



BHAWANI FIRE

Protection

Private Limited

(An ISO 9001 : 2015 Certified Co.)

A house of complete Fire Exit Solutions





Message from our Founder

"BHAWANI" was an idea ahead of its time when it came into being in 2000. Though the initial years were a struggle, company has always tried to stay one step ahead by innovating and transforming its processes, refining service offerings, redefining customer standards internally and externally and using technology to drive up customer satisfaction. Our commitment and quality standards are the key factor to achieve new milestone & scale new heights each year .

"BHAWANI" brand offers complete solutions to its customers, at par with the best practiced quality and standards of International repute. To maintain the same quality our products go for regular testing at Indian / international labs.

We take jobs for supply & installation of Fire Rated Glazed / Metal/ Wooden Doors, Pressed Steel Door & Window frames, Fire Hydrant Shaft Doors, Rolling Shutters, Stainless Steel/M.S. Railing etc. We also execute the jobs of Fire Curtain, Fire Retardant Paint, Fire Stoppage Barrier, Fire rated glass & hardware.

We, at **"BHAWANI"**, strive to deliver the best without compromising on Quality, Commitment and Speed. There is no compromise, not even on the smallest activity. We deliver the best to our clients, helping them in identifying their requirements; based on what they actually need.

Our customers have been our assets and prime movers in our journey towards service excellence and we would like to honour and return what we have received from them. It has been our endeavor for last one decade, to provide passive fire services from single window with completion, quality, commitment and speed according to the requirements of client and site. We consider it our moral and professional responsibility to educate our valued clients on the subject before anything else.

Our values are the key driving forces that help us align our organisation towards customer sensitivity and deliver beyond customer's expectations. They encompass our attitude, behavior, action and delivery promise.

Assuring you our best services always.

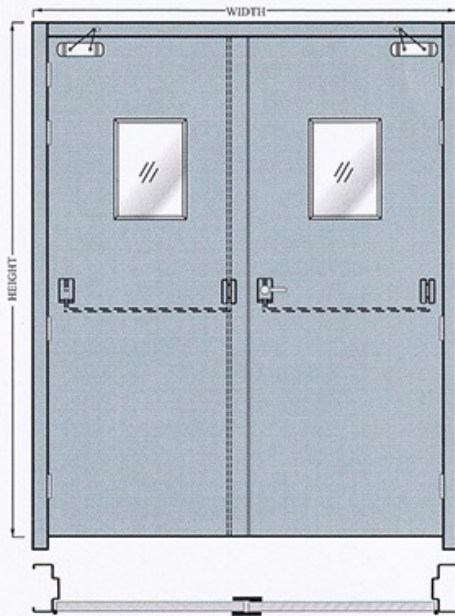
Jitendra Kr. Sharma

Managing Director

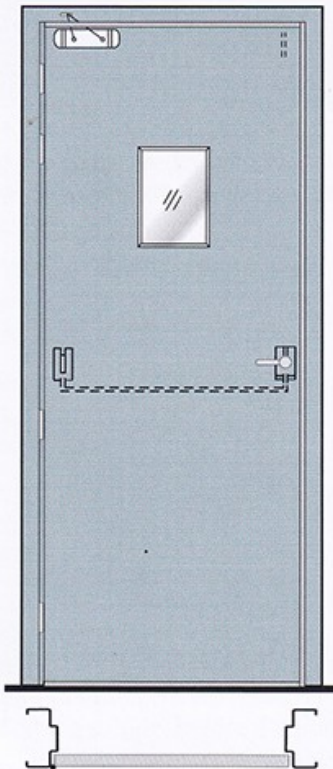


Our Products :

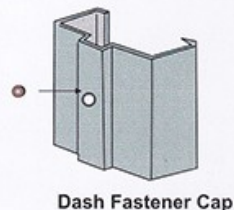
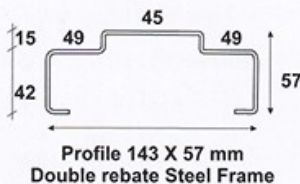
- Wooden Fire Doors / Metal Fire Door / Acoustic Cum Fire Doors
- Glazed Fire Doors / Fire Rated Glazed Fixed Partition (Fire Rated Glass)
- Steel / Wooden Lead Line Doors / Clean Room Doors
- Pressed Steel Doors & Windows
- Fire Rated Hardware
- Architectural Systems



MFD-4



MFD-2



Metal Fire Rated Door Specification

(Single leaf door/ Equal leaf door/Un-equal leaf door)

Door Type	: Metal Fire Rated Door
Fire Rating	: 120 mins
Shutter Thickness	: 46 mm
Criteria	: Stability, Integrity & With Insulation Material
Testing Standards	: BS 476 Part 20-22, IS 3614 Part 2
Frame Size	: 100 x 57mm Single Rebate 143 x 57mm Double Rebate.

Construction Details

- * Steel Frame Profile Design
- * Frame Thickness – 1.20 mm/ 1.60 mm Galvanized Steel
- * Shutter Sheet Thickness – 1.0 / 1.2 mm Galvanized Steel
- * Vision Panel – 2hrs. Fire rated Toughened clear Glass (Optional)
- * Shutter Thickness – 46 mm
- * Shutter Infill Insulation – Fire Rated Insulation
- * Finish powder coated finish in desired shade

Recommended Hardware

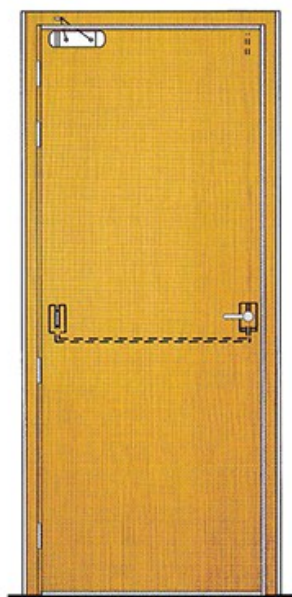
1. SS Ball Bearing Hinges – SS 304 of Size 100mm x 75mm x 3mm
2. Door Closer – Fire rated
3. Tower Bolt / Flush Bolt

Optional Hardware

4. Mortise Dead Lock Set with Cylinder- complete with D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder – Complete with Lever Handle for Push / Pull Operations
6. Fire Rated Panic Bar – Push Side Operation
Fire Rated External Panic Trim – Pull Side Operation

Recommended Finishes

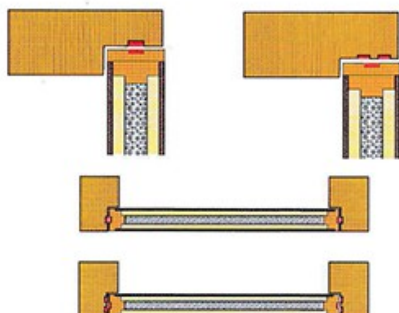
- 1 Powder Coating in desired RAL Shade Code
- 2 Polyurethane Coating in desired RAL Shade Code
- 3 Selective Wood Grain Finishes available



WFD-1



WFD-2



Wooden Fire Rated Door Specification

Door Type	: Wooden Fire Rated Door
Fire Rating	: 60mins/ 120 mins
Shutter Thickness	: 50 mm/55 mm
Criteria	: Stability, Integrity & With Insulation
Testing Standards	: BS 476 Part 20-22, IS 3614 Part 2
Frame Size	: 120mm × 70 mm /140mm × 70 mm

Construction Details

- * Wooden door Frame made out of Hardwood Mirandi Teak/ Teakwood / Ivory coast Teak as per requirement.
- * Door Shutter - Internal Frame made of Hardwood Teak with facing of 3 mm thick commercial ply or veneered ply on both face .
- * Shutter Insulation - Sandwich type Fire rated mineral wool treated with fire retardant paint & Calcium silicate board.
- * Vision Panel – 1hr/ 2hrs. Fire rated clear Glass (Optional)
- * Shutter Thickness – 50/55 mm.
- * Intumescent fire/smoke seal 20 X 4mm or 10 X 4mm at all three sides of door frame and shutters excepts bottom.

Recommended Hardware

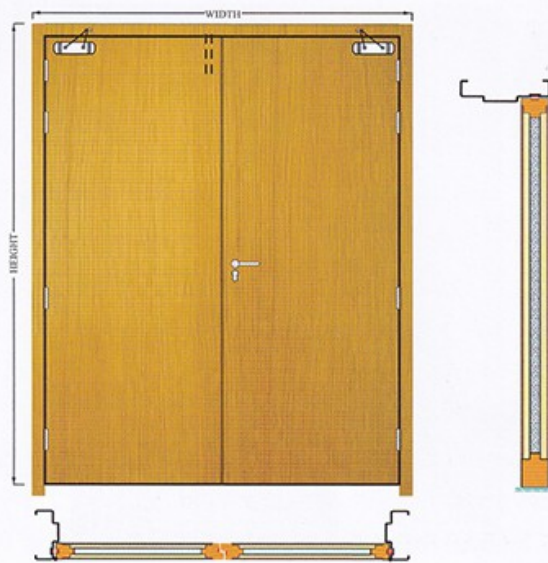
1. SS Ball Bearing Hinges – SS 304 of Size 100mm x 75mm x 3mm
2. Door Closer – Fire rated
3. Tower Bolt / Flush Bolt

Optional Hardware

4. Mortise Dead Lock Set with Cylinder- complete with D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder – Complete with Lever Handle for Push / Pull Operations
6. Fire Rate Panic Bar – Push Side Operation
Fire rated Panic Trim – Pull Side Operation

Recommended Finishes

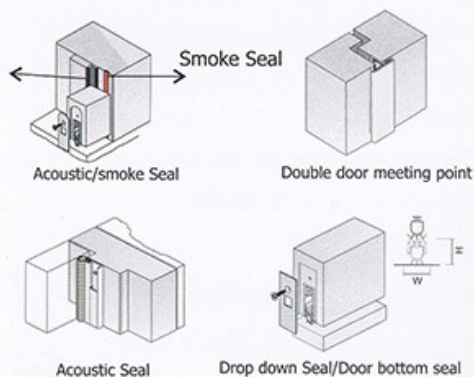
- 1 Powder Coating in desired RAL Shade Code
- 2 Polyurethane Coating in desired RAL Shade Code
- 3 Selective Wood Grain Finishes available



WFD-7



WFD-8



Wooden Fire Rated Door Specification (Acoustic Cum Fire Doors)

Door Type	: Wooden Fire Rated Door
Fire Rating	: 60mins/ 120 mins
Shutter Thickness	: 77 mm
Criteria	: Stability, Integrity & With Insulation
Testing Standards	: BS 476 Part 20-22, IS 3614 Part 2
Frame Size	: 140 x 65mm

Construction Details

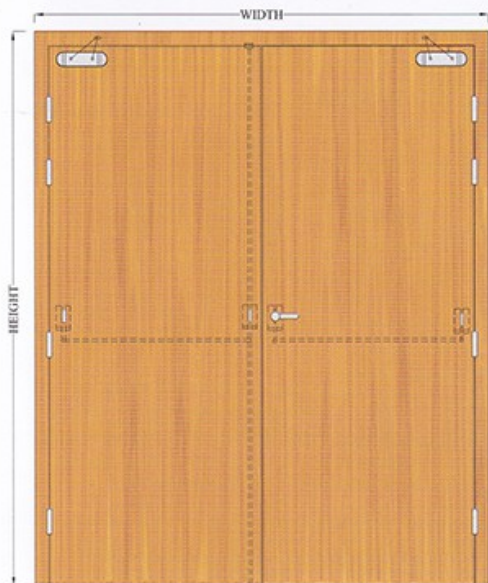
- * Wooden door Frame made out of Hardwood Mirandi Teak/ Teakwood / Ivory coast Teak as per requirement.
- * Door Shutter - Internal Frame made of Hardwood Teak with facing of 6 mm thick commercial ply or veneered ply on both face .
- * Shutter Insulation - Sandwich type Fire rated mineral wool treated with fire retardant paint & Calcium silicate board.
- * Vision Panel – 1hr/ 2hrs. Fire rated clear Glass (Optional)
- * Shutter Thickness – 77 mm.
- * Intumescent fire/smoke seal 20 X 4mm or 10 X 4mm at all three sides of door frame and shutters excepts bottom.

Recommended Hardware

1. SS Ball Bearing Hinges – SS 304 of Size 100mm x 75mm x 3mm
2. Door Closer – Fire rated

Optional Hardware

3. Mortise Dead Lock Set with Cylinder- complete with D Shape Pull handle for Push / Pull Operations
4. Mortise Sash Lock with Cylinder – Complete with Lever Handle for Push / Pull Operations
5. Fire Rate Panic Bar – Push Side Operation
Fire rated Panic Trim – Pull Side Operation

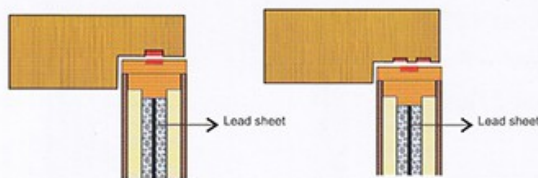
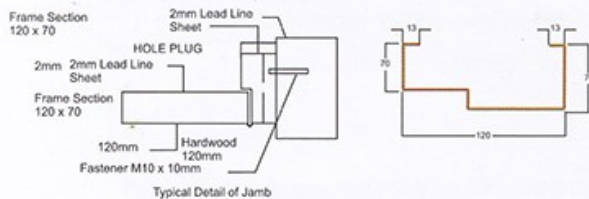


Wooden Lead Lined Door

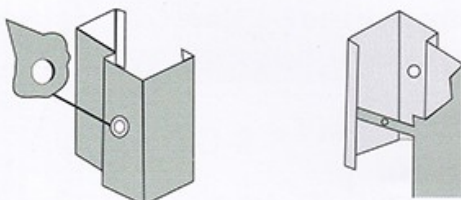
Door Type	: Wooden Lead Lined Door
Criteria	: Nuclear/Radiation Protected
Rating	: Not Applicable
Door Thickness	: 44mm
Standards	: AERB/DRS
Application	: Radiology & Nuclear Medicine

Construction Details

- * Wooden Frame Profile Design-BFPPL Hardwood Red Marindi/Teakwood of section 120x70 with 2mm lead sheet sandwiched or pressed steel door frame profile design BFPPL single rebated 100x57x1.20mm G.I. Sheet.
- * Hardwood Internal Timber frame work
- * 2mm ($\pm 1\%$) lead sheet with 99% purity
- * BFPPL core construction, 4mm thick with commercial ply.
- * Shutter thickness with commercial ply, board & limitation both side - 4mm x 2mm Galvanised Steel
- * Vision panel if required shall be of lead glass only.



Rockwool Insulation

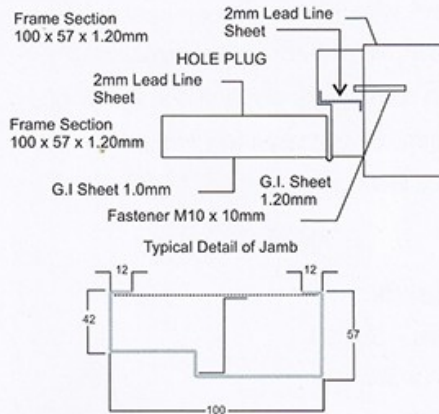
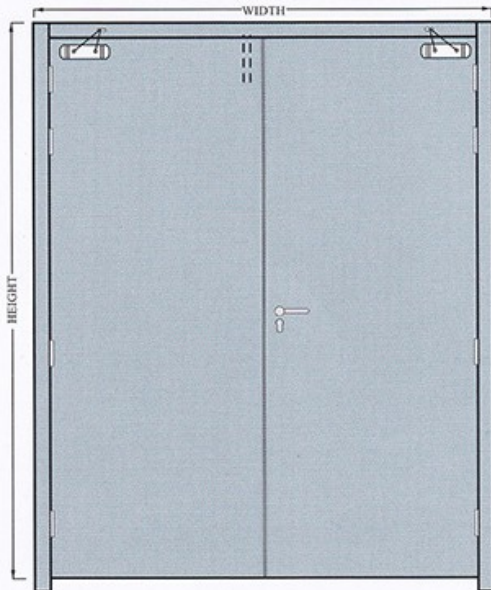


Recommended Hardware

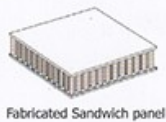
1. SS Ball Bearing Hinges – SS 304 of Size 100mm x 75mm x 3mm
2. Door Closer – Fire rated
3. Tower Bolt / Flush Bolt

Optional Hardware

4. Mortise Dead Lock Set with Cylinder- complete with D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder – Complete with Lever Handle for Push / Pull Operations



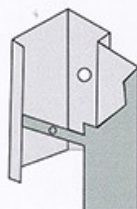
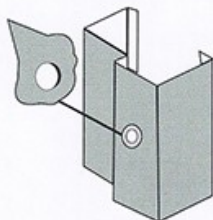
Frame Section



Fabricated Sandwich panel



Rockwool Insulation



Steel Lead Lined Door

Door Type	: Steel Lead Lined Door
Criteria	: Nuclear/Radiation Protected
Rating	: Not Applicable
Door Thickness	: 44mm
Standards	: AERB/DRS
Application	: Radiology & Nuclear Medicine

Construction Details

- * Steel Frame Profile Design-BPFPL 100x50
- * Frame Manufactured with 1.2mm Galvanized Steel
- * Shutter Thickness – 44mm
- * Shutter Infill – Honeycomb/Mineral wool including 2mm Lead Sheet
- * Shutter Manufactured with 1mm Galvanised Steel
- * Ingle Glazed Lead Glass as per requirement of size 200mmX300mm (5mm+ - 2mm)

Recommended Hardware

1. SS Ball Bearing Hinges – SS 304 of Size 100mm x 75mm x 3mm
2. Door Closer – Fire rated
3. Tower Bolt / Flush Bolt

Optional Hardware

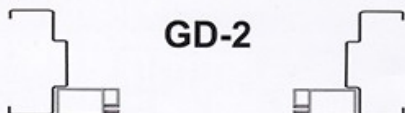
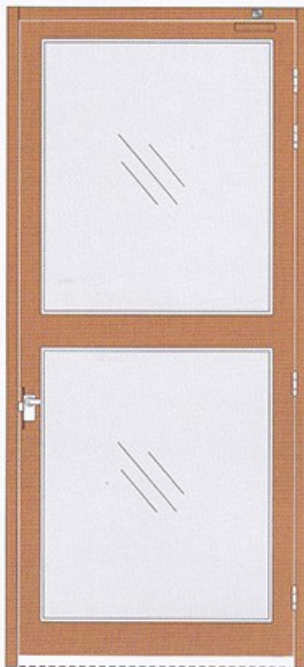
4. Mortise Dead Lock Set with Cylinder- complete with D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder – Complete with Lever Handle for Push / Pull Operations

Recommended Finishes

- 1 Power Coating in desired RAL Shade Code
- 2 Polyurethane Coating in desired RAL Shade Code
- 3 Selective Wood Grain Finishes available



GD-1



GD-2

Glazed Metal Fire Rated Door Specification

Door Type	: Glazed Metal Fire Rated Door
Fire Rating	: 60mins/ 120 mins
Door Frame	: 143 X 57 X 1.60 mm
Shutter Thickness	: 50 X 1.60 mm
Shutter Stiles	: Vertical & Top Members 50 X 100 X 1.60 mm bottom members 50 X 200 X 1.60 mm
Criteria	: Stability, Integrity & With Insulation Material
Testing Standards	: BS 476 Part 20-22, IS 3614 Part 2
Glazings	: Glass –2hrs. Fire rated clear Glass
Shutter Infill Insulation	: Mineral Wool Insulation

Construction Details

- * Steel Frame Profile Design
- * Frame Thickness – 1.6mm Galvanised Steel
- * Shutter Sheet Thickness – 1.6mm Galvanised Steel
- * Glass –2hrs. Fire rated clear Glass
- * Shutter Infill Insulation – Mineral Wool Insulation

