

ACCEPTABLE DEFLECTION

Aside from increased strength and altered breakage characteristics, tempered glass maintains all of the features of annealed glass – including its capability for deflection. This is considered a feature, and not a defect. It allows the glass to endure quite a bit more before breaking if something were to collide with it.

Free standing glass may display some “flex” or deflection if horizontal shear force is applied to the farthest unsecured corner (for example, pushing it with your hand). This is normal and perfectly safe if two of the other sides are properly fastened to the wall and floor. It could either be affixed in clamps or u-channel before being sealed with silicone. Larger pieces of glass are capable of larger amounts of deflection, and smaller pieces of glass tend to be more rigid. No glass is perfectly rigid however – it just appears that way due to the size of the piece.

In order to reduce deflection, another edge of the glass would have to be fixed in place (the top for instance, could be secured with a header or to the ceiling with the aforementioned mechanical fasteners).

MAXIMUM WIDTH RECOMMENDATIONS

The wider the glass panel the more the top unsupported corner of glass will move. Thicker glass helps this corner to remain more rigid.

Panel deflection is not influenced by its height but is governed by its width and glass thickness. For any height, the recommended maximum width for a specific thickness of tempered glass panel with an unsupported top corner is as follows:

- 3/8" (10mm) tempered glass panel = 30"
- 1/2" (12mm) tempered glass panel = 36"

SUPPORT CONDITION

One of the key considerations for any shower screen application is the support conditions. Supports for the two adjacent edges are considered to be rigid. By rigid support, it is implied that two adjacent edges need to be mechanically secured/fixed..

LOAD MAGNITUDE AND LOCATION

A force of 45 lbs. is applied horizontally at the height of 69" to an area of 15.5 sq in. Load is applied at the free edge. This force magnitude is considered to be representative of a maximum human force that could be applied on the panel during cleaning or maintenance services. (Figure 1)

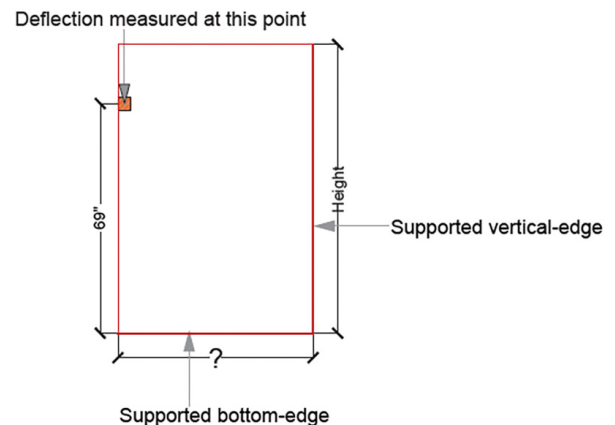


Figure 1 Load location for shower panel supported on two adjacent edges.

DEFLECTION OF VARIOUS PANEL SIZES

Panel Height (inches)	Panel Width (inches)	Panel Deflection According to Tempered Glass Thickness	
		3/8" (10mm)	1/2" (12mm)
78"	60"	2.01"	1.26"
	47"	1.69"	1.02"
	35"	1.30"	0.79"
	24"	0.87"	0.51"