Minimum and Maximums

Glass Limitations

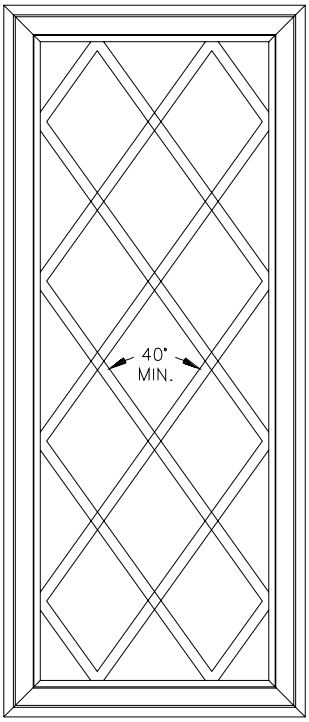
- 1/8” GLASS – Up to 15 square feet
- 5/32” GLASS – 15 to 24 square feet
- 3/16” GLASS – 24 to 34 square feet
- 1/4” GLASS – 34 to 44 square feet
- 1/8” Tempered – maximum 16 square feet, maximum width 34”, maximum height 80”
- 1/4” LAMINATED – maximum sheet size 60” x 96”
- 1/8” LAMINATED – maximum sheet size 48” x 84” – cannot exceed 9 square feet
- 5/32” PATTERN “62” – maximum sheet size 60” x 84”
- TEMPERED GLASS – 84” X 152” maximum sheet – must not exceed our square foot limitations, even if within our limitations cannot exceed 84” in either direction.
- MINIMUM TEMPERED SIZE = 6” X 9”
- When matching Low “E” with solar cool bronze or grey glass the Low “E” lite must be tempered.
- Our 7/16” overall glass causes some combinations to be unavailable. For example, pattern “62” glass is 5/32” thick and cannot be matched with tempered for this thickness of glass.
- “V” Groove glass – the thickness of the glass increases one increment in order to be grooved. Example, normal 1/8” glass would have to increase to 5/32”. Again thin spacer can be a problem.
- Spandrel Glass is only available in ¼” thickness and must be matched with either heat strengthened or tempered lite. This could again cause problems with our overall glass thickness.
- 8:1 Glass Ratio Must be Tempered

Truck Limitations

- 120” x 103” Maximum Size

Grill Limitations

40° Minimum Angle Between Diamond Grill Patterns
Wood & SDL Grids Only
(See Drawing Below)



Grill Limitations

Minimum Diameter for Radius Bars

SDL - 6” Inside Diameter
Internal Grid - 8” On-Center Diameter

Minimum Distance Between SDL Notches = 3”

IF YOU HAVE QUESTIONS REGARDING UNIT SIZES OUTSIDE OF THESE LIMITATIONS, CONTACT YOUR SUPERVISOR

IG Unit Size & Square Footage Limits

CARDINAL IG UNIT SIZE LIMITS [1] AND MAXIMUM DIMENSIONS PER AIR SPACE

Glass Thickness (mm)	Minimum Recommended Short Glass Dimension for Argon Filled Unit [2] (in.)	ANNEALED GLASS			HEAT TREATED GLASS			Maximum Dimensions Per Air Space		
		Maximum Long Dimension (in.)	Maximum Area [3] (ft²) Aspect Ratio Less than 2	Maximum Area [3] (ft²) Aspect Ratio Greater than 2	Maximum Short Dimension (in.)	Maximum Long Dimension (in.)	Maximum Area [3] (ft²)	Airspace Dimension (mm)	Maximum Long Dimension (in.)	Maximum Area [3] (ft²)
2.2	8	70	9	6	-	70	15	5.5	70	15
3.0	12	80	14	10	36	80	20	6.5 & 7.0	80	20
3.9	16	90	19	16	48	90	30	8.0	90	30
4.7	20	100	25	21	60	100	40	9.8	100	40
5.7	24	120	32	29	83 1/2	143 1/2	60	≥11.5	143 1/2	60

1. Limits shown do not apply to shapes or units fabricated with mismatched glass thickness'.
2. Minimum dimensions do not apply to breather tube units.
3. Maximum area based on 40 psf design windload and/or safe handling limit.
4. This chart applies to both 2-pane IGUs and 3-pane IGUs.
5. The suggested limit on maximum short dimension for Heat Treated glass is based on reducing the potential of bi-stable glass (oil canning and soft centered).
6. The maximum short and long dimension for 5.7mm glass is based on the size of the tempering line and also allows for glass trim.
5. These are guidelines only, and is not a substitute for the ASTM standard E1300.

Cardinal IG Square Foot Limits

IG Construction	ANNEALED GLASS Maximum Square Footage	Maximum Length	HEAT STRENGTHENED or TEMPERED GLASS Maximum Square Footage	Squareness Factor Max Short Dimension (inches)	Maximum Length
2.2mm/2.2mm	10	72 inches	NA	NA	72 inches
3.0mm/3.0mm	15	82 inches	20	36	84 inches
3.9mm/3.9mm	24	90 inches	30	48	96 inches
4.7mm/4.7mm	33	140 inches	50	60	140 inches
5.7mm/5.7mm	50	143.5 inches	60	80	143.5 inches

1). Square footage limits are based on handling and manufacturing limits only. The above limits do not take into account windload requirements.
2. The squareness factor/oil canning factor for Heat Treated Glas is based on reducing the potential of bi-stable glass (oil canning & soft center).
3.) All factors must be meet for fabrication allowance. For example: An IG unit constructed with 3mm tempered glass that has a dimension of 37" x 74" has a square footage of 19 square feet, and it maximum length is 74 inches. Both of these criteria are under the specified limits for 3mm tempered glass, however, the minimum short dimension is greater than 36 inches, therefore, it does not meet the Squareness Factor.