

Specification Section 08390
Vertical Lift Blast Resistant Door Model DB-200-VL

PART 1 - GENERAL

1.2 Scope:

Furnish, and if required, install blast resistant vertical lift sliding door assembly where indicated on door schedule and specified. Unit shall include steel door panel, blast restraints, sliding door hardware, cable assemblies and guides, counterweights and safety devices to meet 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 door size, all dimensions necessary for proper installation and including door hardware, guides, cables and connections, sheaves, counterweights and cover panel, power operator and controls, and if necessary, field splicing arrangement. (*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:

Low range vertical sliding blast resistant door systems as shown on drawings shall be Sonicbar® series Model DB-200-VL 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 wall side or unseat the door against the restraints). Door system shall be undamaged and fully operable after application of the specified blast load.

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.

Manufacturer shall submit certification that the doors are constructed using noncombustible materials.

2.3 Fabrication:

2.3.1 Shop Assembly:

Blast doors shall be of noncombustible construction, fiberglass insulated, 2 ³/₄" thk. and fabricated of steel sheet with internal stiffeners for reinforcement to resist the stresses resulting from the blast loading specified. On oversized openings and where shipping constraints mandate size, door leaf shall be field spliced with the door panel prepared for proper set-up and alignment.

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Structural channel frame or steel embeds shall be furnished and installed by others as specified in Section 05121, Structural Steel, and shall be designed to support the loads impacting the opening.

2.3.2 Track System:

The door panel shall ride in heavy angle guides at either side. Guides shall be mounted on structural steel members of sufficient depth to retain door leaves and allow for proper alignment. Guide shoes shall be adjustable, pre-lubricated anti-friction type. Unseating blast load restraints shall be included.

Galvanized aircraft cable (two per leaf) shall be used to raise and lower the door panel. Cables shall be suspended over sheaves, rotating on bearings, and mounted on steel shafts. Drive is positive, friction free. Door leaf to be counterbalanced by steel weights, housed in a steel weight box with angle guides.

2.3.3 Operation:

Manual, electric power or pneumatic power operation shall be specified. Choose between either a type NEMA 1, 4, 7/9 or 12 enclosure for a power operated unit. The pneumatic operator shall be furnished with an air cylinder device, timer override and electric / pneumatic control panel with adjustable valves to control door speed. The operating pressure should be set at a minimum of 50 PSI and may be readjusted higher. Electrical operation shall consist of a 460V AC, 3-phase, single speed motor of sufficient horsepower with low voltage controls and electric control panel. Standard actuators for power operation are 3-button pushbutton station installed on each side. Pull cord devices are optional. The bottom edge of the door panel shall be equipped with a reversing safety edge, photo beams are optional. A self-closing device is available for openings having fire rated wall construction.

2.3.4 Door Handles:

At manually operated units, the door panel shall have a recessed pull on the wall side and a surface mounted bow handle on the exterior side.

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. Doors shall be finished painted as applicable under another referenced section.