



Wisconsin Shower Door

Heat-Treated Glass Inspection Criteria per ASTM C 1048-18 (abridged)

Wisconsin Shower Door prides itself in delivering high-quality tempered fabricated glass items. The criteria listed below meet ASTM C 1048-12 standards.

Inspection Criteria

- Place sample glass in freestanding vertical position, resting on blocks
- Place a straightedge across the concave surface, parallel to and within 25.4 mm (1") of one edge, and spanning from one edge to the opposite edge
- Measure the maximum deviation with a fine scale ruler
- Refer to the table below to determine maximum allowable bow

TABLE 2 Overall Bow, Maximum

Nominal Thickness Designation mm (in.)	Edge Dimension, cm (in.)											
	0-50 (0-20)	>50-90 (>20-35)	>90-120 (>35-47)	>120-150 (>47-59)	>150-180 (>59-71)	>180-210 (>71-83)	>210-240 (>83-94)	>240-270 (>94-106)	>270-300 (>106-118)	>300-330 (>118-130)	>330-370 (>130-146)	>370-400 (>146-158)
	Maximum Bow, mm (in.)											
3 (1/8)	3.0 (0.12)	4.0 (0.16)	5.0 (0.20)	7.0 (0.28)	9.0 (0.35)	12.0 (0.47)	14.0 (0.55)	17.0 (0.67)	19.0 (0.75)	...	...	...
3 (1/8) Alternate Method ⁴	2.0 (0.08)	2.0 (0.08)	2.0 (0.08)	3.0 (0.12)	5.0 (0.20)	6.0 (0.24)	7.0 (0.28)	8.0 (0.31)	10.0 (0.39)	...	...	...
4 (5/32)	3.0 (0.12)	4.0 (0.16)	5.0 (0.20)	7.0 (0.28)	9.0 (0.35)	12.0 (0.47)	14.0 (0.55)	17.0 (0.67)	19.0 (0.75)	...	...	...
5 (3/16)	3.0 (0.12)	4.0 (0.16)	5.0 (0.20)	7.0 (0.28)	9.0 (0.35)	12.0 (0.47)	14.0 (0.55)	17.0 (0.67)	19.0 (0.75)	...	...	...
6 (1/4)	2.0 (0.08)	3.0 (0.12)	4.0 (0.16)	5.0 (0.20)	7.0 (0.28)	9.0 (0.35)	12.0 (0.47)	14.0 (0.55)	17.0 (0.67)	19.0 (0.75)	21.0 (0.83)	24.0 (0.94)
8 (5/16)	2.0 (0.08)	2.0 (0.08)	3.0 (0.12)	4.0 (0.16)	5.0 (0.20)	6.0 (0.24)	8.0 (0.31)	10.0 (0.39)	13.0 (0.51)	15.0 (0.59)	18.0 (0.71)	20.0 (0.79)
10 (3/8)	2.0 (0.08)	2.0 (0.08)	2.0 (0.08)	4.0 (0.16)	5.0 (0.20)	6.0 (0.24)	7.0 (0.28)	9.0 (0.35)	12.0 (0.47)	14.0 (0.55)	17.0 (0.67)	19.0 (0.75)
12-22 (1/2 - 7/8)	1.0 (0.04)	2.0 (0.08)	2.0 (0.08)	2.0 (0.08)	4.0 (0.16)	5.0 (0.20)	5.0 (0.20)	7.0 (0.28)	10.0 (0.39)	12.0 (0.47)	14.0 (0.55)	17.0 (0.67)

Terminology

DISTORTION – Heat treating adds distortion to glass products. All requirements for distortion, roller wave, consistent furnace orientation or distortion measurement must be disclosed at quotation and order.

STRAIN PATTERN – Tempered glass contains a strain pattern or “Quench Marks” that appear as areas of shadows in a pattern corresponding to the location of air nozzles in the tempering furnace quench section. This condition becomes more visible:

- Under certain lighting conditions, like polarized sunlight
- When the glass is viewed at glancing angles
- With tinted glass, especially when multiple lites are combined in laminated and insulating constructions

The strain pattern is not considered a defect in tempered glass products.

SURFACE PARTICLES – Minute particles (fines), typically invisible to the naked eye, may adhere to one or both glass surfaces. These surface particles may occur from a variety of sources including, but not limited to, the glass cutting and edging process, typical manufacturing plant airborne debris or dust, refractory particles from the furnace roof, and external airborne dirt and grit carried into the plant by the large volume of quench air used in the process. Surface particles invisible to the naked eye are inherent in the heat-treating process and are not a cause for rejection.

Additional Criteria

Linear and point blemishes in glass should be evaluated per WSD’s Flat Glass Inspection Criteria per ASTM C 1036-11.

Localized bow for rectangular glass shall not exceed 1.6 mm (1/16”) over any 300 mm (12”) span.