

Specification Section 08390 / Low Range Blast Resistant Door Model DB-200

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-200 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 3 PSI static equivalent loading at _____ % rebound (if not specified, 100% rebound percentage will be used) with the positive pressure acting to _____ (seat the door into the frame [hinge side] or unseat the door against the hardware [stop side]). Door system shall be undamaged and fully operable after application of the specified blast load.

Fire rating: Where indicated on the door schedule, those openings shall be labeled by Underwriters Laboratories for the degree of protection specified and shall have been tested as single and pair of doors. If door size specified exceeds tested door size, a certificate of labeled construction certifying that a smaller sized unit of the same construction has been tested per UL10B and is acceptable.

2.3 Fabrication:

2.3.1 Construction:

Blast doors shall be of fireproof construction, full flush, insulated, 2 ³/₄" thk. fabricated of steel sheet, and/or structural shapes and plates, with internal stiffeners for reinforcement to resist the stresses resulting from the blast loading specified. A removable astragal assembly shall be attached to and swing with the inactive leaf of pair at the meeting style. Removable mullions are optional.

Frames shall be 12 gauge formed steel, three-sided, set-up and welded, factory reinforced and template tapped for hardware. Frames to be equipped with appropriate anchors designed to transfer all blast loadings to adjacent walls or 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 load or rebound.

- B. Single door and active leaf of pair shall be furnished with factory installed Sonicbar® SH-153 series mortised two-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 activates steel bolts engaging strikes at door jamb or head and sill. All exposed trim shall be stainless steel in US32D finish.

- C. A heavy-duty surface mounted door closer shall be non-hold-open type and included for the single or active door leaf where a U.L. Fire Label is required. Door and frame shall be factory reinforced for door closer. Closer shall be sprayed aluminum finish, BHMA symbol 689.

- D. Hinges shall be furnished by blast door manufacturer. Door and frame shall be factory reinforced, drilled and tapped, and fitted for hinges. Hinge type shall consist of one of the following:
 - 1. Continuous steel hinge with stainless steel pin available in factory USP prime finish or optional brushed stainless steel finish.
 - 2. Heavy-duty ball bearing type 5" x 5" x .190 mortised hinges modified to resist the blast pressure. Butt hinges are available in factory USP prime finish or optional stainless steel finish.
 - 3. Protective Door Industries Sonicbar® SH-460 series high strength cast six-way adjustable hinges. The exposed hinge surfaces shall be factory USP prime finish.

- E. Where scheduled, active door leaf shall be prepared to interface with card key access control or power assisted operation. A 24 VDC power supply to door panel is required via an electric hinge for U.L. Fire rated systems or surface power loop for non-U.L. Fire rated systems.

2.3.3 Vision Panel:

Openings marked on the door schedule to contain a vision panel shall be equipped with a blast resistant 10-inch x 10-inch (clear opening) vision lite, factory glazed. Suitable glass and glazing materials, either wire or laminated glass, shall be included with the glass composite and thickness determined by the blast door manufacturer. The system shall bear a U.L. 1½ hour 'B' Fire Label.

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.