The ASDMA Door Growth Calculator

Door Growth Explained:

As a door is operated it will swing around the pivot centre of the hanging device according to the formula described below.

Generally operating gaps that comply with BS4787 Pt.1 will be sufficient to accommodate the lateral movement of the door but problems can occur with narrow and / or thick door leaves or, where some seals that act on the edges of the door leaf are used.

Where these considerations apply it may be necessary to provide for a 'leading edge' (*bevel*) to the closing stiles during the installation process to ensure that the doors can be operated easily. Otherwise the operating gap will reduce as the door swings.

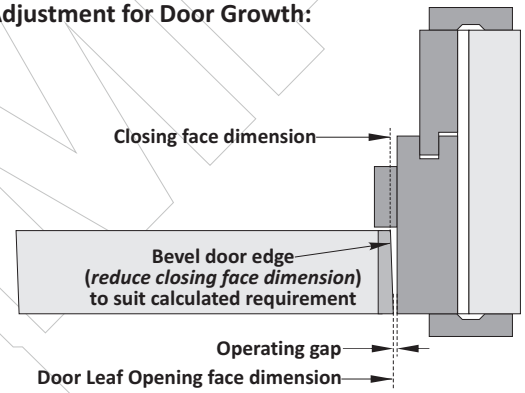
This calculator will provide for the dimension for the reduction in gap for any particular door assembly design. To maintain a constant operating gap the closing face of the door must be reduced by the calculated amount to ensure that the door leaf will clear the frame (*or the adjacent door for a sequential opening pair of doors*).

For simultaneously opening equal pairs of doors the calculation must be applied to both door leaves.

For further guidance see ASDMA Publication:

Guidance and Recommendations
for the Coordination of Bespoke Door Assemblies

Adjustment for Door Growth:



Door Assembly Coordination - Operational Considerations - Door Growth Formula:

When a door operates it will swing around the axis of the hanging device. The actual operating gap required for the door leaf to clear the frame *(or adjacent door if a pair)* will vary according to the following formula:

$$= \left[\sqrt[2]{(a + b)^2 + (c + d)^2} \right] - a + b$$

a = Door leaf width.
b = Dimension from the hanging stile to the pivot centre of the hanging device.
c = Door leaf thickness.
d = Dimension from the opening face of the door to the pivot centre of the hanging device.

NOTE: Dimensions b & d can be a negative figure for double action door assemblies.