



## STANDARD STEEL DOORS

### GENERAL DOORS

Steel doors are more robust than timber, pvc or Aluminum and are unaffected by termites therefore are preferred by many residential / commercial / industries for various options we offer in addition to meeting safety and security parameters.

Steel door sets offer distinct advantage over other door systems. They offer higher protection against vandalism, fire, burglary and are relatively maintenance free.



#### Features

- Available in galvanized or stainless steel.
- Honeycomb core infill for structurally flat surface.
- Shutter thickness of 44 mm & Frame depth of 100 or 140 mm.
- Shutter face sheet thickness of 0.8 or 1 mm.
- Frame sheet thickness of 1.2 or 1.5 mm.
- Scratch free powder coating film thickness of 60 to 80  $\mu$
- Can be supplied in a wide range of colors.



### SCIENTIFIC DOORS

Scientific doors can withstand exposure to chemical washing and are designed to meet the most stringent requirements for clean and hygienic applications.

These Doors are extensively used in pharmaceutical, biotech, food processing companies, Micro Electronics Industries and hospitals.

#### Features

- Available in galvanized or stainless steel.
- Honeycomb core & PU infill for structurally flat surface.
- Shutter thickness of 44 mm & Frame depth of 100 mm
- Shutter face sheet thickness of 0.8 or 1 mm.
- Frame sheet thickness of 1.2 or 1.5 mm.
- Scratch free powder coating film thickness of 60 to 80  $\mu$
- The Design and construction allows for dual flush fixing of glazing and also prevents dust settlement.





## STANDARD STEEL DOORS

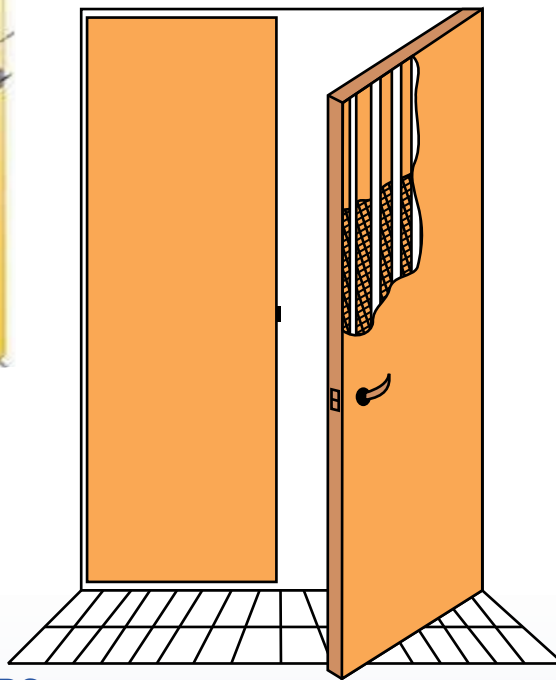
### STEEL STIFFENED DOORS

Also known as Security Doors. Depending on the level of security requirement, we suggest Standard Steel-Stiffened Core Door or Hat-Style Steel-Stiffened Door. The level of protection required will determine the degree of sophistication of construction.



#### Features

- Available in galvanized steel.
- All spaces between stiffeners are filled with Mineral (Rock) wool. Others cores like glasswool or PU are options offered.
- Shutter thickness of 44 mm & Frame depth of 100 or 140 mm.
- Shutter face sheet thickness of 0.9 or 1.2 mm.
- Frame sheet thickness of 1.2 or 1.5 mm.
- Scratch free powder coating film thickness of 60 to 80  $\mu$



### RAIL AND STILE DOORS

Stile and rail doors are built with frame and panel construction. These doors provide visual appeal and aesthetics with high degree of design flexibility. Rail and stile doors offer larger transparency.

These doors find application as office entrances, internal doors, shop fronts, etc.

#### Features

- Available in galvanized steel.
- Standard Rails of Size 72x92 and 150 mm.
- Shutter thickness of 44mm & Frame depth of 100mm
- Standard Rails sheet thickness of 1 mm.
- Frame sheet thickness of 1.2 or 1.5 mm.
- Scratch free powder coating film thickness of 60 to 80  $\mu$





# FIRE DOORS STANDARD STEEL DOORS

## FIRE RATED DOORS

Fire doors are designed to protect property and life in the event of a fire. For this, the door must serve as fire and smoke barrier. Studies have shown that more people have lost lives due to smoke asphyxiation than fire.

