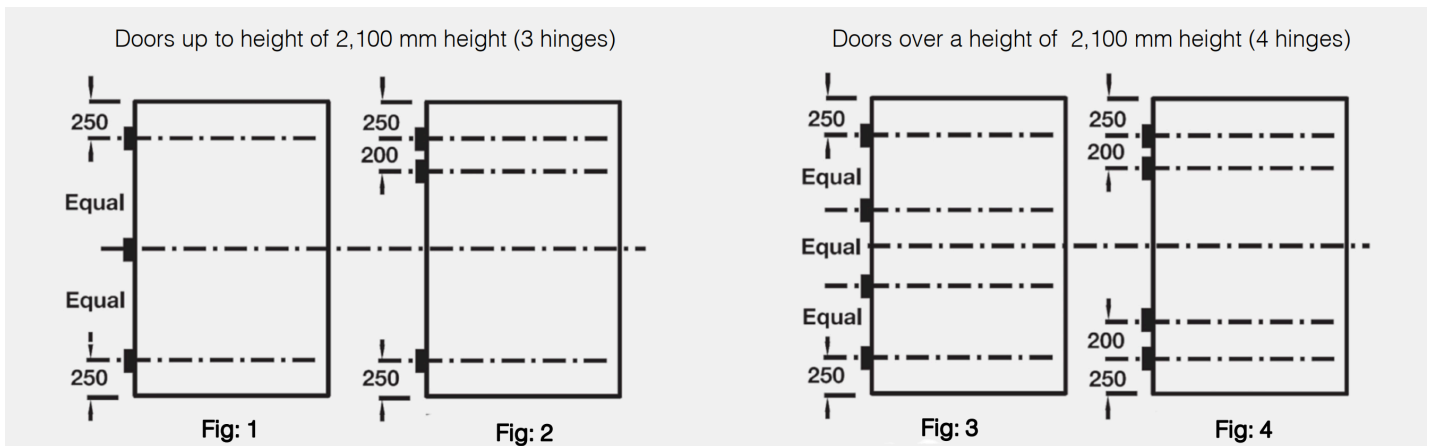


GUIDE FOR INSTALLATION

The recommendation shown below is only a guide and should be followed as per the door specifications. Figure 1 – Use for medium weight doors. The benefit of this solution is that the door will be held straight and wont warp. Figure 2 – Use for higher weight doors. This alternative is recommended when door closing device is fixed on the door. Figure 3 – Use for door height over 2,100 mm. This solution is for constructions with a high risk of door warping. Figure 4 – Use for door height over 2,100 mm. This version is especially recommended when door closers are fitted on the door



ADJUSTING THE DOOR WEIGHT

Normally, three hinges are fitted to each door. Their positions are determined by the weight of the door and its resistance to warping or whipping. Hinge specification is also determined by the adjusted door weight (based on the actual weight supplied by the manufacturer). The factors by which the door weight has to be adjusted for excessive widths of door are calculated by dividing the door height by its width. For a factor of 2 or greater, no allowance has to be made. When the factor is less than 2, the door weight has to be increased by the value required to bring the factor to 2 expressed as a percentage.

FOR EXAMPLE: If the door weight is 60 kg, the door height is 2000 mm and the door width is 1250 mm then the Factor comes up to 1.60 (Door Height / Door Width = 2000 / 1250).

Since it is always recommended to have the door height twice as much as the door width, the factor desired should be either 2 or greater than 2. The door height and the door width in our example do not meet this criteria, which could make the door susceptible to warping. In order to prevent this, while suggesting the number of hinges, not only the actual door weight but also the factor needs to be taken into consideration.

Factor arrived at = 1.60, Factor desired = 2.00

Difference in the Factors = 2.00 – 1.60 = 0.40

To accommodate for the difference in the factor we arrived at and the factor desired we should add 40% to door weight. i.e. 60 kg.+ 40% = 84 kg. (For different door widths, factors and increase in door weight percentages are shown in the side loading calculations table on the left)

Therefore while recommending the number of hinges for this door, you should consider the door weight as 84 kg. instead of 60 kg. The adjusted weight calculation table says that before suggesting the number of hinges for any door, other factors need to be taken into consideration. For example if on a door weighing 60 kg., a door closer is installed than the door weight that should be considered for suggesting the number of hinges should be 60 kg + 20 % which is equal to 72 kg.

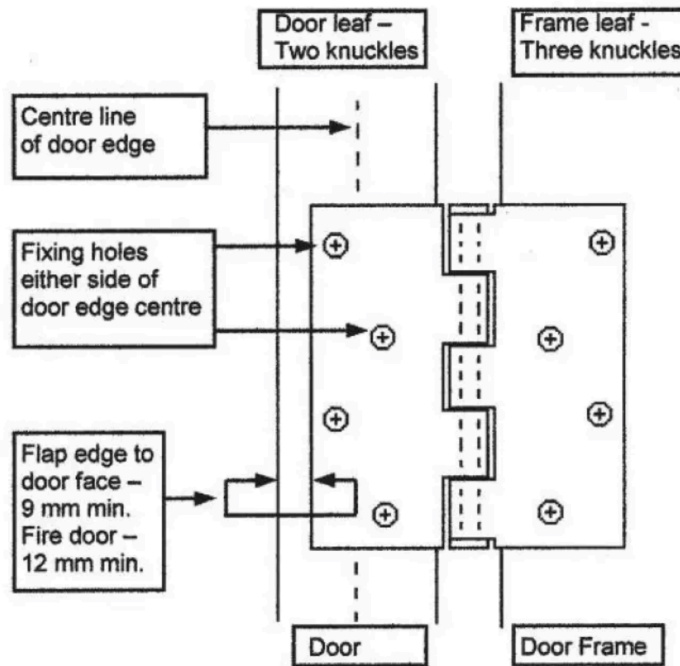
SIDE LOADING CALCULATIONS (EXAMPLE):

Door size		Factor	Normal increase of door weight
Door height	Door width		
2,000 mm	1000	2.00	0
	1050	1.90	10
	1100	1.82	18
	1150	1.74	26
	1200	1.66	33
	1250	1.60	40

ADJUSTED DOOR WEIGHT CALCULATION TABLE :

Doors of excess width, please refer to side loading calculation table		
Actual door weight	Door closer + 20%	= Adjusted door weight
	Door closer (backcheck) + 75%	
	Extra heavy use + 10%	
	Light use - 10%	

INSTALLING THE DOOR HINGES



1. Chiseling : After determining the position of the fire door hinge installation, you need to make a groove on the side where the hinge is installed. The depth of the groove must be the same as the thickness of the sheet. The sheet is laid flat in the groove, and the surface of the sheet is checked to be flush with the surface of the door cover.

Pay attention: The width of the slot is about 2mm less than the width of the single-piece hinge to prevent them from rubbing against the door frame.

2. Fire rated hinge screws must be tightened. During the process of tightening the hinge, it is necessary to fix the hinge with supporting screws. The screws should be perpendicular to the door cover and the edge of the door. If the screws are inclined, the hinge will be squeezed when the door is closed. The door will shorten the service life of the hinge, and will affect the function of the fire door, which may cause the fire door to lose its fire function.