

## CSI SPECIFICATIONS

### USFA SERIES BULLET RESISTANT FIBERGLASS ARMOR SHORT FORM GUIDE SPECIFICATION

#### PART 1 GENERAL

##### 1.1 REFERENCE

The Publications listed below form a part of this specification. NATIONAL INSTITUTE OF JUSTICE STANDARD 0108.01 - STANDARD FOR BALLISTIC RESISTANT PROTECTIVE MATERIALS (September, 1985). UNDERWRITERS LABORATORY UL 752 9th Edition, Standard for Bullet Resisting Equipment (January 27, 1995)

##### 1.2 SUBMITTALS

The following shall be submitted in accordance with Sections 01340 and the SPECIAL CONTRACT REQUIREMENTS: Submit for approval prior to fabrication samples, brochures, specifications, UL Listing and UL 752 Current Test Results as provided by Underwriters Laboratory, and printed data in sufficient detail to indicate compliance with the contract documents. Provide manufacturer's instructions for installation of Bullet Resistant Fiberglass.

##### 1.3 DESIGN

Through the design, manufacturing technique and material application the Bullet Resistant Fiberglass shall be of the "non ricochet type". The design is intended to permit the capture and retention of an attacking projectile lessening the potential of a random injury or lateral penetration.

## FIBERGLASS ARMOR

#### 1.4 DELIVERY, STORAGE AND HANDLING

Deliver the materials to the project with the UL Listed Labels and the manufacturer's UL 752 designation labels intact and legible (as applicable). Handle the material with care to prevent damage. Store the materials inside under cover, stack flat and off the floor.

#### 1.5 WARRANTY

All materials and workmanship shall be warranted against defects for a period of 2 (two) years from the date of receipt at the project site.

#### PART 2 PRODUCTS

##### 2.1 BULLET RESISTANT FIBERGLASS MATERIAL

The panels shall be made of multiple layers of woven roving ballistic grade fiberglass cloth impregnated with a thermoset polyester resin and compressed into flat rigid sheets. The production technique and materials used shall provide the controlled internal de-lamination to permit the capture of a penetrating projectile. Bullet Resistant Fiberglass panels shall be: (Note to Specifier – Choose product with desired level of protection required).

Product	Ballistic Protection UL 752	Nominal Thickness	Nominal Weight (lbs per ft <sup>2</sup> )
USFA 1	Level 1	1/4"	2.3
USFA 2	Level 2	5/16"	3.5
USFA 3	Level 3	1/2"	5.0
USFA 4	Level 4	1 3/8"	14
USFA 5	Level 5	1 3/8"	15
USFA 6	Level 6	5/16"	3.5
USFA 7	Level 7	1 1/8"	10
USFA 8	Level 8	1 3/8"	15

Material shall be USFA Series Armor by US Bullet Proofing, Inc., Hyattsville, MD. Phone: (800) 363-8328, (301) 454-0155, Fax: (301)454-0199.

Email: [info@usbuletproofing.com](mailto:info@usbuletproofing.com).

Website: [www.usbulletproofing.com](http://www.usbulletproofing.com).

(Note: All USFA products have been tested to meet or exceed UL 752 Ballistic Standards. USFA 1, 2, 3, and 4 also carry the UL Label).

### **PART 3 EXECUTION**

#### **3.1 SUPPORTING MEMBERS**

Prior to installing the bullet resistant material, the contractor shall verify that all supports have been installed as required by the contract documents and the architectural drawings.

#### **3.2 JOINTS**

All joints shall be reinforced by a back-up layer of bullet resistant material. The bullet resistance of the joint, as reinforced, shall be at least equal to that panel. Minimum width of reinforcing layer at joint shall be 4-inches (2" on each panel or a 2" minimum overlap).

#### **3.3 APPLICATION**

Armor shall be installed in accordance with the manufacturer's printed recommendations. Armor panels shall be adhered using an industrial adhesive, mastic, screws or bolts. Method of application shall maintain the bullet resistant window frames, and all required penetrations.