 Closeout Submittals] [Insert section number and title].**
				2. Maintenance data.
			3. DELIVERY, STORAGE AND HANDLING
				1. Refer to Section **[01 60 00 Product Requirements] [Insert section number and title].**
				2. Store products in manufacturer's unopened packaging until ready for installation.
				3. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.
			4. PROJECT CONDITIONS
				1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
			5. WARRANTY
				1. 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.
				2. 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].**

(**Specifier Note:** Select type and size below and delete those not used.)

* + - * 1. Design Performance:

Mobile barriers shall be fabricated as follows:

**[Full glass panel]** of ballistic performance as selected in Performance Criteria.

**[Split mullion with glass above and an opaque ballistic acrylic panel below]** of ballistic performance as selected in Performance Criteria.

Panel size:

Standard panel size is 34-1/2” height by 23-1/2” wide by 8-3/16” deep.

Custom size:

**(Specifier Note:** Specify custom size to 84” width maximum by 76” height maximum.)

Custom height: **[height in inches]**.

Custom width: **[width in inches]**.

Glass supports shall be constructed of 45 degree angled steel bracket at bottom of mobile barrier.

Passer space at bottom of unit shall be 12-1/2” by 1-5/8” clear of bottom.

**[Provide casters to stabilize mobile barrier.]**

**[Provide two-sided tape shall to secure mobile barrier to countertop surface.]**

* + - * 1. Standard manufacturing tolerances +/- 1/16" shall be maintained.
				2. 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.)

##### Bullet Resistant Framing:

TSS-BL 1.75 for Level [**1**] [**2**] [**3**].

TSS-BL 5.5 for Level [**4**] [**5**] [**7**] [**8**].

* + - * 1. Ballistic Resistant Glazing:

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

Bullet Resistant Level 1

3/4" LP 750 Laminated

3/4" All Poly 750

3/4" GCP 750 Glass Clad

1 1/4" Uncoated Acrylic

1 1/4" AR Coated Acrylic

Bullet Resistant Level 2

1" LP 1000 Laminated

1" 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 Levels 4, 5, 7 and 8

TSS-004 L/S

TSS-005 L/S

TSS 007 L/S

TSS-008 L/S

2.3 FABRICATION

##### Glazing Channel: Channel, angles, and stops specifically designed for securing transparencies tightly in place. All exposed edges shall be clean cut and have no burrs. Exposed corners shall be smooth.

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

**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. 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.

3.3 PROTECTION

##### Clean and protect 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**