

SECTION 102641 - BALLISTICS RESISTANT PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Laminated fiberglass ballistics-resistant panels.

1.2 RELATED REQUIREMENTS

- A. Section 092116 - Gypsum Board Assemblies: Metal framing to receive ballistics-resistant panels.

1.3 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. UL 752 - Standard for Bullet-Resisting Equipment.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

1.5 SUBMITTALS

- A. See Section 013300 - Submittal Procedures for submittal procedures.
- B. Product Data: Manufacturer's current data sheets on each product to be used.
- C. Shop Drawings: Details of installation of ballistics-resistant panels, including plan views, elevations, sections, and details of the proposed installation with attachment methods.
- D. Certificates: Submit printed data to indicate compliance with following requirements.
 - 1. UL Listing verification and UL 752 Current Test Results as provided by Underwriters Laboratories.
- E. Manufacturer's Instructions: Indicate preparation and installation.
- F. Manufacturer's qualification statement.
- G. Installer's qualification statement.
- H. Warranty Documentation: Manufacturer warranty; ensure that forms have been completed in Owner's name and registered with manufacturer.
- I. Specimen Warranty: Manufacturer warranty.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.7 MOCK-UPS

- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Construct mock-up, 8 ft long by 8 ft wide, illustrating surface preparation techniques and application workmanship.
- C. Locate where directed.
- D. Approved mock-ups may remain as part of the work.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name, manufacturer's identification, and required UL certification labels until ready for installation.
- B. Handle material with care to prevent damage. Stack panels flat, store inside under cover off the ground in a dry location, and protect from other construction activities.

1.9 FIELD CONDITIONS

- A. Install products under environmental conditions (temperature, humidity, and ventilation) recommended by manufacturer.

1.10 WARRANTY

- A. Manufacturer Warranty: Provide ten year manufacturer warranty for materials and workmanship against defects commencing on the Date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Laminated Glass Fiber Ballistics-Resistant Panels:
 - 1. Basis of Design: Total Security Solutions; TSS Total Armor Bullet Resistant Fiberglass: www.tssbulletproof.com/#sle.
 - 2. Substitutions: See Section 016000 - Product Requirements.

2.2 LAMINATED FIBER BALLISTICS-RESISTANT PANELS

- A. General:
 - 1. Laminated fiber ballistics-resistant panels to be non-ricochet type. When struck by a bullet or projectile, the panels to delaminate in such a way that absorbs the energy, stops the projectile, and prevents ricochet or spalling.

2. Ballistics Resistance of Joints: Equal to that of the panel.
- B. Performance Requirements:
1. Ballistics Resistance Rating: Listed and labeled as tested in accordance with UL 752 Level 7 (5.56 mm assault rifle) threat rating.
 2. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when tested in accordance with ASTM E84.
- C. Laminated Fiber Panels:
1. Material: Multiple layers of fiberglass woven roving bonded together with resin and compressed into flat rigid sheets.
 2. Panel Size: Maximum size to limit number of seams.
 3. Panel Thickness: Minimum thickness required for selected UL 752 threat level.
 4. Panel Weight: Minimum weight required for selected UL 752 threat level.
 5. Attachment Method: Mechanical fasteners.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that substrates have been properly prepared.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation of this work.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install panels in accordance with manufacturer's instructions and shop drawings and in proper relationship with adjacent construction.
1. Maintain ballistics-resistive rating at panel junctures with concrete floor and roof slabs, bullet-resistive door and window frames, and required penetrations.
- B. Reinforce panel joints with a minimum 4 inch wide back-up layer of ballistics-resistant material, centered on panel joints.
- C. Secure panels using screws or bolts.

3.4 PROTECTION

- A. Protect installed panels from subsequent construction operations.
- B. Touch-up, repair or replace damaged panels before Date of Substantial Completion.

END OF SECTION 102641