### Fire Doors Must Serve Four main Function

- Serve as a regular door at all times
- Provide ready egress from a fire area during a fire.
- Inhibit spreading of fire
- Protect life and property by reducing smoke hazards.

### Features

- Available in galvanized or stainless steel.
- Honeycomb core infill for structurally flat surface.
- Shutter thickness of 44 mm & Frame depth of 140 mm.
- Shutter face sheet thickness of 0.8 or 1 mm.
- Frame sheet thickness of 1.2 or 1.5 mm.
- Fire rating 60 to 240 minutes for stability and integrity as per IS 3614, Part2, BS 476, Parts 20 & 22.
- Clear vision lite up to 120 minutes fire rating.
- No welding joints and sharp edges, interlocking at the stiles.
- Factory prepped to receive all mortised hardware specified.
- High aesthetics and robust structure Fully flush constructions.
- Easy to install on a flush wall opening & dry wall partitions.
- Scratch free powder coating film thickness of 60 to 80  $\mu$
- Can be supplied in a wide range of colors.



## Applications

These doors can be used in high-rise buildings, metro railway stations, telecom centers, power plants, cellular network stations, garment processing units, shopping malls, industrial plants, multiplexes, hotels, auditoriums, software parks, restaurants, etc. CS doors and frames are designed to perform and in the most demanding environment.

## DUCT / SHAFT / ACCESS DOORS

These doors are useful for providing access to an area that requires some level of protected entry.

These doors are used for duct type openings, electrical room openings, terrace, etc.

### Features

- Available in galvanized or Mild steel
- Single sheet constructed panel
- Shutter thickness of 25 mm & Frame depth of 65 mm
- Shutter face sheet thickness of 0.8 to 1 mm.
- Frame sheet thickness of 1 mm or 1.2mm.
- Can be supplied in a wide range of colors.





# STANDARD STEEL DOORS

## SHUTTER INFILL DETAILS

### Honeycomb

Kraft honeycomb core is laminated to both face sheets with contact adhesive. The honeycomb is resin impregnated with edges sanded to ensure ultimate lamination and performance. To further enhance the structural ability of the door, the honeycomb core material is subjected to several unique operations prior to assembly. If any of these operations are eliminated, the strength and durability of the door is compromised.



**Honeycomb**



**PU Foam**

### Polyurethane Foam

It is used as an insulator and provides complete surface support, impact resistance and exceptional thermal resistance. This core has certain limitations on application and fire rating of the doors.

### Steel Stiffened

20 gauge (0.8mm) "z" or "hat" shaped steel stiffeners are welded to the inside face sheets as internal reinforcement. The stiffeners are located a maximum of 150mm center to center and are welded to the face sheet on 120mm centers. The areas between the stiffeners are filled with mineral (rock) wool insulation.



**Rock Wool**

### Shutter Features

- Interlocking construction at stiles.
- Fully flush and flat surface.
- Optional insulated infill material.
- Factory prepped to take any hardware.
- Rounded edges for safety in use.
- High aesthetics and robust structure.
- Maintenance-free doors.
- Stainless steel doors are available in No.2B or No.4 finishes.