Recommended Hardware

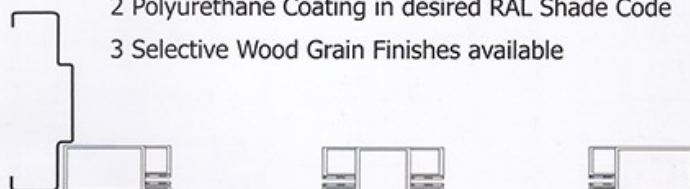
1. SS Ball Bearing Hinges – SUS 304 of Size 102mm x 89mm x 3mm
2. Door Closer – Fire rated
3. Tower Bolt / Flush Bolt

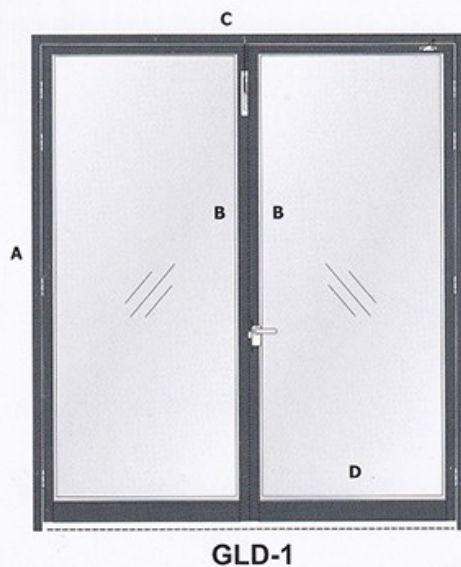
Optional Hardware

4. Mortise Dead Lock Set with Cylinder- complete with D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder – Complete with Lever Handle for Push / Pull Operations
6. Fire Rate Panic Bar – Push Side Operation
Fire rated Panic Trim – Pull Side Operation

Recommended Finishes

- 1 Powder Coating in desired RAL Shade Code
- 2 Polyurethane Coating in desired RAL Shade Code
- 3 Selective Wood Grain Finishes available





Glazed Metal Fire Rated Door with Fixed Partition

Door Type	: Glazed Metal Fire Rated Door with Fixed Partition
Fire Rating	: 60mins/ 120 mins
Shutter Thickness	: 60 mm
Criteria	: Stability, Integrity & With Insulation Material
Testing Standards	: BS 476 Part 20-22, IS 3614 Part 2

Construction Details

- * Steel Frame Profile Design
- * Frame Thickness – 1.6mm Galvanised Steel
- * Shutter Sheet Thickness – 1.6mm Galvanised Steel
- * Glass – 2hrs. Fire rated clear Glass
- * Shutter Infill Insulation – Mineral Wool Insulation

Recommended Hardware

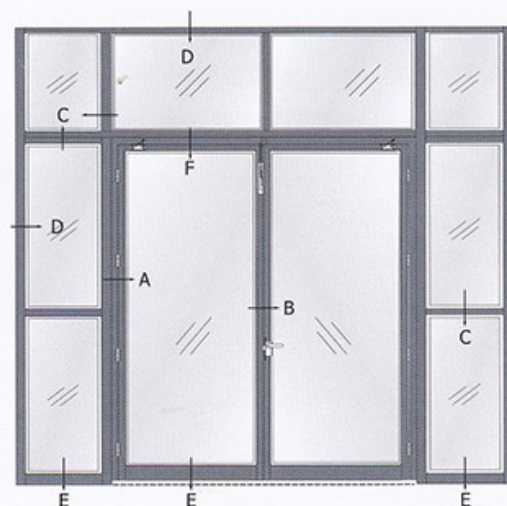
1. SS Ball Bearing Hinges – SUS 304 of
Size 102mm x 89mm x 3mm / 102mm x 76mm x 3mm
2. Door Closer – Fire rated
3. Tower / Flush Bolt

Optional Hardware

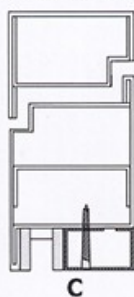
4. Mortise Dead Lock Set with Cylinder- complete with
D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder –
Complete with Lever Handle for Push / Pull Operations
6. Fire Rate Panic Bar – Push Side Operation
Fire rated Panic Trim – Pull Side Operation

Recommended Finishes

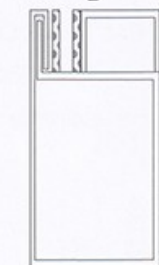
- 1 Powder Coating in desired RAL Shade Code
- 2 Polyurethane Coating in desired RAL Shade Code
- 3 Selective Wood Grain Finishes available



DOOR TOP MEMBERS

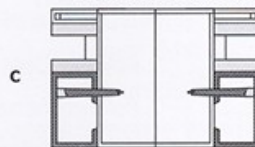


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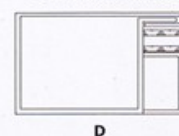


