



Solar Glass

Targray offers a superior glass solution to manufacturers of solar modules. Our low iron glass has excellent solar transmittance at different angles of incidence and is fully tempered for enhanced product safety and durability. It is also textured for better adhesion to the substrate and improved light trapping properties.

1. Glass Properties

1.1	Maximum Fe ₂ O ₃ content:	120 ppm
1.2	Energy Transmittance: Te:	≥ 91.8%
1.3	Weight per mm:	2.5 kg/m ²
1.4	Surface patterns:	Prismatic/Matt, Matt/Matt

2. Dimensions and Deviations

2.1 Max dimension: 2,400 X 1,100 mm

Thickness	Allowable deviation (mm) against glass length (L)		
	L ≤ 1000	1000 < L ≤ 2000	2000 < L
3.2 mm; 4.0 mm	+1, -2	+1, -2	± 4
Difference between two diagonals	≤ 3	≤ 3	≤ 4

2.2 Thickness and allowable deviation (Other dimensions and deviations are available)

Thickness	Allowable deviation (mm)
3.2mm;	± 0.20
4.0mm	± 0.30

2.3 Various edge finishes are available: Polished, ground or seamed edges with safety corners.
(Ask us about your customer edge finish requirements)

3. Visual Glass Quality

Defect	Description	Allowable number of defects
Chip	The number of chips allowed per piece of glass per meter, with: <ul style="list-style-type: none"> length not exceeding 10mm, depth from glass edge to glass face not exceeding 2mm and depth from glass face into thickness not exceeding 1/3 of the thickness. 	1
Scratch	Width \leq 0.1mm, Length \leq 50mm 0.1mm < Width \leq 0.5mm, Length \leq 50mm Width > 0.5mm	4/m ² 1/m ² Not Allowed
Bubble	0.5mm \leq Length \leq 1.5mm 1.5mm < Length \leq 3.0mm 3.0mm < Length \leq 5.0mm Length > 5.0	6xS 3xS 1xS Not Allowed
Stone		Not Allowed
Check/Crack		Not Allowed
Pock	Not obviously seen when viewing from 600mm distance	Allowed
Line		Not Allowed
Impression	Impression	Not Allowed
Pattern Disturbance	Visible	Not Allowed

Note: S is the size of the piece of glass in square meters, rounded to 0.01. The allowable number of bubbles is a derived figure resulting from the product of S and the listed coefficient.

4. Thermal Properties

Heat resistance	> 200°C
Softening Point	745°C
Annealing Point	511°C
Stain Point	413°C

5. Mechanical Properties

Compressive strength	700–900 N/mm ²
Bending strength (fully tempered):	95 N/mm ²
Tensile strength	62 N/mm ²
Thermal expansion coefficient	8.997 x 10 ⁻⁶ /°C
Minimum fragments (test area 50 x 50mm, longest fragment 75mm)	\geq 40
Surface condition	0.4 – 1.2 microns (matt)

6. Planarity (fully tempered)

General bow/warp	1.5mm/m
Local bow/warp	0.3mm/300mm



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