

**Specification Section 08390 / High Range Blast Resistant Door Model DB-50**

**PART 1 - GENERAL**

**1.2 Scope:**

Furnish blast resistant door assembly where indicated on door schedule and specified. Installation is optional. Unit shall include steel door leaf, frame, anchorage, latching hardware and hinge to resist the design requirements specified.

**1.5 Submittals:**

Before fabrication is started, manufacturer shall furnish \_\_\_\_\_ complete sets of submittal drawings, and if required, analysis calculations showing conformance or blast loading certification for Architect's approval. Drawings shall detail latching hardware, hinges, and frames to wall anchors, hardware functions, and if required, transom panels, door closers, thresholds and perimeter sealing devices. (*Optional:* Calculations shall bear the stamp and signature of a Registered Professional Engineer.)

**1.6 Warranty:**

Manufacturer shall warrant its products to be free of defects in labor and material for one year after shipment.

**PART 2 - PRODUCT**

**2.1 Design Basis:**

Blast resistant door systems as shown on drawings shall be Sonicbar® series Model DB-50 manufactured by Protective Door Industries, Harvey, IL 60426 at 708/331-2515 or prior approved equal. Door manufacturer shall submit evidence of having been engaged in the successful design and manufacture of blast resistant door assemblies for a minimum of 10 years.

**2.2 Design Criteria:**

Door system shall be designed to resist a positive blast force of up to \_\_\_\_ PSI static equivalent loading at \_\_\_\_\_ % rebound (if not specified, rebound will be calculated) with the positive pressure acting to \_\_\_\_\_ (seat the door into the frame [hinge side] or unseat the door against the hardware [stop side]).

Fire rating: Where indicated on the door schedule, those openings shall be certified by the blast door manufacturer that the materials used in the construction of the door assembly are of noncombustible construction for the degree of U.L. protection specified.

**2.3 Fabrication:**

**2.3.1 Construction:**

Blast doors shall be of noncombustible construction, full flush, insulated, fabricated of structural shapes and plates with sharp lines and angles. Faceplates shall be one piece, fabricated from straight material with thickness determined by the design calculations.

Frames shall be of structural steel with welded barstops, three *or* four-sided, set-up and welded, factory reinforced and template tapped for hardware. Frames to be equipped with anchors designed to transfer all blast loadings to adjacent walls or to structural embeds.

Transom panels and transom bars, if required, shall be designed to permit their complete removal for occasional access of equipment.

Steel material shall conform to the standards of the American Institute of Steel Construction. All work shall be assembled using all welded construction per the standards of AWS D1.1 and D1.3. Welds to be of a size and type as required per the blast load analysis criteria.

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### **2.3.2 Hardware:**

- A. Latching hardware shall be supplied by blast door manufacturer and certified as a complete system. The hardware shall not release under blast loads or rebound.
- B. Single door and active leaf of pair shall be furnished with factory installed Sonicbar® SH-153 series mortised multi-point horizontal spring latch system. Heavy duty hardware assemblies shall be corrosion resistant, positive acting, vibration-free and operated by lever handle on outside and lever handle or exit bar on the inside. Doors shall be prepared for key locking cylinder where indicated with the Masterkeyed core provided by the Owner. The inactive leaf of pair shall use a fully concealed factory installed Sonicbar® SH-154 series vertical two-point latch, operated by lever handle inside only, with no exterior operation or trim. The lever handle(s) activate steel bolts engaging strikes at door jamb *or* head and sill, and shall not release under blast loads or rebound. All exposed trim shall be stainless steel with US32D finish.
- C. *Optional:* Single and each leaf of pair shall be furnished with factory installed Sonicbar® SH-154 series manually operated vertical two-point latch unit, either surface mounted *or* fully concealed, operated by lever handle on stop side, and lever handle *or* no exterior operation or trim on hinge side. If required, the door panel shall be prepared for a security hasp and staple, with the padlock supplied by others.
- D. Where scheduled, active door leaf shall be prepared to interface with card key access control or power assisted operation as specified in section 08720.
- E. A heavy-duty surface mounted door closer shall be non-hold-open type. Door and frame shall be factory reinforced for door closer. Closer shall be sprayed aluminum finish, BHMA symbol 689.
- F. Hinges shall be Sonicbar® series SH-461 surface bolted high strength cast six-way adjustable hinges. Each hinge shall be capable of smooth operation and designed so one hinge will carry entire door weight. Hinges shall be manufactured of structural quality steel and contain a stress proof pin, steel pintle, steel straps and a sperco bearing. Door and frame shall be factory reinforced, drilled and tapped, and fitted for hinges. An allen wrench shall be used to adjust the six-way hinges. Exposed hinge surfaces shall be factory USP prime finish.

### **2.4 Finish**

All tool marks and imperfections shall be removed and exposed welded joints dressed smooth. Surfaces shall be cleaned and/or ground smooth for maximum paint adhesion. Exposed surfaces shall be factory prime painted with the manufacturer's standard rust inhibitive prime paint.

## **PART 3 - EXECUTION**

### **3.1 Storage:**

Prior to installation, cover and store all materials in a dry, protected location to prevent damage.

### **3.2 Installation:**

Installation of materials shall be performed by Contractor's skilled mechanics *or* by manufacturer's trained personnel. Installation shall be in strict accordance with installation instructions and approved installation drawings provided by the door manufacturer. Frames and embeds shall be installed plumb, level, square and rigid. Doors shall be securely hung in place and adjusted for proper operation and ease of swing. All latch bolts shall fully extend into strike cut-outs. Doors shall be finished painted as applicable under another referenced section.