

GENERAL: This document defines **SIGNUM Steel 49 dB Acoustic Door specifications** which conforms to **ASTM E90/ISO 10140-2, ASTM E413** and **ISO 717-1** for Sound Transmission Loss (**STC**) measurement. It includes proprietary design and performance specifications.

MATERIALS

Galvanized Steel sheets for frame sections and shutter skin shall conform to IS 277 with zinc coating of 120 g/m² (total of both sides).

Core shall be proprietary SIGNUM sound deadening & insulating material

Anchor Bolts shall be of size M8 x 75 mm, galvanized for corrosion resistance

Vision Panel (optional) shall be of hermetically sealed double glazed unit (DGU) type

CONSTRUCTION

Frame: Steel frames shall have a triple rebated profile of 150 mm x 75 mm with bending radius of 1.4 mm constructed from minimum sheet thickness of 1.5 mm.

Frames shall be fabricated at factory pre-equipped with iron-mongery preparation and reinforcements. Frames shall be in knock down form with butt joints for bolted assembly directly at site.

Shutter: Steel shutters shall be 75 mm thick, press formed, double skin type construction with folded interlocking seam joints at stile edges, with minimum sheet thickness of 1.2 mm. Shutters shall have no visible screws or fasteners on either face and shall be constructed out of proprietary sound deadening insulating material bonded to the inner surfaces of the sheets with suitable permanent glue. Shutters shall be factory prepared with pre-punched cut-outs and reinforcements to receive iron mongery. Special Noise insulating proprietary SIGNUM designed acoustic gasket seals shall be mounted on door periphery on 3 sides (and in the meeting edges in case of double doors) along with automatic bottom drop down gasket/ seal to ensure maximum sound insulation from edges of door. Flange for vision panel shall be square or rectangular in shape with a profile of 40 x 6 mm, with one side welded to the shutter face and the other side screwed. Clearances at jambs and heads shall not be more than 3 mm between the frame and shutter. Floor level to shutter bottom clearance i.e. undercut shall not be more than 19 mm.

FINISHES

Frame and Shutter surfaces shall be suitably prepared and cleaned with solvents prior to coating. Frames and shutters shall be finished powder coated at factory as per approve RAL colour shades. The dry film thickness (DFT) for the powder coating shall be not less than 50 microns as per IS 13871.

QUALITY ASSURANCE

Steel Acoustic doors shall be manufactured by a unit certified for its quality systems as per ISO 9001: 2015 standards from a recognized certifying authority. Each door unit shall have a label, to indicate door identification number and date of manufacturing. Acoustic door unit shall be GreenPro certified to be eco-friendly by CII-IGBC (Indian Green Building Council).

PACKAGING

Frames and shutters shall be covered with adhesive based PE sheets to prevent damages to surface finish during transportation and at site. Labels shall be applied to each set as per project schedule for easy identification at site.

Additional protection such as side bolsters from card-board paper shall be used to protect during transit and at-site storage.

All knocked down frames shall be stacked flat and shutters flat/ vertically on top of card-board/ other bolsters in clean, dry, well-ventilated areas.

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