



**SECTION 08 88 53**

**BALLISTIC RESISTANT WINDOWS / PANELS**

**PART 1 – GENERAL**

1.1 SECTION INCLUDES

- A. Prefabricated Ballistic Resistant Laminated Glass Block System

1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Steel channels, sills, lintels, and jambs.
- B. Section 07900 - Joint Sealers.

1.3 REFERENCES

- A. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- B. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure and Temperature Differences Across the Specimen.
- C. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- D. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
- E. ASTM A1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
- F. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
- G. UL 752 – Standard for bullet resisting-equipment. Passed UL 752 Levels 1 through 6.

#### 1.4 QUALITY ASSURANCE

##### A. Manufacturer

1. Minimum of 10 years specialized experience in the manufacture of windows.

##### B. Direct Representation

1. The manufacturer shall have available a direct representative with full knowledge and experience of the product and systems for technical assistance.

#### 1.5 SUBMITTALS

##### A. Submit under provisions of Section 01 30 00.

##### B. Product Data: Manufacturer's literature on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Written installation instructions.

##### C. Verification Samples:

1. Two glass block units of each type specified, showing size, design, and pattern of faces.
2. Representative samples of assembly as required for project.

##### D. Test Reports

1. Submittal of test reports from independent laboratories indicating conformance to regulatory requirements UL 752 ballistic levels 1 through 6 shall be made available if required by architect.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

##### A. Handle panels in a manner which will prevent undue stress on component parts, sealants and structural members. Do not rack or torque, or cause load forces in an inappropriate manner.

#### 1.7 PROJECT CONDITIONS

##### A. 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.

## 1.8 WARRANTY

- A. Provide manufacturers limited 10-year warranty.

## 1.9 CERTIFICATION

- A. Manufacturer will provide a "Certificate of Compliance" upon completion of installation attesting that all components and installation conforms to the requirements on drawings and in specifications.  
[Note if applicable to the job.](#)

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Pittsburgh Corning Corporation, which is located at: 800 Presque Isle Drive, Pittsburgh, PA 15239-2799; Toll Free Tel: 800-545-5001; Tel: 724-327-6100; Fax: 724-387-3806; Email: [TechnicalService-GlassBlock@pghcorning.com](mailto:TechnicalService-GlassBlock@pghcorning.com); Web: [www.pittsburghcorning.com](http://www.pittsburghcorning.com).

### 2.2 GLASS BLOCK PREFABRICATED SYSTEM

- A. Glass Block: General.
  - 1. Finish: Polyvinyl Butyral edge coating or latex paint.
  - 2. Framing: Steel grid system.
- B. Glass Block: PC Laminated VISTABRIK solid glass block.
  - 1. Pattern: Clear or Stippled
    - a. All sizes available; thickness, 3.25 inches (83 mm)
- C. Basis for Design
  - 1. Pittsburgh Corning's LightWise Architectural Ballistic Resistant Series Prefabricated Glass Block System
- D. Performance Requirements
  - 1. Tested resistance to UV light transmission: 99%
  - 2. Visible Light Transmission of 50% to 80%.
  - 3. Sound Transmission class (STC) of 53% minimal (with mortar).
  - 4. Heat Transmission Value (U-value) of 0.87 (with mortar).
  - 5. Solar Heat Gain Coefficient (SHGC) of 0.75 to 0.78.

### 2.3 ACCESSORIES

- A. Sealant (caulk): Non-staining; waterproof mastic; silicone type meeting the requirements of ASTM C920.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Do not begin installation until substrates have been properly prepared.
- B. Notify architect of unsatisfactory preparation before proceeding.
- C. Verify that channels for support at head, jambs and sills are properly installed.

### **3.2 PREPARATION**

- A. 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 Ballistic-Resistant Glass Block System in strict compliance with the manufacturers' specifications, sizing, anchorage charts and installation instructions including all materials, accessories, workmanship and cleaning.

### **3.4 CLEANING**

- A. Remove excess sealant from glass surfaces immediately following application.

### **3.5 PROTECTION**

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION