Load value table

General information regarding hinge load values
Reference value 80 kg, ANSELMI

Overview of the load value table

For medium duty applications where hinges are installed on doors in housing, other living areas and in buildings where there is a medium frequency of use by people with some incentive to exercise care and with some chance of accidents occurring or of misuse. This description represents the typical “residential door” for which ANSELMI hinges have been developed.

An example of a door leaf with dimensions of 900 x 2100 mm (W x H), the use of 2 hinges is recommended and a hinge gap of 1700 mm, the permissible load values change with different width and height ratios.

The following table provides an overview of the maximum load value for the individual hinge type, taking the interaction of width and height of the door as well as the hinge gap into account.

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Blue: load value = reference value. **Green:** load value < reference value.

ANSELMI

Hinge gap in mm	Door height in mm*	* i Hinge positioning 200 mm from the top and bottom of the door leaf						
2400	2800	**80**	**80**	**80**	**80**	**80**	**80**	**80**
2300	2700	**80**	**80**	**80**	**80**	**80**	**80**	**80**
2200	2600	**80**	**80**	**80**	**80**	**80**	**80**	**80**
2100	2500	**80**	**80**	**80**	**80**	**80**	**80**	**80**
2000	2400	**80**	**80**	**80**	**80**	**80**	**80**	**74**
1900	2300	**80**	**80**	**80**	**80**	**80**	**78**	**70**
1800	2200	**80**	**80**	**80**	**80**	**80**	**74**	**66**
1700	2100	**80**	**80**	**80**	**80**	**76**	**68**	**64**
1400	2000	**80**	**80**	**80**	**78**	**72**	**64**	**60**
		600	**750**	**800**	**900**	**1000**	**1100**	**1200**

→ Door width in mm

The use of a third hinge positioned in the middle of the door leaf has no influence on the load capacity of the hinge system. However, in case of particularly high doors (above 2200 mm), doors positioned in rooms with high levels of humidity (i.e. bathrooms) or doors between rooms with different temperatures (i.e. stairwell) and doors produced with light material (i.e. honeycomb) the use of more than two hinges is suggested in order to prevent the door from warping.

Note

i The specifications above are guidelines.
Especially in the case of borderline load requirements, please approach us.

Load value table

An accurate, professional fitting in accordance with the ANSELMI installation instructions is always a prerequisite:

- Installation site (residential building, public building, school, administration, barracks, kindergarten etc.)
- Type of material of the element
- Frequency of operation
- Door dimensions (e.g. excess widths)
- Positioning of hinges
- Assembly of hinges
- Outward opening doors (porch)
- Door stop
- Door closer
- Swing-door operator
- Wall soffits, etc.
- Closing sequence control systems, etc.

1. Basics

When selecting or deciding on a hinge, the load alone is already often viewed as being identical to the weight of the door. However, the hinge load can often be several times the door weight, caused by various influential factors.

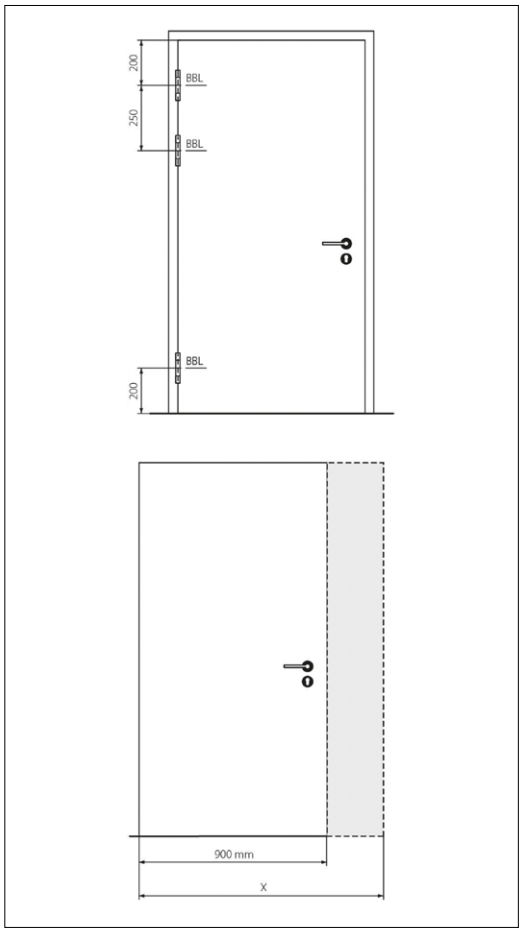
Even taking these various criteria into account, an additional reserve should always still be included when selecting the hinge. Especially in public buildings where extra loads are incurred due to the high opening frequency and stress which is not always calculable (kindergarten, hospitals etc.), sufficiently dimensioned hinges should be used even if this would not have been necessary merely based on the door weight as such.

An accurate, professional fitting in accordance with the ANSELMI installation instructions is always a prerequisite.

Reference details
The load specifications for ANSELMI hinges are based on a maximum door weight. Additionally, the named influential factors must be taken into account for hinge loads.

All indications are based on the following references:

Door leaf dimensions	900 x 2100 mm
Use of	2 hinges
Hinge distance	1700 mm



2. Third hinge position on extra wide doors

In addition to the factors mentioned above the use of a third hinge can have a significant impact on the load capacity. In practice often a third hinge is located in the middle of the door in order to meet the optical demands and to minimize warping in the centre of the door.

Under certain circumstances however it may be useful or even necessary to additionally support the upper hinge which takes most of the major tractive forces – this could be true, for instance, in the case of extra-wide doors (≥ 900 mm), where additional forces occur due to the lever action. For these applications the third hinge has to be located in the upper third of the door for the load capacity of the hinge to be positively influenced.

In case of door widths equal or above 900 mm SIMONSWERK suggests the use of a third hinge at 250 mm from the top hinge (centre to centre).

Load value table

3. Door closers

Several models of ANSELMI hinges have been tested in combination with door closers. When door closers are used, SIMONSWERK recommends the use of a third hinge in the upper third of the door.
The correct adjustment of the closer is a fundamental requirement for a long-lasting, problem-free function. It is recommended to get in touch with SIMONSWERK to obtain the correct technical specifications.

4. Wall openings, door stoppers

Factors such as door stops, projecting walls or similar cannot be measured or estimated and need to be considered individually, due to the lever action and cantilever forces that may occur if the door is opened too far resp. beyond a defined level. As a result of the doors' masses/weights, this can quickly lead to damage to the fixings, the hinges or similar.

If it is necessary to use a door stop, this should either be mounted on the wall or, instead, on the floor placed at 75 % of the door's width away from the hinge axis in the direction of the lock.

5. Miscellaneous

The points given here are simply guidelines. In practice, it may make sense, depending on the door's composition, usage levels, location, etc., to take the above factors into account even for door widths <= 900 mm. This needs to be decided on a case-by-case basis. Care must be taken to ensure that the hinges are of a sufficient size to be able to cover the demanding factors.

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