Specification Guide For Wagner's Wet and Dry Glaze Glass Balustrade*

Step 1: What is the height of the glass?
Apply your glass height to the following table to determine your minimum glass thickness.

Glass Height	Minimum Glass Thickness
Up to 42″	1/2″ (13mm)
Up to 60″	5/8″ (17mm)
Up to 72″	3/4″ (21mm)
Above 72″	Not Applicable

Tip: Code requires guardrail be at least 42″ above the finished floor. Taller glass can be used for wind or noise screens. To reduce the cost of the glass, consider constructing a pony wall for the lower portion of the wall; it will shorten the required glass height and allow use of thinner glass for the same application.

Step 2: Is the installation indoor or outdoor, and what is your substrate?
Cross reference your installation location and substrate to determine your required anchorage spacing.

	Steel	Concrete
Indoor	12″	12″
Outdoor	12″	8″

Tip: Wagner recommends 3/8″ thick, or thicker steel or 4KSI cracked concrete or stronger. Wood substrates are generally not advised for commercial applications and are not covered by this tool; see a PE or local authority for wood substrate regulations.

Step 3: What is your local wind load requirement in PSF? (for outdoor installations only)
Refer to the architecture spec wind study. If this is not available consult your local building code advisor.
Cross reference your glass thickness and glass height, then identify a wind load in that cell that exceeds your required PSF. The letter adjacent to the PSF indicates the appropriate anchorage, detailed below table.

Anchorage Determination Chart

		Glass Heights					
Glass Size	Mounting Size	24″	36″	42″	48″	60″	72″
9/16″	Steel	100 psf (F)	82 psf (F)	Wind Screen Only 55 psf (F)	Wind Screen Only 30 psf (F)	N/A	N/A
	Concrete	100 psf (A/B)	60 psf (C)	Wind Screen Only 40 psf (C)	Wind Screen Only 30 psf (C)	N/A	N/A
			82 psf (D)	Wind Screen Only 55 psf (D)			
11/16″	Steel	100 psf (F)	100 psf (F)	85 psf (F)	65 psf (F)	35 psf (F)	N/A
	Concrete	100 psf (A/B)	60 psf (C)	40 psf (C)	30 psf (C)	30 psf (C)	N/A
			100 psf (D)	85 psf (D)	65 psf (D)	35 psf (D)	
13/16″	Steel	100 psf (F)	100 psf (F)	90 psf (F)	75 psf (F)	42 psf (F)	27 psf (F)
	Concrete	100 psf (A/B)	60 psf (C)	40 psf (C)	30 psf (C)	30 psf (C)	15 psf (C)
			100 psf (D)	90 psf (D)	75 psf (D)	75 psf (D)	27 psf (D)

Anchorage Options

A 1/2″ Hilti Kwik HUS-EZ @ 12″ oc, 4-1/4″ embed, 3-1/2″ min edge distance, 7″ min concrete thickness
B 1/2″ Hilti HIT-HY 200 + Hit Z @ 12″ oc, 4-3/4″ embed, 3.5″ min edge distance, 7″ min concrete thickness
C 1/2″ Hilti Kwik HUS-EZ @ 8″ oc, 4-1/4″ embed, 3-3/4″ min edge distance, 7″ min concrete thickness
D Custom engineering required: thicker concrete with greater embed, stronger concrete, greater edge distance or through bolt
F 1/2″ bolt threaded or through bolted to a 3/8″ steel plate

** includes PanelGrip™ 2, PanelGrip™ and Level Lock Plus™*

Tip: If the cell you reference in the chart does not have a wind load large enough to meet your required application, consider increasing the glass thickness or shortening the glass height through use of a pony wall for more options.

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Step 4: Will you be installing a top rail or some other form of glass edge restraint?
If not, cross reference your glass height and your glass thickness to determine your required minimum glass panel width.

Unrestrained Concentrated Load Requirements			
	9/16″ Glass Thickness (1/2″ or 13mm Laminated)	11/16″ Glass Thickness (5/8″ or 17mm Laminated)	13/16″ Glass Thickness (3/4″ or 21mm Laminated)
Panel Height	Glass Width		
24″	18″ min	12″ min	8″ min
36″	42″ min	20″ min	16″ min
42″	48″ min	32″ min	20″ min
48″	N/A	40″ min	24″ min
60″	N/A	48″ min	30″ min
72″	N/A	48″ min	36″ min

Tip: Top rail and glass stiffeners make multiple glass panels act as one, eliminating the need to specify a minimum glass width.

Record your specifications here.

Glass Thickness: ☐ **1/2″ (13mm)** ☐ **5/8″ (17mm)** ☐ **3/4″ (21mm)**

Indoor/Outdoor?: ☐ **Indoor** ☐ **Outdoor**

Anchorage:

- ☐ **A** 1/2″ Hilti Kwik HUS-EZ @ 12″ oc, 4-1/4″ embed, 3-1/2″ min edge distance, 7″ min concrete thickness
- ☐ **B** 1/2″ Hilti HIT-HY 200 + Hit Z @ 12″ oc, 4-3/4″ embed, 3.5″ min edge distance, 7″ min concrete thickness
- ☐ **C** 1/2″ Hilti Kwik HUS-EZ @ 8″ oc, 4-1/4″ embed, 3-3/4″ min edge distance, 7″ min concrete thickness
- ☐ **D** Custom engineering required: thicker concrete with greater embed, stronger concrete, greater edge distance, or through bolt
- ☐ **F** 1/2″ bolt threaded or through bolted to a 3/8″ steel plate

Minimum Panel Width: _____

You are all set to order!

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