



PITTSBURGH CORNING™

## SECTION 08 88 22

### ENERGY EFFICIENT GLASS BLOCK WINDOWS / PANELS

#### PART 1 – GENERAL

##### 1.1 SECTION INCLUDES

- A. Low-E Glass Block Energy Systems

##### 1.2 RELATED SECTIONS

- A. Section 05 50 00 - Metal Fabrications: Steel channels, sills, lintels, and jambs.
- B. Section 07 90 00 - Joint Sealers.
- C. Section 09 90 00 – Paints and Coatings

##### 1.3 REFERENCES

- A. ASTM C1363-05 Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies
- B. NFRC 100-2010 Procedure for Determining Fenestration Product U-factors
- C. NFRC 200-2010 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence
- E. NFRC 500-2010 procedure for Determining Fenestration Product Condensation Resistance Value
- F. ASTM E2190-08 Standard Specification for Insulating Glass Unit Performance and Evaluation
- G. ASTM E283-04 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.
- H. ASTM E330-02 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- I. ASTM E547-00 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.

J. ASTM B209M-07 Standard Specification for Aluminum and Aluminum–Alloy Sheet and Plate.

K. ASTM C920-08 Standard Specification for Elastomeric Joint Sealants.

#### 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 as required for project.

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 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.

## 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: [request info](#); Web: [www.pittsburghcorning.com](http://www.pittsburghcorning.com).

### 2.2 SYSTEM DESCRIPTION

#### A. Design Requirements

1. Energy efficient system shall conform to the requirements specified for the particular items and shall be complete assemblies by a single manufacturer.

#### B. Performance Requirements

1. The system shall meet or exceed heat transfer (U-factor) and solar heat gain (SHGC) performance levels specified.

#### C. Basis for Design: Pittsburgh Corning LightWise Architectural Energy Efficient Series

1. U-factor of product: Per NFRC 100-2010

- a. Unframed 0.34
- b. Framed 0.38

2. R-value of product:

- a. Unframed 2.94
- b. Framed 2.63

3. Solar Heat Gain Coefficient (SHGC) of product: Per NFRC 200-2010

- a. Framed 0.27

### 2.3 GLASS BLOCK

A. Basis for Design: Pittsburgh Corning Energy Efficient Series

1. Patterns

- a. Energy Efficient Vue
- b. Energy Efficient Decora
- c. Energy Efficient Delphi
- d. Energy Efficient IceScapes

2. Physical Properties:

- a. Nominal Size; Face: 8 inches (203mm) by 8 inches (203mm) by 3.5 inches (89mm) thick
- b. Installed Weight 24 lb/sq. ft
- c. Visible Light Transmission: 33%-76% (dependent on pattern)

2.4 ACCESSORIES

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

B. Aluminum 2-piece Channel System: Anodized or powder coated as required.

C. Anchorage: Self-tapping screws and masonry anchors as prescribed per substrate

D. Shims: Plastic type shims as required

**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 Energy Efficient 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