**TSS HOLE AND BACKER TRANSACTION WINDOW**

**PART 1 GENERAL**

* 1. REFERENCE
1. Underwriters Laboratory UL 752-Standard for Bullet Resisting Equipment & ASTM E119-98- Standard Test Methods for Fire Tests of Building Construction and Materials, NIJ Standard 0108.01-(National Institute of Justice) Standard for Ballistic Resistant Protective Materials, ASTM B 209/B 209M- Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate, ASTM A 666-Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar..
	1. SUBMITTALS
2. The following shall be submitted by the manufacturer in accordance with Sections 13070 and any Special Contract Requirements and coordinate with Sections 01340: Submit for approval prior to fabrication: samples, product data (including preparation, storage and installation methods), cuts & anchor spacing, reinforcement & location , product specifications, shop drawings, test reports (current UL Listing Verification & UL 752 Test Results as provided by Underwriters Laboratories), and printed data in sufficient detail to indicate compliance with the contract documents.
3. Manufacturer’s Instructions for installation and cleaning of TSS Bullet Transaction Window Assemblies. All required submittals shall be approved prior to installation.
	1. DESIGN PERFORMANCE
4. Through the design, manufacturing techniques and material application the TSS Hole and Backer Transaction Window shall be of the “non-ricochet” type. This design is intended to permit the encapture and retention of an attacking projectile lessening the potential of a random injury or lateral penetration. This assembly shall provide single transaction positions utilizing the “Acrylic” backer configuration. This design shall employ an acrylic voice ports in transaction glazing to complete the “Hole and Backer” design. Each transaction position shall have a stainless steel dip tray as shown on the drawings. Components must be manufactured in strict accordance with the specifications, design and details. All vision panels shall be cut to size with all exposed edges polished. Necessary holes shall be pre drilled and tapped where required. Stainless Steel assembly screws and acrylic spacers shall be provided. Clear anodized angles and channels shall be provided. Anchor screws shall be provided by the installer.
5. No field alterations to the construction of the units fabricated under the acceptable standards shall be allowed unless approved by the manufacturer and the architect. Standard manufacturing tolerances shall be +/- 1/16".
6. Materials shall meet or exceed UL 752 requirements.
	1. QUALITY ASSURANCE
7. Manufacturer shall be a Company that specializes in manufacturing products of the specified type with a minimum of five years’ experience. Installer shall be a Company that specializes in product type specified and Certified for the installation by the manufacturer. Manufacturer shall provide a Mock-up, if required, for evaluation of surface preparation and application workmanship and color/finish to the Architect for approval prior to start of work.
	1. DELIVERY, STORAGE & HANDLING
8. 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 set by manufacturer. Do not install products that are under conditions outside these limits.
	1. WARRANTY
9. All materials shall be warranted against defects for a period of 1 year for the date of receipt at the project site. Certificates of manufacturer’s standard limited warranty shall be provided at project completion.

**PART 2 PRODUCTS**

2.1 ACCEPTABLE MANUFACTURERS

1. Products shall be manufactured by: Total Security Solutions, Inc, 170 National Park Drive, Fowlerville, MI 48836, 800-513-1468. Attn: Sales Department, info@tssbulletproof.com. Web: [www.tssbulletproof.com](http://www.tssbulletproof.com/). No substitutions shall be accepted.

2.2 BULLET RESISTANT HOLE AND BACKER TRANSACTION WINDOW

1. Product shall be: TSS Hole and Backer Transaction Window: The Hole and Backer System consists of custom prefabricated bullet resistant panels with secure air passage as required for voice transmission. Aluminum frame, with a plastic laminate base and recessed cash tray. All accessories for installation are included. Available finishes include clear anodized or powder coated.
2. Glazing Panels shall be \_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(specify options below)* as shown on the drawings.
	1. Bullet-Resisting Glazing Material Options:

***Bullet Resistant Level 1***

* 3/4" LP 750 Laminated
* 1 1/4" Uncoated Acrylic
* GCP 750

***Bullet Resistant Level 2***

* + - 1" LP 1000 Laminated
		- 1 3/8" UnCoated Acrylic
		- TSS 002 L/S

***Bullet Resistant Level 3***

* + - 1 1/4" LP 1250 Laminated
		- TSS 003 L/S

***Bullet Resistant Level 4, 5, & 8***

* + - TSS 004 L/S, TSS 005 L/S & TSS 008 L/S
1. Cash tray: Brushed Stainless Steel Counter Mounted or Recessed
	1. Cash tray to be 18 ga. stainless steel, # 4 finish 16" x 10" from the outside edge of flanges with a clear opening
2. Provide a shelf 1 1/2" thick with a recessed cash tray. The shelf to be full width of window, 18" deep, centered under the glazing and covered with a black high pressure laminate. (Optional stainless steel 18 ga. #4 finish).
3. (*Recommend Frame Option: Aluminum)* Aluminum sections to be manufactured in accordance with ASTM B209, Extruded aluminum alloy 6063 T5 Anodized or powder coated finish to match the existing décor and be free of sharp edges or burrs when in place. Glazing Channel: U-Channel specifically designed for securing transparencies tightly in place. Angles and stops are only acceptable for top attachment.
4. Frame to be anodized aluminum (*optional 18 ga. primed steel or 18 ga. stainless steel -specify)*. The bottom of the glazing to be capped with corresponding material on the frame (ie: stainless steel on stainless steel).

**PART 3 EXECUTION**

3.1 PREPARATION

1. Prior to installing the bullet resistive material, the contractor shall verify that all supports have been installed as required by the contract documents and architectural drawings, and approved shop/CAD drawings, if required. Installer shall notify architect of any unsatisfactory preparation that is responsibility of another installer.
2. Clean and prepare all surfaces per manufacturers recommendations for achieving the best results for the substrate under the project conditions.

3.2 INSTALLATION

1. Do not begin installation until openings have been verified and surfaces properly prepared in accordance with Drawings. Install in accordance with manufacturer’s instructions and UL 752. Set all equipment plumb. All products shall be installed per installation instructions provided by Total Security Solutions, if warranty is to be issued.
2. TSS Hole and Backer Transaction Window: shall arrive on site as a completed unit. Unit shall be installed in provided opening (wall/door), secured to structure (anchors by others).

3.3 POST APPLICATION

1. TSS Hole and Backer Transaction Window: shall be installed in accordance with manufacturer’s printed recommendations, including adhering to anchoring and finishing details.
2. Inspection and Cleaning: Verify installation is complete and complies with manufacturer’s requirements. Clean product and accessories, removing excess sealant, labels and protective covers.
3. Touch-up, repair or replace damaged products before Substantial Completion.
4. Product Warranty: Applicable warranty shall be issued to owner upon final release of completed project.

\*\**end of section\*\**