DOOR BOTTOM MEMBER

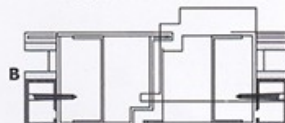
FIXED PARTITION MEMBER



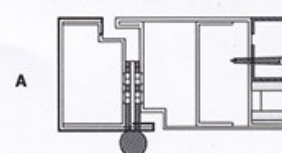
SIDE FIXED MEMBER

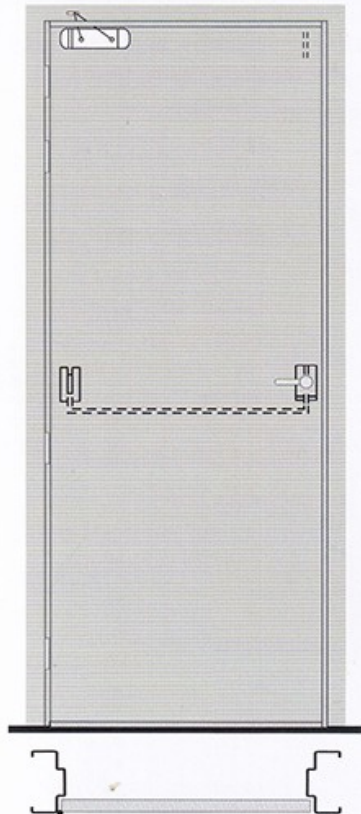


DOOR MEETING STILE

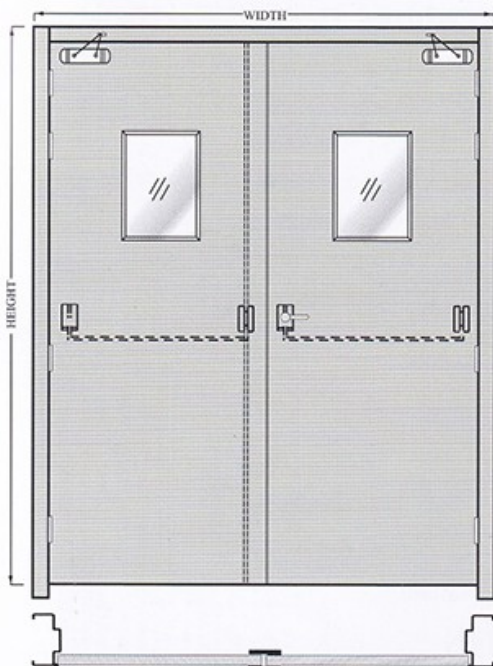


FRAME SECTION





HMPS-1



HMPS-2

HMPS Doors (Hollow Metal Pressed Steel Door)

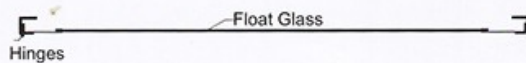
Door Type	: HMPS Doors
Shutter Thickness	: 44/46 mm
Criteria	: Stability
Frame Size	: 100x57 Single Rebate 143x57 Double Rebate

Construction Details

- * Steel Frame Profile Design
- * Frame Thickness – 1.20 mm/ 1.60 mm Hollow Metal Pressed Steel
- * Shutter Sheet Thickness – 0.8 / 1.0 mm
- * Shutter Thickness – 46 mm
- * Finish powder coated /paint finish as per desired shade

Recommended Hardware

1. SS Ball Bearing Hinges – SS 304 of
Size 100mm x 75mm x 3mm
2. Door Closer – Fire rated
3. Tower / Flush Bolt
4. Mortise Dead Lock Set with Cylinder- complete with
D Shape Pull handle for Push / Pull Operations
5. Mortise Sash Lock with Cylinder –
Complete with Lever Handle for Push / Pull Operations

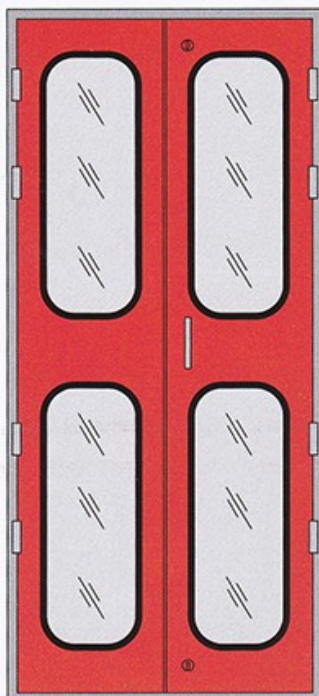


Fire Hose Cabinet Doors Specification

Door Frame	: Angle Iron 40x40x5mm
Door Shutter	: Outer Frame Angle Iron 25x25x3mm With Single Sheeted 2mm Thick M.S.
Sheet	
Finish	: Powder coated (PO Red)
Vision Glass	: 4/5 mm Thick Float glass

Recommended Hardware

1. M.S Butt Hinges : 4"x2.5 mm, ISI Marked
Concealed Handle
2. Allen Key Lock
3. Fixing - Holdfast / Dash Fastners
4. Door Size. : 1200X2000 mm

