

Protective Door Industries Standard Specification

Ph: 708/225-3539 • E-mail: sales@protectivedoor.com • www.protectivedoor.com

Sound Control Doors PDI Models DS4 or DS6 Specification Section 08 34 73

PART 1 - GENERAL

1.2 Scope:

Furnish laboratory certified sound control door assembly where indicated on door schedule and specified. Unit shall include steel door leaf, frame, anchorage, hinges, heavy duty hardware, sound seals, sill and threshold arrangement.

1.5 Submittals:

Before fabrication is started, manufacturer shall produce a set of submittal drawings and sound certification showing conformance for Architect's approval. The submittal shall be sent electronically in '.pdf' format.

Drawings shall include a door schedule with acoustical rating, and detail door panel thickness, size, door swing (handing), frame, frame anchorage, tolerances, acoustical gasketing and retainers, hardware functions, threshold and sill conditions, and if required, vision lite and glazing materials.

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:

Sound control door assemblies as shown on drawings shall be either Sonicbar series Model **DS4** or **DS6** supplied by **Protective Door Industries, Harvey, IL 60426 at 708/225-3539 or sales@protectivedoor.com** or prior approved equal. Door supplier shall submit evidence of having been engaged in the successful design and manufacture of sound control door assemblies for a minimum of 10 years.

2.2 Design Criteria:

Door system shall be certified to have not less than ____ STC (*specify* from 50 to 61 STC) Sound Transmission Class per ASTM E-90 test method, tested as an operational swinging door unit and have a certified Sound Transmission Class (STC) rating determined per ASTM E-413 meeting the requirements of:

Sound Transmission Class of door, based upon tests at the series of 16 third octave band center frequencies from 125 to 4,000 Hz (cycles per second), is no less than ____ STC for a _____ threshold condition (*specify* flush or low).

2.3 Fabrication:

2.3.1 Door Construction:

Sound control door shall be of fireproof construction, nom. 4 ¼" thk. for a **DS4** unit /or/ ± 5 ¾" thk. for a **DS6** unit. Door panels shall be of flush design, insulated, constructed of carbon steel face sheets or plates, and free of visible joints at seams or door faces. Door panel to have interior formed horizontal and vertical stiffeners shop welded full height and door width to provide insulating air spaces and acoustical septum. Faces of door shall not connect with each other except at perimeter edges. Fireproof non-coupling acoustical fill material shall be interlaced between stiffeners.

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.

2.3.2 Frame Construction:

Frame shall be structural steel channel, three- or four-sided, set-up and welded, with hairline fitted joints and factory reinforced. The frame shall be template fitted for hardware, drilled and tapped for

Sound Control Doors PDI Models DS4 or DS6
Specification Section 08 34 73

hinges and perimeter sound seals. Frames to be equipped with appropriate anchors for attachment to adjacent construction. Mortar cover guards shall protect all mortise cutouts after frames are grout filled. Provide temporary spreader bar to be removed after installation.

2.3.3 Latching Hardware:

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. The lever handle activates the steel bolts engaging strikes at door jambs for complete compression against acoustic seals. 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. All exposed trim shall be stainless steel with US32D finish.

Optional: 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.

2.3.3 Hinges:

Sonicbar series SH-460 half-mortise or SH-461 surface bolted high strength cast six-way adjustable hinges 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 stressproof pin, steel pintle, steel straps and a sperco bearing. Hinge pintle bearings shall be self-aligning, stainless steel with Teflon lifetime lubrication to ensure ease-of-operation and weight support in the radial and thrust bearing plane. 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.

Optional: Surface mounted Sonicbar H-417 or H-418 manual adjustable hinges with Oilite lubrication shall be installed to carry the weight of the door leaf and provide for a smooth and level operation.

2.3.4 Acoustical Gasketing:

Door in closed position shall be tightly sealed with Sonicbar H-214 (for a **DS4** door) or Sonicbar H-216 series (for a **DS6** door) acoustical stops in fully adjustable retainers. Clearance shall not exceed ¼" between frame members and door leaf. Acoustical stops shall include a heat resistant neoprene gasket in formed steel housing attached to frame. Position locking washers shall provide a minimum of ⅜" adjustment. A Sonicbar H-220 removable adjustable astragal assembly shall be attached to and swing with the inactive leaf of pair at the meeting style.

Where a flush threshold is required, the PDI Model **DS4** door unit shall be sealed by means of Sonicbar series H-345, H-346 or H-326W automatic threshold closure providing instantaneous ¼" retraction of the neoprene gasket when the door is opened. For a low sill, the **DS4** unit shall be sealed with the Sonicbar H-344 heat resistant closed cell contact type neoprene wiper seal, surface mounted to the stop side of the door and compress against a ¼" X 1" deep 'half-oval' steel threshold. The sill clearance shall not exceed ¼" for either arrangement.

The PDI Model **DS6** door sill shall be sealed by means of a combination of a mortised Sonicbar Tri-seal automatic threshold closer and a H-344 heat resistant closed cell contact type neoprene seal, surface mounted to the stop side of the door. The sill operating clearance shall not exceed ¼". When the door is in the closed position, the seal shall compress against a ¼" x 1" deep 'half-oval' steel threshold strip which shall extend across the width of the opening between the jamb sills.

Protective Door Industries Standard Specification

Ph: 708/225-3539 • E-mail: sales@protectivedoor.com • www.protectivedoor.com

Sound Control Doors PDI Models DS4 or DS6 **Specification Section 08 34 73**

2.3.5 Vision Panel:

Openings marked on the door schedule to contain a glazed opening shall be equipped with an acoustical double pane vision lite. The door leaf will have factory prepared cut-outs and reinforcements and designed to allow for independent installation or removal of each pane of glass. Suitable clear glass shall be included, with the glass composition and thickness determined by the sound door manufacturer.

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. Installation shall be in strict accordance with installation instructions and approved installation drawings provided by the door manufacturer. Frames shall be installed plumb, level, square and rigid, and fully grouted. 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. PDI's compression type sound seals shall be fastened in place and adjusted to be continuously wedged against the door panel and threshold. Doors shall be finished painted as applicable under another referenced section.