### TECHNICAL DATA FOR SHUTTER

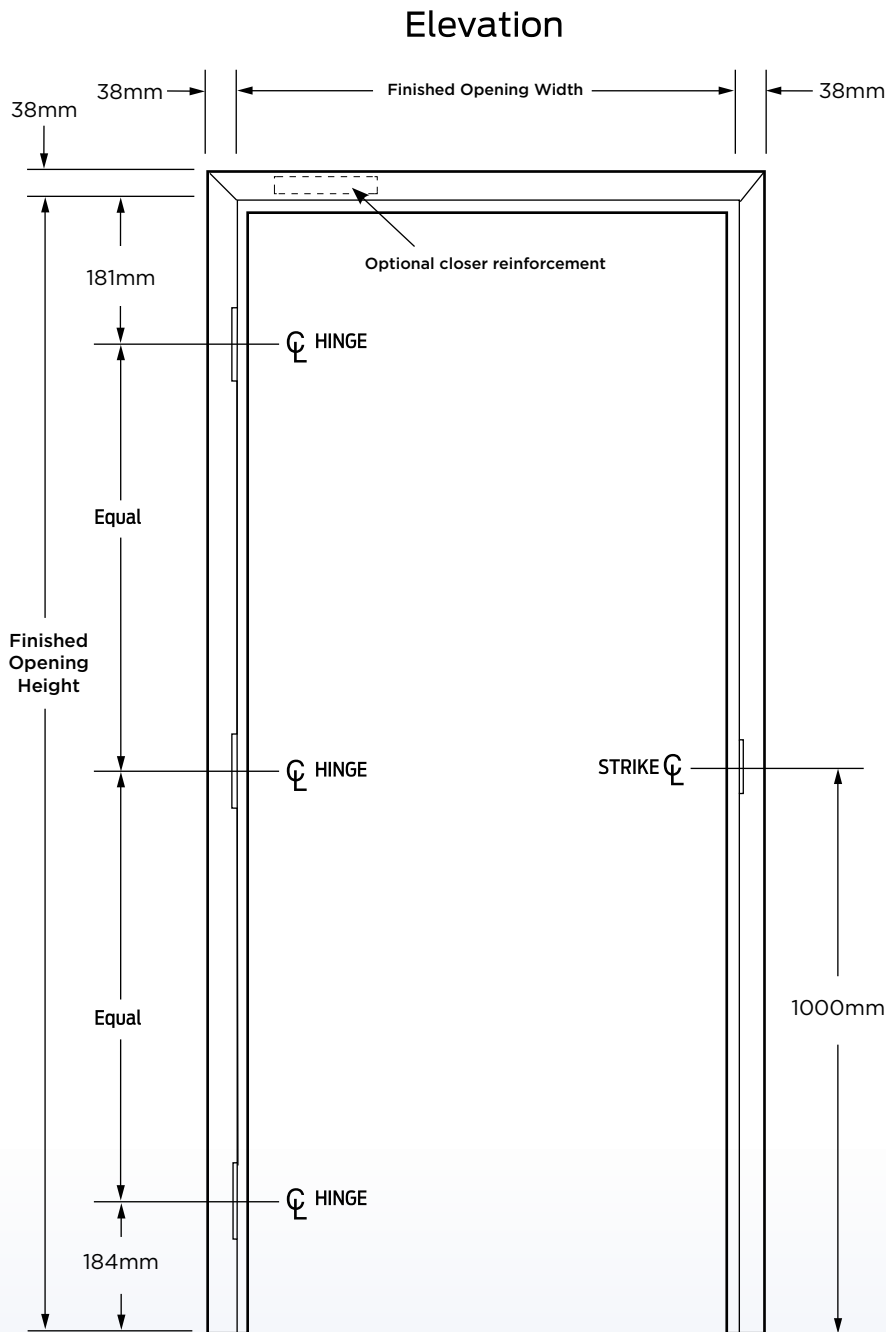
	Single Leaf	Pair of Leaf
Shutter thickness	44 mm	44 mm
Min. shutter opening width	357 mm	714 mm
Max. shutter opening width	1118 mm	2318 mm
Max. shutter opening height	2453 mm	2453 mm

