**GENERAL:** This document defines **SIGNUM 120 Minute Steel Fire Resistant Sliding Door specifications** which conform to **IS 3614 and BS 476 Part 22** standards for Fire Resistance. The product conforms **to integrity criteria for 120 minutes** (**FD120 UD** 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). Steel pipe for internal structure of shutter and overhead track as per design conforming to IS 4923. Shutter core shall be honeycomb kraft paper or mineral wool of minimum density 96 kg/m3. MS Plate of various thicknesses shall be used to make other accessories. Vision Panel (optional) shall be of necessary construction to achieve a fire rating of 120 minutes as per standards

**CONSTRUCTION**

**Shutter:** Steel shutters shall be 66 mm ($\pm$5 mm) thick, with profiled sheet welded on both sides of steel pipe structure. Shutters shall be provided with proprietary fire retardant heat insulating 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. Flame baffles shall be welded on shutter as per direction of opening. The sliding door shall have dimensions such that it overlaps the top side of the civil/ structural opening by at least 100 mm and each horizontal side by at least 100 mm (total 200 mm), depending on the overall size of the opening, intent of the door and location. A hinged type Wicket door, if required shall be supplied as per specifications for same fire rating as that of sliding door. The frame for the wicket door shall be of single rebated profile of 66 x 44 mm and shall be fixed onto the sliding panel at location as specified. The wicket door shutter shall be 50 mm thick and fixed to the frame using suitable hinges and lock. Various other iron mongery provisions can be made on the wicket door/ sliding panel such as for door closers etc. Flange for vision panel (optional) 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. Screws shall be counter sunk and flat to be flush with beading surface.

**Track:** Shutter track shall be constructed from suitable steel structure and shall be factory prepared with cut-out for hanging of sliding shutter. One end of track shall be closed by welding plate and buffer while the other end shall have provision to fix end plate using nut-bolts.

**Accessories:** Track support, trolley, hangar, flame baffles, bottom guide roller, rope pulley support, counter-weight support and cage shall be made as per manufacturer's standard design.

**FINISHES**

Steel shutter, Track, Trolley, Hanger, Flame Baffles and other accessory surfaces shall be suitably prepared and cleaned with solvents prior to coating. Sliding Door 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. Alternatively the Sliding Door can be finished using anticorrosive zinc rich two component epoxy stoving primer (35 microns DFT) and top coat of two component polyurethane paint (35 microns DFT) of approved RAL colour shade for the project

**QUALITY ASSURANCE**

Steel Fire rated Sliding doors shall be manufactured by a unit certified for its quality systems as per ISO 9001: 2015 standards from a recognized certifying authority. Sliding door shall be designed and manufactured to comply with IS 3614 specifications. Each door unit shall have a fire rating label, to indicate fire resistance of door as well as door identification number and date of manufacturing. Sliding door shall be GreenPro certified to be eco-friendly by CII-IGBC (Indian Green Building Council).

**TESTING**

Entire sliding door assembly complete with accessories 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**

Sliding door components shall be packaged in corrugated cardboard boxes 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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