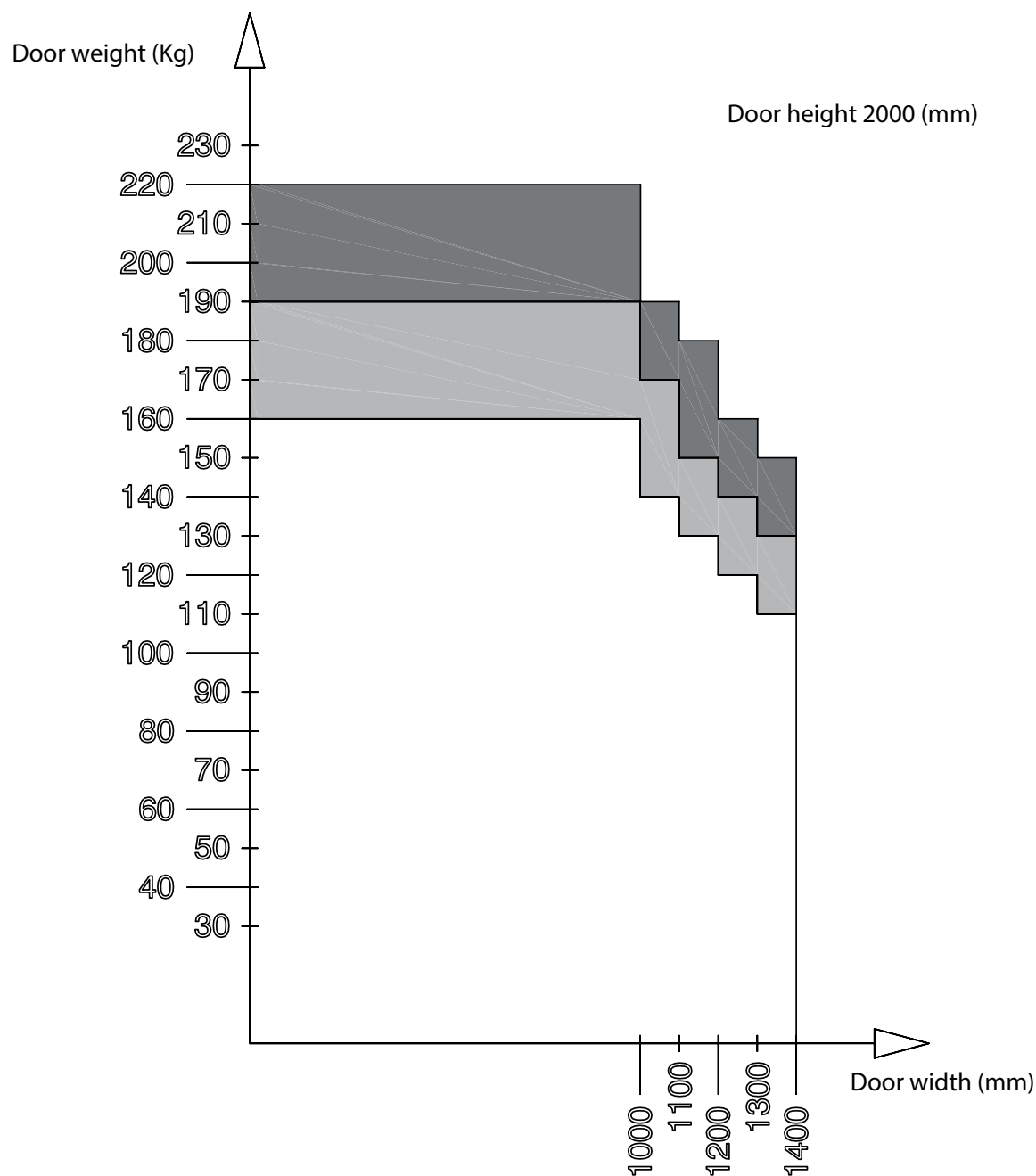


## Load capacity values of hinge Dynamic 3D Ø 20



Applied hinges:

2

3

4

## Load capacity values of hinges by SFS intec

The stated weight capacity value was calculated using a dynamic test carried out according to the RAL standard, involving:

- 200,000 opening movements at 90°
- door measuring 2000mm (height) x 1000mm (width)
- 2 fitted hinges

It is important to bear in mind not only the stress due to structural factors (weight and dimensions) but also the external factors to which the system is subjected, as these can affect the weight capacity and life-span of the hinge, for example:

- measurements of the door outside the tolerance ranges (width and/or height)
- place of installation and use of the door (residential buildings, public buildings, schools, nurseries, etc.)
- frequency of opening
- presence of obstacles that prevent opening and/or closing (doorstops, reveals, etc.)
- self-opening/self-closing mechanism
- inward or outward opening of the doors
- weather conditions
- type of door/window material (Wood, PVC-U, Aluminium etc.)

Care should be taken to choose the most suitable system, bearing in mind the factors listed above and the following variables:

- number of hinges fitted
- position in which the hinges are fitted
- type of hinges fitted

The essential requirements for ensuring the best performance of a hinge are:

- correct installation of the hinge, its accessories and of the door itself
- stability and correct installation of the frame

## Number of hinges to be fitted

In the case of some of the factors listed overleaf, there are formulas for correct calculation of the stress to which the hinges are prone.

### Example A:

#### Weight of the door/window above the declared weight capacity value

The weight capacity value of each additional hinge is as follow:

30% of the stated door weight up to 100 Kg.

20% of the stated door weight over 100 Kg.

Weight of the door: 80 kg

Declared weight capacity for 2 hinges: 50 Kg

Dimensions of the door: 2000x1000mm

Weight capacity of each additional hinge: 30% of 50Kg = 15 Kg

Number of hinges to be fitted: 50 Kg + 15 Kg + 15 Kg = 80 Kg → 4 hinges

### Example B:

#### Width of the door/window above 1000mm

A 10% increase in weight of the door/window should be considered for each 100 mm of width

Weight of the door: 60 kg

Declared weight capacity for 2 hinges: 50 Kg

Dimensions of the door: 2000x1200mm

Actual stress: 60Kg + 20 % of 60 Kg = 72 Kg

Weight capacity of each additional hinge: 30% of 50Kg = 15 Kg

Number of hinges to be fitted: 50 Kg + 15 Kg + 15 Kg = 80 Kg → 4 hinges

These rules apply only to single-axis hinges. For the other types of products, please refer to the weight capacity graphs.

In the case of obstacles, door stops, door closers and door openers, it is advisable to use an additional hinge and in any case to consider the extent of the leverage effect that could occur.

This rule is valid for a maximum of 4 fitted hinges. If the number is any higher, a different type of product should be used. Please contact the SFS intec technical assistance service for advice.

## Installation of additional hinges.

Additional hinges are usually fitted symmetrically for aesthetic reasons or to ensure pressure on the seal at the centre.

In any case, the fitting of additional hinges at the points under greatest stress improves the weight bearing capacity.

For example, if the door is of above standard width, the third hinge should be fitted at an average distance of 300mm from the upper hinge.

Likewise, when there is a door stop on the floor, the additional hinge should be fitted near the lower one.