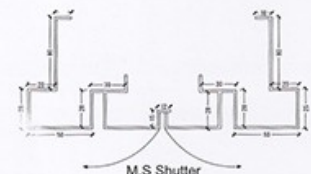


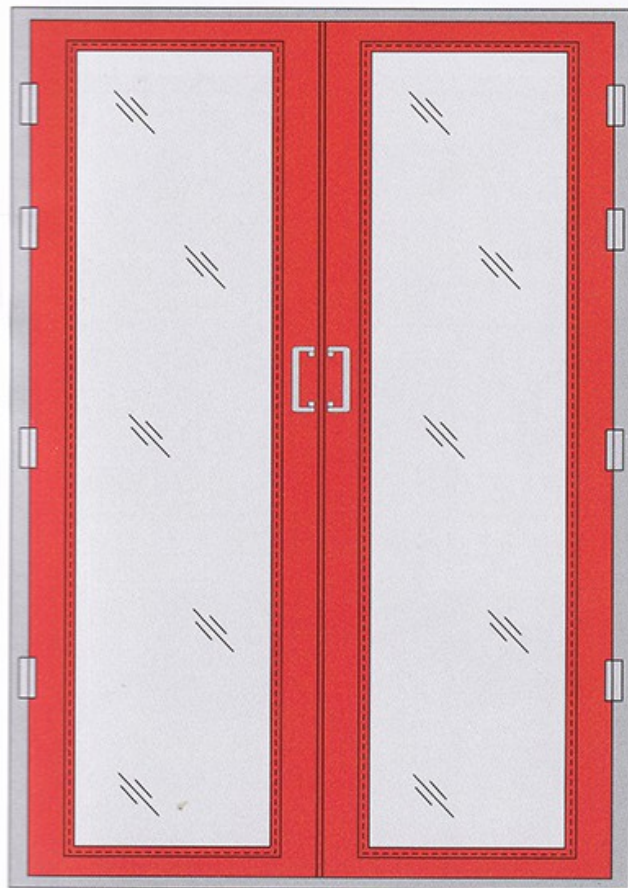
Fire Hose Cabinet Doors Specification

Door Frame	: 105x70 mm
Door Shutter	: 28 mm Thick (Single Sheeted) Non Fire Rated
Fixing	: Anchor fastener M10X100 mm
Finish	: Powder coated
Vision Panel	: 415 mm Thick Float glass
Door Size.	: 1200X2000 mm

Recommended Hardware

1. M.S Butt Hinges - 4"x2.5 mm, ISIMarked
2. M.S D-Type Handle
3. Allen Key Lock



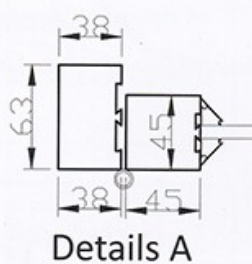
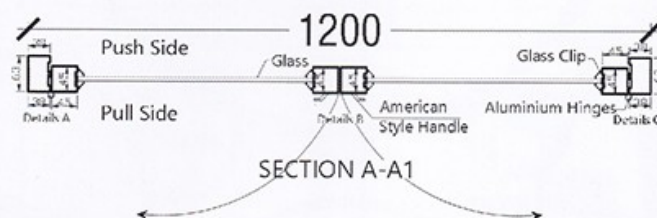


Fire Hose Cabinet Doors Specification

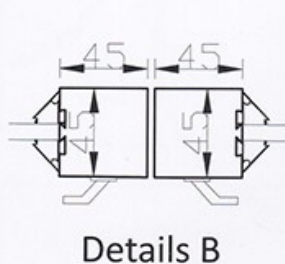
Door Frame	: Aluminium Section- 63x38x1.5mm
Door Shutter	: Aluminium Section- 45x45x1.5mm
Glass Clip	: 18.8x16.9 mm
Finish	: Powder Coating (PO Red Colour)

Recommended Hardware

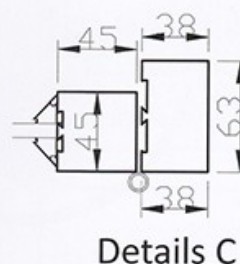
1. Aluminium Hinges
2. American Style Handle
3. Shaft Lock
4. 4/5mm thick Float Glass



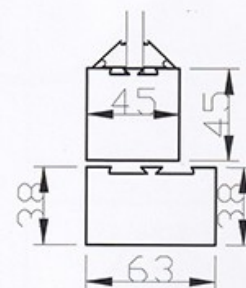
Details A



Details B



Details C



Hardware



Some of our esteemed clients are:



FIRE DOOR STANDARDS BRIEF EXPLANATION

1. INDIAN/ BRITISH STANDARD

IS 3614, Part 2, BS 476, Part 20 & 22. Building Regulations 2000-Fire Safety-Part B.

- Labeling is not obligatory.
- According to IS/ BS, a fire door can be tested without having leaf on an active latch bolt but with only a self-closing device.
- A fire door must be self-closing. Only the active door leaf of an access panel (service ducts) can however be installed without a closer but with a dead lock and a "Fire Door, Keep Shut" sign placed clear on the door face.
- Unless shown to be satisfactory when tested as part of a fire door assembly, the components of any hinge on which the door is hung should be made entirely from materials having a melting point of at least 800 degree C.
- If a fire door is held open, it must be equipped with a tested, automatic release mechanism actuated by an automatic fire deduction and alarm system or a door-closed delay device.
- Two fire doors may be fitted in the same opening so that the total fire resistance in the sum of their individual fire resistance.
- Signs and other items of hardware containing plastic should not be fitted on the non-fire side of the metal door or frame.

