

BLASTSHIELD Skylight Model Specifications – Division 13

Part 1 – GENERAL

1.01 Scope:

- A. Supplier:** Furnish and install all product and accessories for BlastShield Skylight Model manufactured by PROTECH, an Armor Holdings Company, 158 Hubbard Avenue, Pittsfield, MA 01201 USA. Phone (413)684-3104, Fax (413)684-4166, blastshield@armorholdings.com e-mail.
- B. Structural Support and Mounting** to be approved by PROTECH on each project.
 - 1. BlastShield Skylight Model** steel flatbars and angle irons must be securely and permanently fastened to the structure of the building. The capacity of the brackets and structural members shall be equal to, or in excess of, the capacity of the BlastShield system to withstand designed loads.
 - 2. Other structural supports** as approved by the manufacturer may be required on a case by case basis.

1.02 References:

- A. BlastShield Skylight Model** shall meet or exceed the criteria of providing a Condition 3 protection rating when subjected to blast overpressures of 4psi and impulses of 28 psi*ms as designated by the United States General Services Administration (GSA standard).
- B. A Test Report** from an independent, government certified blast testing facility verifying that this standard is met shall be required.

1.03 Submittals:

- A. Product Data** shall be submitted, including manufacturer's descriptive literature indicating materials, finishes, installation instructions and test data verifying that BlastShield Skylight Model meets blast and vision requirements specified. Include manufacturer's recommendations for maintenance and cleaning.
- B. Shop Drawings** shall indicate fasteners, installation methods and clearance at head, jamb and sill for each mounting condition.
- C. Samples** of materials and accessories for complete installation shall be submitted to the Architect for approval. Fabric swatch samples, 8" x 10", shall be submitted for approval of both color and openness of weave.
- D. A Mock-up Unit** of BlastShield Skylight Model shall be submitted for Architect approval if requested. Approved mock-up unit shall be included in the final project.

1.04 Quality Assurance:

- A. Responsibility** – PROTECH shall furnish BlastShield Skylight Model and all related accessories, and shall supervise installation or properly train certified installation crews for single source responsibility.
- B. Supplier** shall be the manufacturer, subsidiary, licensed dealer or agent approved to supply and install the products specified by PROTECH.
- C. Installer** shall be qualified to install the specified products by factory certification from PROTECH as a licensed installer of BlastShield products, having demonstrated performance and acceptance of any requirement of PROTECH. The installer shall be responsible for the correct measuring and acceptable installation of the product.

1.05 Delivery, Storage and Handling:

- A. Deliver** to project site in manufacturer's original packaging.
- B. Handle and store** to prevent damage to materials and finishes.

1.06 Job Conditions: Building is to be enclosed and all necessary related trade work completed prior to installation.

Part 2 – PRODUCTS

2.01 Manufacturer: PROTECH

158 Hubbard Avenue
Pittsfield, MA 01201 USA
Phone (413)684-3104, Fax (413)684-4166
blastshield@armorholdings.com e-mail

2.02 Product: BlastShield Skylight Model affords superior protection from falling glass fragments and flying debris while preserving the view and natural lighting that skylights provide. When a blast or seismic event occurs, the BlastShield Skylight Model captures the falling glass and debris, thereby mitigating injuries to people and damage to property below. As a solar shading system, BlastShields also reduce glare, permit see-through visibility, preserve natural day lighting, provide daytime privacy to the occupant, and control unwanted heat gain. BlastShields are appropriate wherever a secure, protected environment is required.

2.03 BlastShield Fabric:

- A. PhiferShield** fabric is used exclusively in the BlastShield Skylight Model. PhiferShield is woven from an extrusion coated Spectra Type 900 polyethylene fiber having a tenacity of greater than 28 grams per denier. The coating is a proprietary PVC polymer formulated with performance additives that withstand mildew, fading, and soiling. The coated fiber is woven into a double strand mesh, 22x18, and is heat treated to retain dimensional stability.
- B. PhiferShield** is available in widths up to 96". Panels wider than 96" can be manufactured with thermally bonded vertical seams. The standard openness factor is 20%, but can be made as open as 30% or as tight as 5%. Custom openness factors are available.
- C. Optimal Protection** is provided by mounting inside the mullion recess or by overlapping the glass coverage by 3" on each side.

2.04 Components:

- A. Steel flatbars**, 1" x ¼", run continuously across the top and bottom of the BlastShield Skylight Model. Holes are punched into the flatbar at each end and across the length of the flatbars as required for anchoring. The PhiferShield fabric is wrapped twice around the steel flatbars and secured to the flatbar with double sided tape.
- B. Angle irons**, 2" x 3" x ¼", run continuously across the bottom of the BlastShield Skylight Model. The 2" leg of the angle iron secures the BlastShield Skylight Model to the skylight mullion structure. The 3" leg of the angle iron is bolted to the bottom steel flatbar. 1" x 7/16" slots are punched into the angle iron, allowing the BlastShield Skylight Model to be tension adjusted, and also permit access to the skylight for cleaning and maintenance.
- C. Weld nuts** are inserted in the bottom steel flatbar holes.

- D. Hex head bolts**, 1" x 3/8", and 3/8" washers secure the bottom steel flatbar to the 3" leg of the angle iron.
- E. Fasteners** consisting of either (1) through bolts with washers and nuts, (2) anchor bolts with washers, or (3) threaded rod with washers, nuts and epoxy anchors with sleeves are required to secure the steel flatbar and angle iron to the structure. Fasteners are evaluated based on the particular structural conditions of the project, and may be recommended by the manufacturer on a case by case basis.
- F. Optional painted metal fascia** is available if requested. This fascia does not contribute to the blast mitigation qualities of the product, but is decorative in nature.

2.05 Colors and Finishes:

- A. PhiferShield** is available in the following standard colorways: Alabaster, Chalk, Pebblestone, Greystone, Granite, Pewter, Ash, Ebony, and Tobacco. Custom colors are available.
- B. Steel flatbar, angle irons, and optional metal components** are available in standard black finish. Custom colors are available.

Part 3 – EXECUTION

3.01 Inspection and Preparation:

- A. Certified technicians or installers** are required for proper measuring of BlastShield Skylight Model. The technician/installer is responsible for inspecting the jobsite for mounting conditions and for proper measuring of the product.
- B. Other Affected Trades** shall receive relevant submittal drawings and installation instructions as required.

3.02 Installation and Maintenance:

- A. Certified Installers** are required to ensure proper installation of BlastShield Skylight Model. Installation must be in strict accordance with the manufacturer's instructions and approved shop drawings.
- B. The BlastShield Skylight Model** should be installed as close to the inside of the glazing surface as possible to minimize the rotation of glass fragments in the event of a blast or seismic event.
- C. Clean** the area around the product after installation, and remove all related trash from the sites.
- D. Maintenance:** The BlastShield Skylight Model requires a minimum of maintenance. The fabric can be periodically vacuumed, brushed in place, or cleaned with soapy water or a mild detergent and a soft brush, followed by a thorough rinsing with clean water. Should the BlastShield Skylight Model need to be removed for the purpose of cleaning the skylight, remove the 1" x 3/8" hex head bolts from the 3" leg of the angle iron, and pull the PhiferShield fabric away from the skylight. When cleaning or maintenance is completed, reinstall the BlastShield Skylight Model in strict accordance with the manufacturer's instructions.

3.03 Technical Services: Contact PROTECH as required.