**Note:** The size mentioned above are for the shutter and does not include the frame.

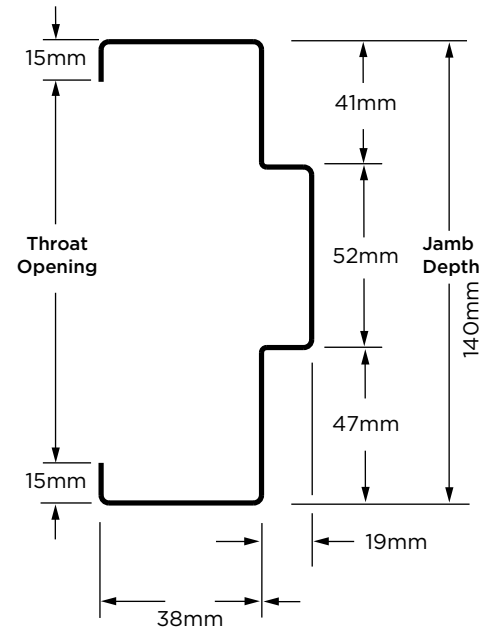


# STANDARD STEEL DOORS

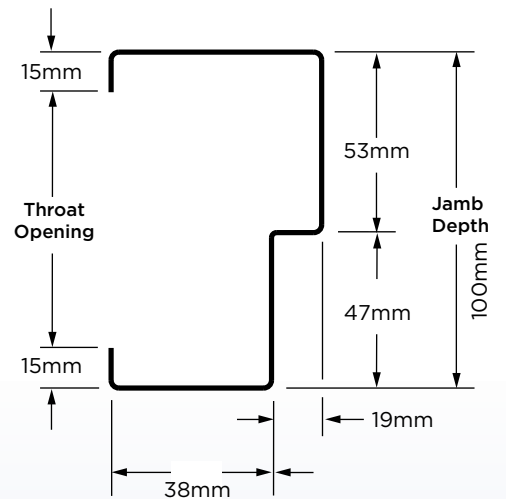
## FRAMES



### Standard Double Rabet Frame



### Standard Single Rabet Frame

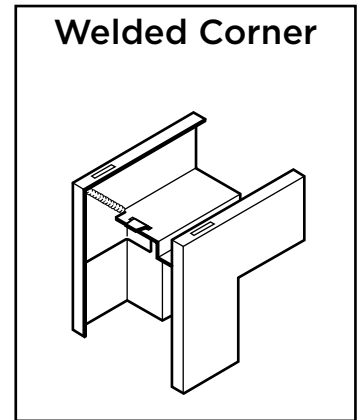
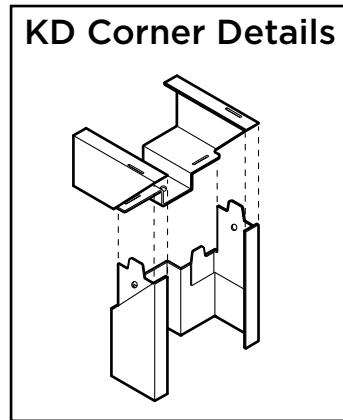
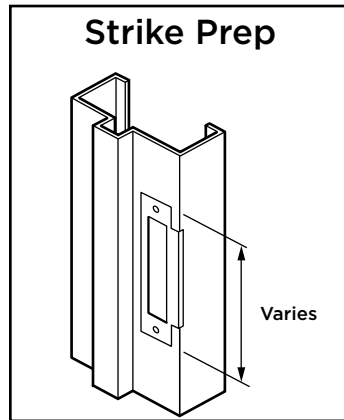
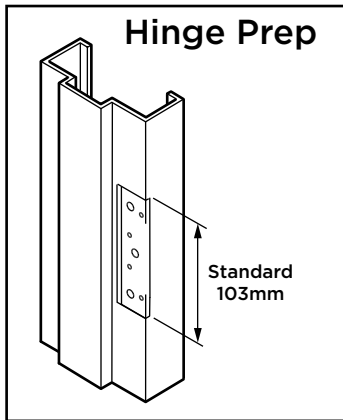


Frame sizing options										
	Maximum Finished opening size		Jamb depth availability (profile)				Standard profile dimensions (Variations available)			Corners
	Single	Pair (Double)	Single Rabet		Double Rabet		Face	Stop	Return	Standard
			Minimum	Maximum	Minimum	Maximum				
	1124 x 2462mm	2224 x 2462mm	65mm	125mm	140mm	260mm	38mm	19mm	15mm	Diemitered With Four (4) Concealed TabS Inter locking Head And Jambs



# STANDARD STEEL DOORS

## FRAMES DETAILS



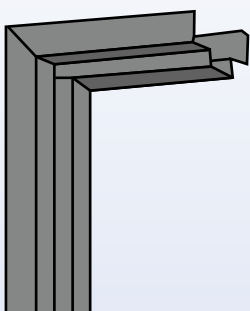
## General Notes

1. Variations in frame depths available in 3mm increments.
2. All frames are supplied standard with lock - in frame anchors. Anchors are designed for maximum wall / frame engagement and installation flexibility.
3. Frames are to be installed as part of the wall framing sequence.
4. Depending on usage conditions the steel can be either cold rolled or galvanized. Galvanized steel is recommended for all exterior applications.
5. For KD Corner and optional 4" Head, tabs in rebated area should be bent outward, not inward, during assembly (as shown).