2. AMERICAN STANDARD

NFPA 80-1999, NFPA 252-1995, UL 10B, UL 10C, UBC 7-2 and IBC 2000.

- A fire door must have a label attached indicating the fire test rating.
- Doors are rated for 3/4th of the rating of the surrounding wall.
- Every fire door must have the labeled self-latching device to engage the strike. Dead bolts may not be used in place of latch bolts.
- A fire door MUST be self closing.
- Steel ball bearing hinges must be used. Brass bronze or other bases cannot be used. Plain bearing hinges cannot be used as well.
- If a fire door is held open, it must be equipped with a listed/ tested, heat responsive or electromagnetic device, fusible link or a smoke detection device.
- Only listed/ tested fire hardware shall be used.
- A fire door with glass opening must be provided with listed/ tested glass, a steel frame and glazing bead.
- Every assembly configuration SUCH as transom panel, frame material, thickness of metal, leaf construction, core type, door set type(single, double or double egress), etc., must be covered by the test certificate or global assessment report issued by the testing agency.

Important Fire Door's Requirement as per New 2005 Revised National Building Code of India-Part 4

Clause no.	Explanation
2.13	A way out leading to an escape route having panic bar hardware provided on the door.
3.4.8.3	The inspection door for electrical shafts/ducts shall be not less than 2hrs. For other services shafts/ducts, the same shall have fire resistance not less than 1 hr.
4.2.9	Fire doors with 2 hrs. resistance shall be provided at appropriate places along the escape route and particularly at the entrance to lift lobby and stair well where a 'funnel or flue effect' may be created, inducing an upward spread of fire to prevent spread of fire and smoke.
4.9.10 (b)	For building 15 min. height or more, access to main staircase shall be through a fire/ smoke check door of a minimum 2 hrs. fire resistance rating. Fire resistance rating may be reduced to 1 hr. for residential buildings (except hotels & starred hotels)
4.12.2 A	A Horizontal exit shall be equipped with at least one fire/smoke door of minimum 1 hr. fire resistance, of self closing type. Further, it is required to have direct connectivity to the fire escape staircase for evacuation.
6.1.4.6	Door leadings to room in which flammable liquids are stored or used shall be self-closing and shall be posted with a sign on each side of the door in 25 mm high block letters stating "FIRE DOOR- KEEP CLOSED"
Annex C-1.5 (h)	Exit from the lift lobby, if located in the core of the building, shall be through a self -closing smoke stop door of Half an Hour fire resistance.
Annex C-1.6.2	The Staircase of basement shall be of enclosed type having fire resistance of not less than 2 hrs & shall be entered at ground level only from the open air & in such positions that smoke from any fire in the basement shall not obstruct any exist serving the ground & upper stores of the buildings & shall communicate with basement through a lobby provided with fire resisting self-closing doors of 1 hr fire resistance.
Annex C-1.9 (a)	Service ducts & shafts shall be enclosed by walls of 2 hrs & doors of 1 hr fire rating. All such ducts/ shafts shall be properly sealed & fire stopped at all four levels. Annex C-1.18 ©, Entry to this room shall be provided with a composite door of 2 hr fire resistance (Boiler Rooms).

Fire Rating - Indicative Chart

S.No	Description and use of opening	Wall Rating (Hrs)	Doors and Frame Rating Minutes	
			BS 476/ EN 1634	IS 3614* 1
1	Walls that separate buildings or divide a single building into designated fire areas	4	120	120
2	Enclosures of vertical communication through buildings, such as stairwells and elevator shafts.	2	60	120
3	Door assemblies dividing occupancies in a building	1	60	120
4	Opening in corridors or room partitions	1	30	60
5	Opening in walls with potential severe fire exposures from exterior of building	2	60	120
6	Walls with potential moderate fire exposure from exterior of building.	1	30	60

PROJECT GALLERY



ADANI M2K



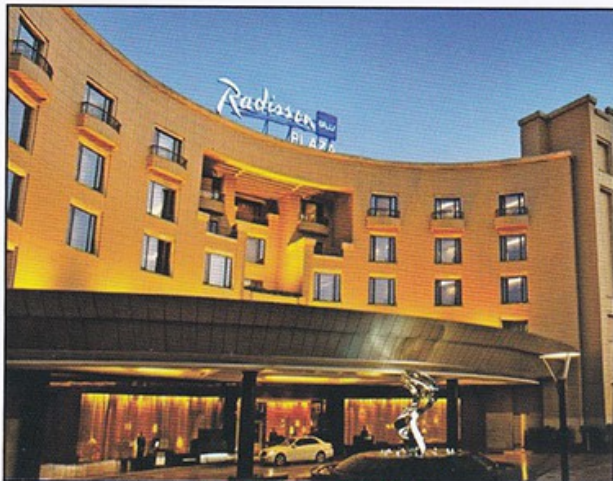
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**ESIC MEDICAL COLLEGE AND HOSPITAL
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(An ISO 9001 : 2015 Certified Co.)

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