

GENERAL: This document defines **SIGNUM Lead Lined Steel Flush Door specifications** which conforms to **IS 4351** and **IS 16074**. 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). Lead Sheet shall be of thickness 2.0 mm. Core shall be Honeycombed Kraft paper/ Mineral wool/ Steel stiffened hollow core as per requirements. Frame Anchor fastener shall be of size M8 x 100 mm, polyamide sleeve with countersunk galvanized carbon steel screw. Vision Panel (optional) shall be float glass or toughened glass with high lead content as per requirements.

CONSTRUCTION

Frame: Steel frames shall have a single rebated profile of 100 mm x 57 mm with bending radius of 1.4 mm constructed from sheet thickness of 1.5 mm. Other frame profiles as per IS 4351 shall also be manufactured as per client requirements. Frames shall be fabricated at factory pre-equipped with iron-mongery preparation and reinforcements. Frames shall be in knock down form with miter joints to be assembled using self-tabs directly at site.

Shutter: Steel shutters shall be minimum 30 mm thick, press formed, double skin type construction with folded interlocking seam joints at stile edges, with minimum sheet thickness of 1.2 mm. Lead sheet of thickness 2.0 mm, unpierced type, shall be provided inside the shutter covering full width of shutter, to provide protection from harmful radiation. Shutters shall have no screwed, welded/ fuse-jointed or riveted joints on either face. Shutters shall be provided with honeycombed kraft paper core/ mineral wool core to be bonded to the inner surfaces of the shutter using suitable permanent glue. Shutters shall be factory prepared with pre-punched cut-outs and reinforcements to receive iron mongery. 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 shall be clip-on type, with no visible screws on flange/ glass-beading. 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 Flush 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.

Steel 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.

SIGNUM