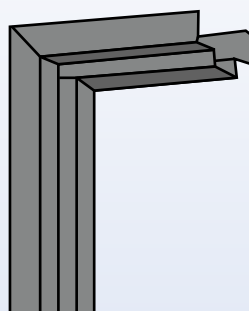
## FRAME OPTIONS

		Corner Connections			
Frame Profile		KD (Knock-down)		Set-up & Weld	
Single rebate	Double rebate	Single rebate	Double rebate	Single rebate	Double rebate
Typically for walls less than 125mm thick. Minimum walls thickness 100mm	Typically for walls less than 150mm thickness or greater	2 nut & bolts at corners,	4 interlocking corner tabs per factory die-miter. See the "KD corner Detail	Available when specified.	

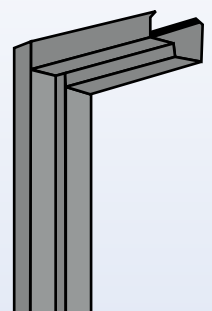
## FRAME ASSEMBLY DETAILS



Mitered Joint  
(Double rebate)



Welded Joint  
(Double rebate)



Bolted Joint  
(Single rebate)





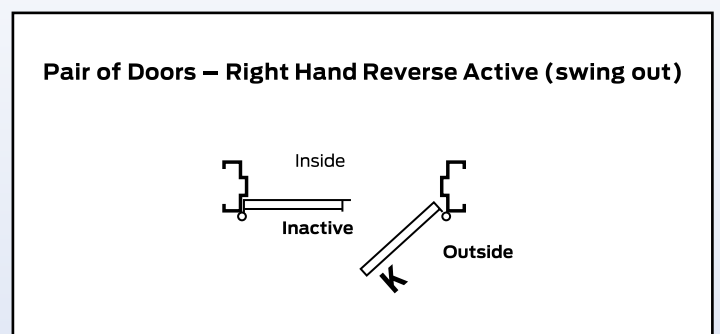
