

ASSA ABLOY PowerLOAD Hinge Installation Guidelines

ASSA ABLOY PowerLOAD hinges are high performance bearing hinges designed for medium and high frequency use doors.

ASSA ABLOY PowerLOAD hinges are guaranteed for 25 years*.

Position of Hinges

In accordance with BS 4787 it is recommended that at least 3 hinges per leaf should be used on fire and escape route doors.

BS 4787 details the position of door hinges as follows:-

Model	Description	Hinge size (h x w)	Min door thickness	Max door weight (adjusted) 3 hinges
AA603BU	Butt hinge	100mm x 88mm	44mm	120kg
AA604LA	Lift-off hinge (radius only)	98mm x 82mm	44mm	80kg
AA605LO	Lift-off hinge	100mm x 88mm	44mm	120kg
AA607	Butt hinge	102mm x 76mm	44mm	120kg
AA614	Grade 14 Concealed hinge	100mm x 88mm	44mm	160kg
AA615	Grade 14 Concealed hinge	102mm x 76mm	44mm	160kg
AA616	Grade 14 Concealed hinge	102mm x 76mm	44mm	160kg

Table 1

How to calculate door mass Door Weight (actual) +		
For door widths over 950mm	951mm to 1050mm	+ 10%
	1051mm to 1150mm	+ 20%
	1151mm to 1250mm	+ 30%
Door closer		+ 20%
Doors closer with backcheck		+ 75%
Extra heavy use		+ 10%
Light use		- 10%
Adjusted door weight		

Table 2

3 hinges – about the centre line (Fig. A)

- On doors weighing over 20kg
- One hinge shall be positioned on the centre line of the door height
- The other two hinges being at 770mm either side of the centre hinge
- This hinge layout gives stability to the door

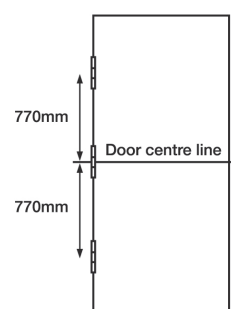


Fig. A

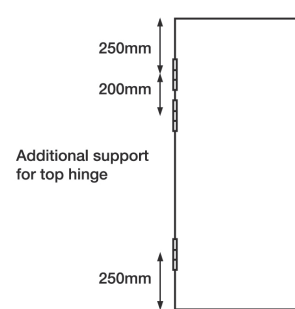


Fig. B

3 hinges – 2 at the top and one at the bottom for improved load bearing (Fig. B)

- For some fire doors (heavier construction or with a hold open door closing device) it is best practice to fit two hinges at the top of the door with the third hinge at the bottom of the door.
- Hinges should be positioned as follows;
 - centre line of the top hinge 250mm from the top edge of the door
 - centre line of the third hinge is 200mm from the centre line of the top hinge
 - centre line of the bottom hinge 250mm from the bottom edge of the door

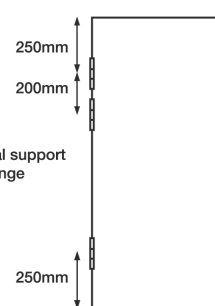


Fig. C

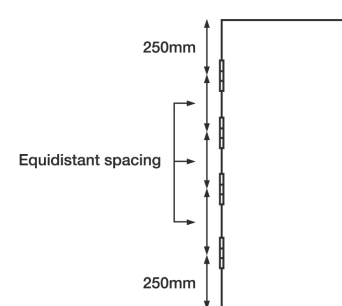


Fig. D

Oversized doors

Please note that for doors over and above the recommended door weights (Table 1) it may be possible to use 4 hinges per leaf to increase the load bearing capacity, for example:

- For doors heavier than the recommended door mass and exceeding 2100mm in height, it may be possible to install 2 hinges high and 2 hinges low for improved load bearing capacity (Fig. C).
- For doors over 2100mm high it is may be possible to use 4 hinges equally spaced to give maximum resistance to warping (Fig. D).

Please consult with the door manufacturer directly or ASSA ABLOY to discuss any applications outside of the door mass recommendations shown in Table 1.

* Guaranteed against fair wear and tear subject to correct specification and fitting.

Installation guidelines for timber and metal doors

ASSA ABLOY PowerLOAD are high specification hinges and must be accurately installed and aligned both vertically and horizontally for optimum performance over time and to ensure that all other items of ironmongery operate efficiently and engage correctly.

Ideally, hinges should be installed in line with the door manufacturer's instructions. However, where these are not available please follow our installation guidelines below:

- The hinge leaves should always be morticed flush within the frame and the door:
 - 603, 604, 605, 607, 614, 615 and 616 – required a leaf mortice depth of 3mm.
- 603, 607, 614, 615 and 616 – the hinge leaf with 2 knuckles should be fitted to the frame and the single knuckle leaf should be fitted to the door.
- 604 and 605 – the male leaf with the steel spigot should be fitted to the frame with spigot pointing up and the female leaf with the bronze bush should be fitted to the door.
- Always use the fixing screws and ensure that fixings are flush with the hinge surface.
- Firstly, mark out the area on the door and frame to be morticed by drawing around all hinge. Double check the alignment before you mortice any material out of the door and frame.
- Ensure that all hinge leaves and pins are in alignment. Remove a plumb-bob. Cut the mortice to the required size and depth of 3mm.
- Offering the hinge to the frame, pilot drill the fixing holes relative to the correct fixings.
- 604 and 605 lift off hinges only – when presenting the door leaf to the frame leaf take care not to damage the spigot and ensure the bearing surfaces are clean and free from debris. Ensure the door is securely located on all the spigots. Ensure the handing is correct when using lift off hinges.
- When hung ensure the door opens and closes fully with a smooth operation and that any other items of ironmongery engage and operate correctly.

Handing lift off hinges

- Applicable to lift-off hinges only where it is essential to ensure the male hinge blade (with spigot) is fitted to the frame and the female hinge blade is fitted to the door leaf.
- For outer perimeter doors, knuckles should ideally be on the inside of the door for increased protection against attack.

Product supplied with:

- Boxes of 3 hinges are supplied with screws
- Boxes of 20 hinges are not supplied with screws and should be purchased separately**

*** Please refer to data sheets for order codes.*

Maintenance

Inspect regularly to ensure the hinges are fixed securely to the door and the frame.

ASSA ABLOY PowerLOAD hinges should not require lubrication due to the nature of the self lubricating bearings however we do suggest you check the hinge operation every 25,000 cycles as part of the building maintenance schedule and if required lubricate with light machine oil.