Bowed Slab Guide

Thermal movement is natural – most materials expand in heat and contract in cold. Our door blanks are designed to limit this. External doors may face large temperature changes during their lifecycle (e.g. direct sunlight, cold nights, internal/external temperature differences), which may lead to temporary movement. Poor installation and out-of-square frames can also cause or worsen this phenomenon. However, when installed correctly, the door should always return to within 3mm of its original position. A door is considered bowed if it does not return within this 3mm tolerance.

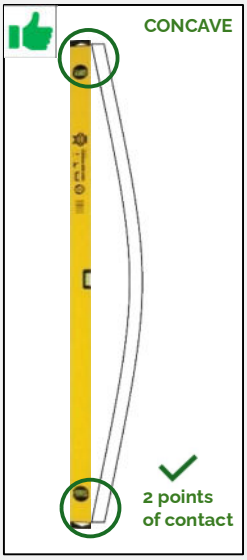
To help us resolve your concern quickly and efficiently, please provide clear, high-resolution photos as outlined below. Claims submitted without this evidence will not be actioned.

Image 1: Front facing image

Clearly showing slab style affected

Image 2: Straight edge against the concave side

*Ensure you are measuring from concave side **only.** Image must show 2 points of contact with the slab, with full slab length visible in the image and bow gap clearly visible. The concave side may be either the front or the back of the slab depending on the swing of the door.*



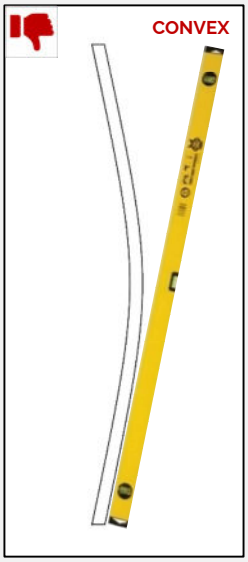
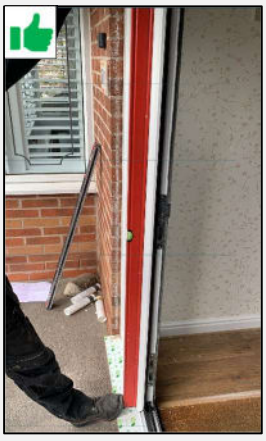


Image 3: Close up of the bow measurement

*You may use a feeler gauge, packer, rule or tape measure. The image must evidence bow **in excess of 3mm**.*

Image 4: If installed, a straight edge against the frame

This is to ensure frame was installed correctly without any bow. Use a straight egde designed for the purpose, I.e a spirit level with minimum length of 1800mm. Frame should be square and plumb.



Tips to minimise thermal movement:

- Ensure that the lock is fully engaged into the upper and lower keeps when shut. This will help reduce movement when the door is in service. Auto-lock style locks are strongly recommended.
- Be aware of strong thermal differentials between internal and external sides of the door. Heating elements near the door may result in more thermal movement on colder days.
- Dark colours will naturally absorb more heat and can be more susceptible to bowing than lighter colours. Consider sunlight and heat exposure when choosing/offering darker door colours.
- Ensure frame has been fitted correctly and with the two vertical jambs parallel to each other. The frame must be fitted square and plumb to allow the door slab to locate within the frame and to operate correctly

Checklist:

- ☐ Check hinge side jamb for plumb
- ☐ Check lock side jamb for plumb
- ☐ Check for bowed lock side jamb
- ☐ **Image 1:** External front facing view
- ☐ **Image 2:** Concave side of slab full size
- ☐ **Image 3:** Close up of bow measurement
- ☐ **Image 4:** Straight edge against the frame

GRP composite doors are constructed using several materials. One main component used In a DoorCo door is LVL (Laminated Veneer Lumbar). This product is a natural material which does contain a certain amount of moisture. Variations in temperature and environmental conditions can in certain situations cause the door to thermally move, or as often termed Bow.

Thermal movement (Bow) can occur when the temperature varies from the internal face of the door blank through to the external face of the door blank significantly. The inside of the property is nice and warm, and so the inside of the door is much higher temperature than the external face of the door, where temperatures can be extremely low at times of the year, especially when cold weather coupled with direct sunlight on the door blank occurs, this a perfect storm for thermal movement (Bow) to occur.

Composite door blanks are designed to absorb this movement, and return to tolerance after a short period of time. A well installed door set will compensate for this movement whilst the door blank adjusts to the temperature change.

Thermal movement (Bow) can appear in any brand of door leaf and is not unique to a DoorCo door blank.

The door blank can thermally move up to 5mm but should return to within its tolerance of 3mm after being exposed to varying temperatures. DoorCo supply a separate document on how to measure thermal movement (Bow) correctly. If the door blank does not return to within 3mm tolerance, DoorCo will replace the door blank.

The following points are essential to manage Thermal Movement (Bow): -

- Always engage the lock hooks in your multi point locking system when the door is closed.
- The door frame has been fitted correctly; the frame must be fitted square to allow the door to operate correctly.

Kind Regards,

Dan Sullivan
Managing Director

DoorCo Ltd
M6 Motorway House,
Charter Way,
Macclesfield,
SK10 2NY

01625 428955

info@door-co.com