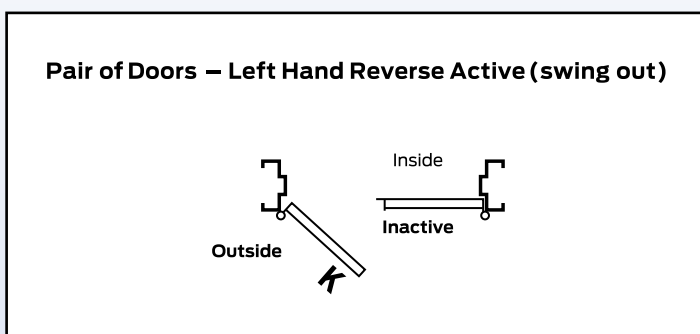
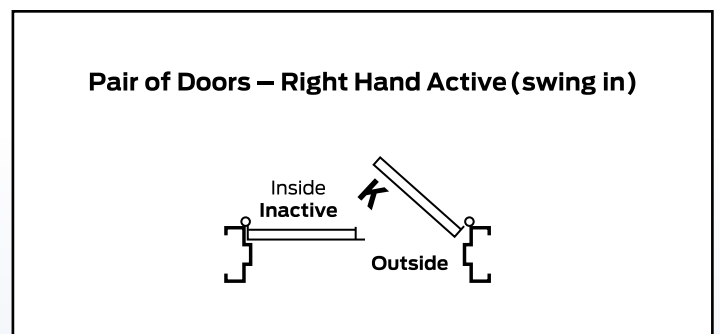
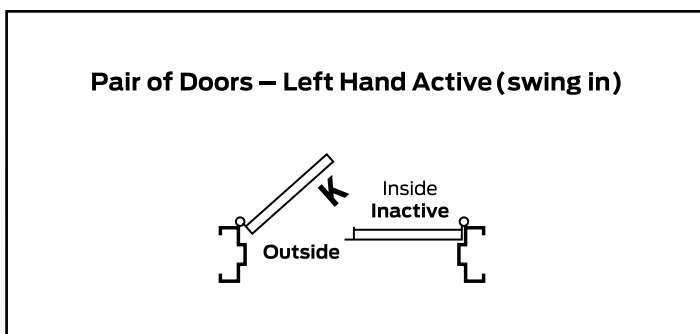
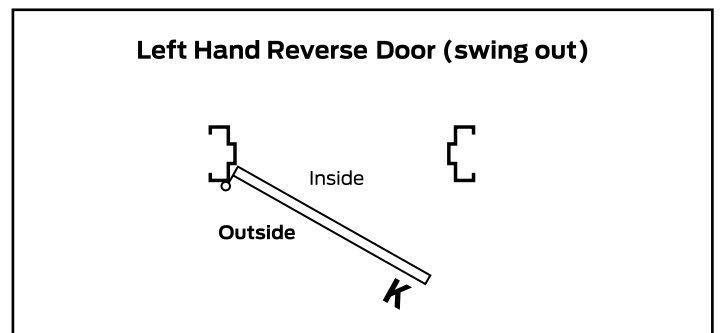
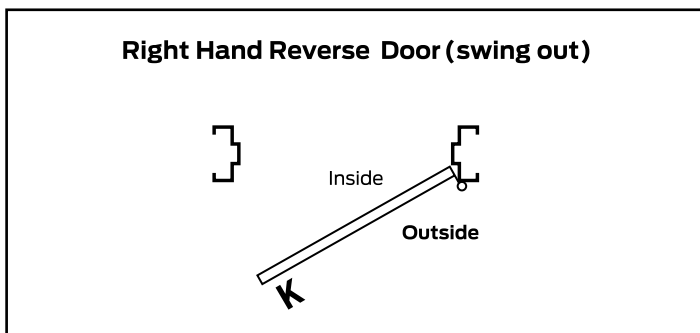
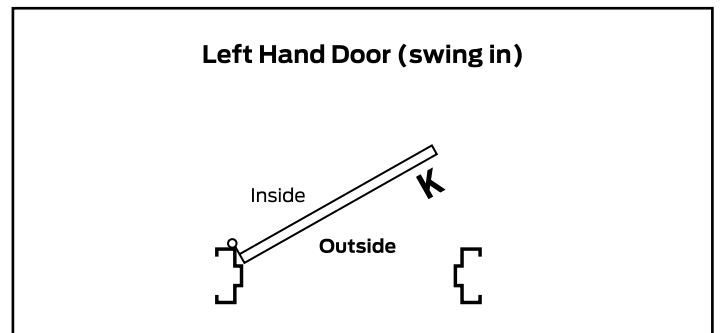
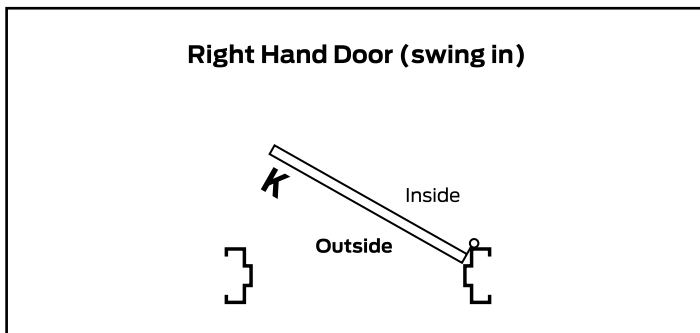
# STANDARD STEEL DOORS

## Handing procedures diagrams

To determine the hand of a door, view the door from the outside ( the side that hinges are on is the hand of the door).

- If the door swings away from the viewer, the hand is regular hand, i. e., right or left hand.
- If the door swings to the viewer, the door is reverse swing, i. e., right hand reverse swing or left hand reverse swing.

