

Adjusted Door Weight



GUIDE TO CALCULATING THE ADJUSTED DOOR WEIGHT

Important factors to consider in the selection of a hinge include:

- The door size, including height, width, thickness & weight.
- The intended use of the door
- The environment in which the door is located.

Here is a short guide to getting an idea of the adjusted door weight:

1. Calculate the physical weight of the door.
2. If you are fitting the door with a door closer, then add 75% to the weight; note that this assumes the door closer is fitted with back check function (most door closers in Australia will have this function and if fitting a door closer it is good practice to use backcheck as it protects the door and hardware – but it adds more stress to the hinge)
3. Assume a standard door is up to 950mm wide.
 - a. If the door width is between 951-1050mm then add 10% to the weight
 - b. If the door width is between 1051-1150mm then add 20% to the weight
 - c. If the door width is between 1151-1250mm then add 30% to the weight
4. If the door is in a heavy-duty use / environment, then add a further 10% to the weight.

This table is a guide for determining the approximate weight with various door materials per square meter. Other factors that will affect the door weight and will need to be taken into consideration are panel inserts, mouldings and door hardware which will affect the weight of the door.

Door Type/Material	Thickness 35mm	Thickness 44mm	Thickness 50mm
Hollow Core	10kg/m ²	12kg/m ²	-
Solid Core	12kg/m ²	15kg/m ²	18kg/m ²
White Pine	15kg/m ²	17kg/m ²	19kg/m ²
Ash	22kg/m ²	26kg/m ²	29kg/m ²
Mahogany	22kg/m ²	26kg/m ²	29kg/m ²
Oak	29kg/m ²	34kg/m ²	39kg/m ²
Hollow Metal	32kg/m ²	32kg/m ²	32kg/m ²

Example calculation for a Solid Core Door:

Door size at 2100mm high x 900mm wide x 35mm thick (2.1m x 0.90m=1.89m² x 12kg = 22.68kg)
Equates to an estimated physical weight of 22.68kg plus door hardware.

*If fitted with a Door Closer with back check then add 75% to 22.68kg equals an estimated 39.69kg plus door hardware.

NOTE:

For Glass panel doors the formula to calculate the weight of the glass is as follows:

Height (m) x Width (m) x glass thickness (mm) x 2.5 = glass weight (kg)

Single Glass Panel: 2.0m x 1.0m x 8mm x 2.5 = 40kg

Double Glazed Panel: 2.0m x 1.0m x 16mm x 2.5 = 80kg