

BLASTSHIELD Model 428R Specifications – Division 13

Part 1 – GENERAL

1.01 Scope:

- A. Supplier** – Furnish and install all product and accessories for BlastShield Model 428R, 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 Model 428R** steel flatbar and roller assembly backplate must be securely and permanently fastened to the structure of the building or by approved brackets that are 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 blast loads.
 - 2. Other structural supports** as approved by the manufacturer on a case by case basis.

1.02 References:

- A. BlastShield Model 428R** shall meet or exceed the criteria of providing a Condition 3 protection rating when subjected to blast overpressures of 4 psi 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 Model 428R 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 Model 428R shall be submitted for Architect approval if requested. Approved mock-up shall be included in the final project.

1.04 Quality Assurance:

- A. Responsibility** – PROTECH shall furnish BlastShield Model 428R 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 Model 428R affords superior protection from exploding glass fragmentation and flying debris while preserving the view and natural lighting that exterior windows provide. When a blast occurs, the BlastShield Model 428R captures the flying glass and debris at or near the window, thus protecting the occupants from injury, mitigating property damage, and allowing return to daily operations in blast affected areas in a more timely manner. Glass fragmentation on the flooring, furnishings, and in the ventilation system is greatly reduced. As a solar shading system, BlastShields also reduce glare, permit see-through visibility, preserve natural day lighting, provide daytime privacy to occupants, 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 Model 428R. 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, 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 10%. Custom openness factors are available.
- C. Optimal protection** is afforded the building occupant by overlapping the window 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 Model 428R. Holes are punched into the flatbar at each end and approximately every 12" on center across the bar for anchoring. The PhiferShield fabric is wrapped twice around the steel flatbars and secured to the flatbar with double sided tape.
- B. Roller assembly backplate**, 1/8" x 4" steel, runs continuously across the width of the BlastShield Model 428R at the roller end of the unit. The roller assembly backplate and steel flatbar are aligned and mounted as one to the structure of the building.
- C. Roller brackets** connecting the roller tube to the roller assembly backplate are welded to the roller assembly backplate.
- D. End plugs** are inserted into the roller tube, connecting it to the roller brackets.

- E. A roller spring** is inserted in one end of the roller tube. This heavy duty dynamic tension spring keeps the reservoir of PhiferShield fabric taut in front of the window.
- F. A Roller tube**, 1-3/8" diameter rolled steel, runs continuously across the BlastShield Model 428R. The roller tube houses the reservoir of PhiferShield fabric, which is wrapped around it and under constant tension from the roller spring. The roller tube is connected to the roller brackets by the end plugs.
- G. Fasteners** consisting of either (1) anchor bolts and washers, or (2) threaded rod, washers, nuts and epoxy anchors with sleeves are required to secure the steel flatbar 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.
- H. Minimum width** for Model 428R is 20". **Maximum width** for Model 428R is 144".
- I. Optional painted metal fascia and brackets** for the top and bottom of the BlastShield Model 428R are available. These do not contribute to the blast mitigation qualities of the product, but are decorative in nature.
- J. Optional top channel and pull pins** are available for access to the window if required.

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, roller assembly backplate and optional metal components** are available in standard black. Custom colors are available.

Part 3 - EXECUTION

3.01 Inspection and Preparation:

- A. Certified technicians or installers** are required for proper measuring of the BlastShield Model 428R. 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 Model 428R. Installation must be in strict accordance with the manufacturer's instructions and approved shop drawings.
- B. The BlastShield Model 428R** 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.
- C. Clean** the area around the product after installation, and remove all related trash from the site.
- D. Maintenance** – The BlastShield Model 428R 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 unit need to be removed for the purpose of cleaning the window, it must be reinstalled in strict accordance with the manufacturer's instructions.

- 3.03 Technical Services:** Contact PROTECH as required.