All CS Doors and Frames are handed according to the following chart:

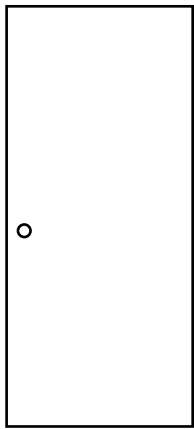


**K**-indicates Key side of the active door

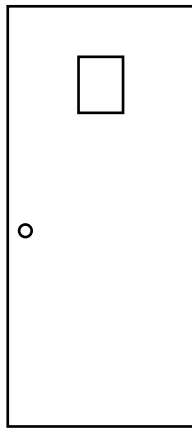


## STANDARD STEEL DOORS

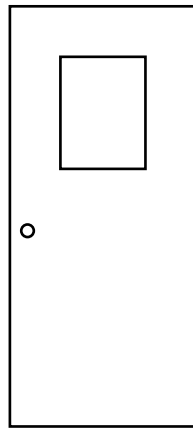
### DOOR VARIANTS DIAGRAMS



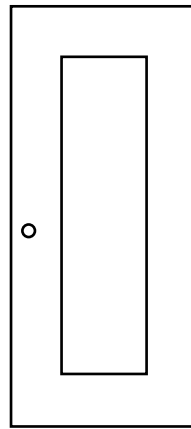
**F**



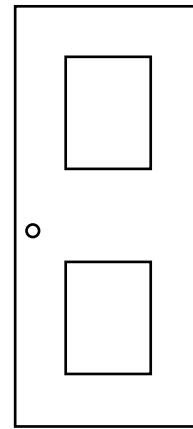
**V**



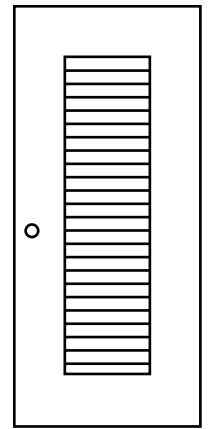
**G**



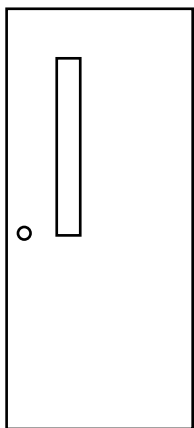
**FG**



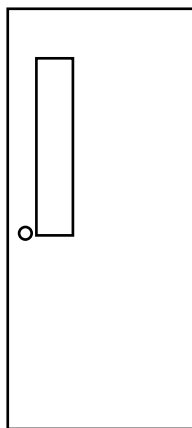
**G2**



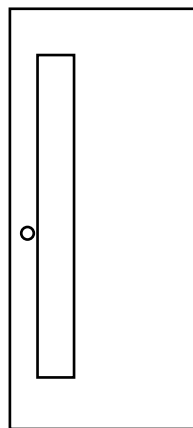
**FL**



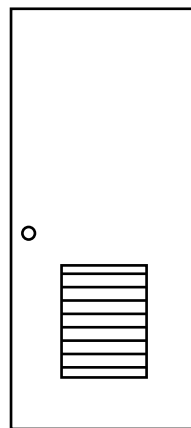
**N1**



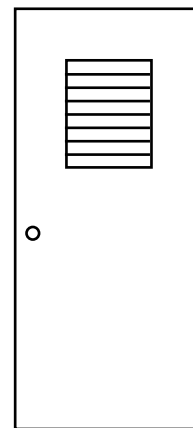
**N3**



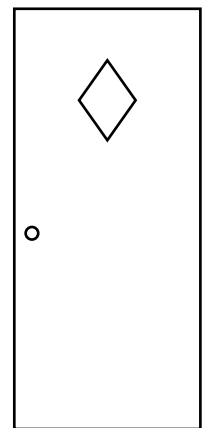
**N6**



**L**



**LT**



**D**

#### **For General Doors -**

all door variants as shown above are offered.

#### **For Scientific Doors -**

all door variants as shown above except FL, L & LT are usually offered.

#### **For Fire Doors -**

all door variants as shown above except FG, G2, FL, L & LT are usually offered.

#### **For Steel Stiffened Doors -**

all door variants as shown above are except FG, G2 & FL are offered.

#### **For Rail & Stile Doors -**

look similar to FG & G2 shown above except that they have very thin all round borders.

Special door design requests are also accepted.