

GENERAL: This document defines **SIGNUM 120 Minute Insulated Steel Fire Resistant Door specifications** which meet with **IS 3614 and BS 476 Part 22** standards for Fire Resistance. The product conforms to **integrity for 120 minutes and insulation criteria for 30 minutes (FD120 PI Classification)** as mentioned in IS 3614/ BS 476 Part 22. 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). Sheet thicknesses shall be as per Fire Type Test Report. Core shall be mineral wool min. 96 kg/m³. Intumescent strip shall be Rigid PVC type of size 10 mm x 4 mm. Frame Anchor fastener shall be of size M8 x 100 mm, polyamide sleeve with countersunk galvanized carbon steel screw. Vision Panel (optional) shall be of necessary construction to achieve a fire rating of 120 minutes as per standards.

CONSTRUCTION

Frame: Steel frames shall have a single rebated profile of 125 mm x 55 mm with bending radius of 1.4 mm constructed from minimum sheet thickness of 1.2 mm. Frames shall have built-in groove on both vertical jambs and horizontal jamb of frame to accommodate self-fitting EPDM seal. Frames shall be fabricated at factory pre-equipped with iron-mongery preparation and reinforcements. Intumescent strips shall be applied on both vertical jambs and top horizontal jamb of frame. Frames shall be in knock down form with miter joints to be assembled using self-tabs directly at site.

Shutter: Steel shutters shall be 46mm thick, press formed, double skin hollow type construction with folded interlocking seam joints at stile edges, with minimum sheet thickness of 1.2 mm. Shutters shall have no screwed, welded/ fuse-jointed or riveted joints on either face. Shutters shall be provided with mineral wool core to be bonded to the inner surfaces of the shutter using suitable permanent glue and shall have horizontal and vertical internal reinforcements for support. 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 Fire rated doors shall be manufactured by a unit having valid BIS License and ISI Label/ Mark and certified for its quality systems as per ISO 9001: 2015 standards from a recognized certifying authority.

Steel door unit shall be designed and manufactured to comply with IS 3614 specifications and shall have a fire rating label, to indicate fire resistance of door as well as 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).

TESTING

Entire fire door assembly complete with iron mongery shall be type tested and certified for its fire rating by CBRI or CPRI. Type test reports shall be submitted for all projects with no further testing required, unless agreed to between the client and SIGNUM.

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.