



**GENERAL:** This document defines **SIGNUM Timber 49 dB Acoustic cum 120 Minute Fire Resistant Door specifications** which meet with **IS 3614 Part 2** and **BS 476 Part 22** standards for Fire Resistance and **ASTM E90/ ISO 10140-2, ASTM E413** and **ISO 717-1** for Sound Transmission Loss (STC) measurement. The product described herein **conforms to stability, integrity as well as insulation, all three criteria for 120 minutes** as mentioned in IS 3614 Part 2/ BS 476 Part 22. It includes proprietary design and performance specifications.

#### REFERENCES

**IS 3614 Part 2:** Metallic and Non-Metallic Fire Check Doors – Resistance Test and Performance Criteria

**BS 476 Part 22:** Fire Resistance Test to Building Material – Non load-bearing elements of construction

**ASTM E90:** Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

**ASTM E413:** Classification for Rating Sound Insulation

**ISO 10140-2:** Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation

**ISO 717-1:** Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation

#### MATERIALS

Timber used for frame and shutter shall be seasoned hardwood or other species as per requirements

Core shall be proprietary fire retardant heat cum sound insulating material

Intumescent strip shall be Rigid PVC type of size 10 mm x 4 mm

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 to achieve a fire rating of 120 minutes as per standards.

#### CONSTRUCTION

**Frame:** Timber frames shall have a triple rebated profile of 150 mm x 78 mm constructed from seasoned timber. Frames shall be treated with proprietary fire retardant chemicals and seasoned till maximum moisture content is less than 12%.

Frames shall be in fully-assembled form with mitered joints for direct assembly at site. Support strip shall be provided on bottom of frame between vertical jambs to prevent warping/ damage during transport or installation. Provision for anchor bolt fasteners on each vertical jamb for fixing to Wall/ RCC surface shall be made. Center to center distance between the anchor fasteners shall not be more than 600 mm. Grooves for intumescent strip of size 10 mm x 4 mm shall be provided on both vertical jambs and horizontal jamb of frame.

**Shutter:** Timber shutters shall be 75 mm ( $\pm 2$  mm) thick, fully flush double skinned, finished with PVC/ timber edge band on all four edges. Shutters shall have no visible screws or fasteners on either face

Shutters shall be constructed out of sandwiched non-combustible boards with proprietary fire retardant heat cum sound deadening insulating material bonded to the inner surfaces of the boards using suitable permanent glue. Shutters shall be factory hot-pressed with ply or veneer or laminate on both faces. Shutters shall be factory prepared with pre-punched cut-outs and timber block supports to receive iron mongerey. Grooves for intumescent strip of size 10 mm x 4 mm shall be provided on all three edges of the shutter except bottom edge.

#### MANUFACTURE

Timber door units - frames and shutters shall be manufactured to be rigid and free from defects such as warping and buckling. Beading for vision panel shall be square or rectangular in shape with an angled profile of 30 x 30 mm, with one side bonded to the shutter face and the other side screwed. Screws shall be counter sunk and flat to be flush with beading surface. 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 5 mm.

#### FINISHES

**Timber Frames** shall be suitably prepared and a coat of anti-termite paint (black) applied to face in contact with walls. All other faces shall be polished and coated with melamine or primed with top coat of PU Paint to match laminate on shutter.

**Shutter** surfaces shall be suitably prepared and finished with polish and coat of melamine in case of veneers or primed with top coat of PU paint in case of ply or laminated and edges painted to match laminate shade as per project requirement. Paint shade shall be of approved RAL colour shade for the project and wherever used, primer shall be 35 microns DFT and top coat of two component polyurethane paint also 35 microns DFT.

#### IRON MONGERY PROVISIONS



**SIGNUM**

Ref. HTFA120  
Rev. 1.0, 1 April 2021

Shutters shall be provided with machined cut-outs for iron mongerey such as lock body, concealed door closer, flush bolts, drop down gaskets/ door bottom seal etc. Reinforcement timber blocks shall also be provided at necessary locations (as per approved drawings) to support surface mounted iron mongery items such as doors closers, all drops, pull handles. Special Noise insulating acoustic gaskets shall be mounted on door periphery on 3 sides (and in the meeting edges in case of double doors) along with bottom drop down gasket/ seal to ensure maximum sound insulation from edges of door.

#### **QUALITY ASSURANCE**

Timber Fire rated cum acoustic doors shall be manufactured by a unit certified for its quality systems as per ISO 9001: 2015 standards from a recognized certifying authority. Timber door unit shall be designed and manufactured to comply with relevant 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. Timber door unit shall be GreenPro certified to be eco-friendly for use in green buildings (LEEDS and IGBC Rated buildings).

#### **TESTING**

Entire fire door assembly complete with iron mongery shall be type tested and certified for its fire rating by CBRI or CPRI and by ARAI for its sound transmission loss rating. Single and double doors shall be tested separately to reflect accurate resistance results in case of fires. Type test reports shall be submitted for all projects with no further testing required, unless agreed to between the client and SIGNUM.

#### **WARRANTY**

SIGNUM warrants that for 18 months from the date of dispatch or 12 months from the date of installation, whichever is earlier, its manufactured products shall be free from defects in material, workmanship and construction and in accordance with the approved shop drawings submitted. Any items not manufactured by SIGNUM are only as warranted by the manufacturer of such items, otherwise all such items are sold on an AS IS basis. If examination by SIGNUM discloses that the product has been defective, provided the product was used as intended and appropriately maintained, then our obligation is limited to repair or replacement, at our option, of the defective parts or entire product, free of charge to the client. Manufacturer's warranty shall exclude losses caused by improper or insufficient maintenance, normal wear and tear, any improper operating, storage, handling, installation, modification after handing over of product to client. Manufacturers liability for incidental, consequential, or damages, including commercial or other loss, resulting from any defective product, is strictly limited to repair and/ or replacement as stated above. For details please feel free to contact us:

#### **SIGNUM FIRE PROTECTION INDIA PVT. LTD.**

PH No. 6, KH No. 202/2 Village Waddhamana

Taluka Hingna, Nagpur 440023 INDIA

Ph: +91 7104 289289, Email: [marketing@signum.co.in](mailto:marketing@signum.co.in)

#### **TRANSPORTATION, UNLOADING AND STORAGE**

Frames and shutters shall be covered with 3 mm foam sheets and wrapped with clear stretch film 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 frames shall be stacked flat and shutters flat/ vertically on top of card-board/ other bolsters in clean, dry, well-ventilated areas.

**DISCLAIMER:** All functionality, features, specifications and other product information provided in this document including, but not limited to design, components, performance, availability and capabilities of the product are subject to change without notice or obligation.

# SIGNUM