

## SECTION 08 5671

### BULLET-RESISTANT STEEL WINDOWS

#### PART 1 GENERAL

##### 1.1 SUMMARY

###### A. Section Includes:

1. Bullet-resistant [fixed] [operable] steel window assemblies.

###### B. Related Sections:

1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

A. American Welding Society (AWS) D1.3/D1.3M - Structural Welding Code - Sheet Steel.

B. ASTM International (ASTM) A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.

C. Underwriters Laboratories (UL) 752 - Bullet Resisting Equipment.

##### 1.3 SYSTEM DESCRIPTION

A. Design Requirements: Provide window frames of "non-ricochet type" intended to permit capture and retention of attacking projectile, lessening potential of random injury or lateral penetration.

##### 1.4 SUBMITTALS

###### A. Submittals for Review:

1. Shop Drawings: Include window profiles and sizes, type and spacing of frame anchors, reinforcement size and locations, details of joints and connections, and welding details.
2. Product Data: Include product description for window assemblies including bullet-resistant ratings.
3. Samples: [2 x 2] [\_\_ x \_\_] inch coating samples [showing available colors.] [in specified color.]

## B. Sustainable Design Submittals:

1. Recycled Content: Certify percentages of post-consumer and pre-consumer recycled content.
2. Regional Materials: Indicate cost of products harvested, extracted, recovered, or manufactured within 500 mile radius of Project site.

## C. Closeout Submittals:

1. Maintenance Data: Include instructions for cleaning of glazed panels.

## 1.5 QUALITY ASSURANCE

A. Fixed Window Assemblies: Ballistic Level [1,] [2,] [3,] [4,] [5,] [6,] [7,] [8,] tested to UL 752.

## 1.6 DELIVERY, STORAGE AND HANDLING

A. Store window assemblies upright in protected, dry area, off ground or floor, with at least 1/4 inch space between individual units.

B. Do not cover with non vented coverings that create excessive humidity.

C. Remove wet coverings immediately.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

A. Contract Documents are based on products by ARMORTEX, 5926 Corridor Parkway, Schertz, Texas, 800-880-8306, [www.armortex.com](http://www.armortex.com).

B. Substitutions: [Under provisions of Division 01.] [Not permitted.]

### 2.2 MATERIALS

#### A. Steel Sheet:

1. ASTM A1008/1008M, cold rolled, free from scale, pitting, coil breaks, and other surface defects.

2. Recycled content: Minimum [\_\_] percent, with minimum [\_\_] percent classified as post consumer.

B. Bullet-Resistant Composite: UL Listed Bullet Resistant Composite by ARMORTEX, of UL Ballistic Level equal to specified frame ballistic protection level.

C. Ballistic Steel: Hi-Hard Ballistic Steel, of UL Ballistic Level equal to specified frame ballistic protection level.

D. Glazing: UL Listed [laminated glass.] [glass/polycarbonate composite.] [Glass-clad polycarbonate.] [Multi-ply polycarbonate.] [Acrylic polycarbonate composite.] [\_\_\_\_\_.]

## 2.3 FABRICATION

### A. Frames:

1. Fabricate from 16 gage steel lined with [bullet-resistant composite.] [ballistic steel.]
2. Bullet-resistant rating equivalent to or greater than glazing.
3. Weld frame corners; knock-down and mechanical joints not acceptable.
4. Frame modules capable of being joined with other frame modules to form continuous line.
5. Replacement of glazing from secure side of window, not requiring removal of frame from opening.

### B. Operable Units:

1. Hinge vertically utilizing full-length continuous hinge.
2. Sash secured by keyed positive locking latch. Where multiple operable windows occur, key all locks alike.

C. Welding: In accordance with AWS D1.3/D1.3M. Grind exposed welds flush and smooth.

D. Finish work neat and free from defects.

E. Allowable Tolerances: Plus or minus 1/16 inch for frame opening width, height, diagonal dimensions, and overall width and height (outside to outside).

## 2.4 FINISHES

### A. Steel:

1. Dress tool marks and surface imperfections to smooth surfaces.
2. Clean and chemically treat steel surfaces.
3. Apply manufacturer's standard rust inhibiting gray primer paint.

\*\*\*\* OR \*\*\*\*

4. Apply manufacturer's standard polyester powder coat, sprayed and baked, [\_\_\_\_\_] [custom] color [to be selected from manufacturer's full color range].

B. Stainless Steel: No. 3 brushed finish.

## PART 3 EXECUTION

### 3.1 INSTALLATION

A. Install window assemblies in accordance with manufacturer's instructions and approved Shop Drawings.

B. Set plumb, square, and level.

C. Secure to adjacent construction using fastener type best suited to application.

D. Field alterations to window assemblies not permitted unless approved in advance by manufacturer and Architect.

### 3.2 ADJUSTING

A. Touch up minor scratches and abrasions in [primer paint] [finish coat] to match factory finish.