

SUNMAX PREMIUM REFLECT THIN



Extra clear thin mirror for Concentrated Solar Power (CSP)



SunMax Premium Reflect Thin is a high reflectivity flat solar mirror available in thickness 1 mm and 2 mm. SunMax Premium Reflect Thin is perfectly suited for lamination purposes and use in parabolic trough, power tower, dish/engine and CPV systems. Once laminated with an appropriate adhesive onto a support material, the mirror is perfectly well protected and shows a very high chemical and mechanical durability. SunMax Premium Reflect is designed to provide customers with the highest possible reflectivity and the required durability thanks to its composition. SunMax Premium Reflect conforms to EN1036. AGC can suggest you a set of qualified adhesives in function of your support structure.

SunMax Premium Reflect range is Cradle to Cradle Certified™ Bronze.



SunMax Premium Reflect Thin

Applications

- Dish/engine
- CPV
- Parabolic trough
- Power tower



Performances

Main Characteristics*

Solar hemispherical reflectance (%)	1mm: up to 95.5	ASTM G 173
Minimum radius of curvature (m)	1mm: 3.8	Based on 10MPa as design stress
Specific weight (kg/m ²)	1mm: 2.5	
Typical length	From 150mm to 3210mm	
Typical width	From 150mm to 1605mm	

Other dimensions and thicknesses available on request.

AGC SunMax Premium Reflect Thin can be cut to shape.

AGC can help evaluating these values according to other standards and/or to the specificities of the final application.

Durability tests*

Humid chamber	Passed (not laminated)	EN1036
Neutral salt spray	Passed (not laminated)	ISO 9227
CASS	Passed (not laminated)	ISO 9227
Thermal cycling	Passed (not laminated)	From -20°C to +75°C, up to 100% RH
EMMAQUA	Passed	ASTM D4364
UV resistance	Passed (laminated)	UVA 340 lamps, 40W/m ² (300 – 400nm), 0.8W/m ² /nm (340nm), 60°C

Mechanical Characteristics*

Mechanical strength (MPa)	45	Annealed	
Young modulus (GPa)	70	EN572	
Poisson ratio	0.2	EN572	
Hardness	Moh (scratch hardness)	6	EN572
	Knoop (indentation hardness)	470	Indenter load 500g
Density (kg/m ³)	2500	EN572, at 18°C	

Thermal characteristics*

Hemispherical emissivity	0.84	Between -18°C and 66°C
Expansion coefficient (10 ⁻⁶ 1/K)	9	EN572, between 20°C and 300°C
Specific heat (J/kg/K)	720	EN572
Thermal conductivity (W/m/K)	1	EN572
Softening point (°C)	722	
Annealing point (°C)	552	
Strain point (°C)	500	

Chemical composition*

Silicon dioxide (SiO ₂ , %)	69 to 74	EN572
Sodium oxide (NaO, %)	12 to 16	EN572
Calcium oxide (CaO, %)	5 to 12	EN572
Magnesium oxide (MgO, %)	0 to 6	EN572
Aluminium oxide (Al ₂ O ₃ , %)	0 to 3	EN572
Trace elements (FeO, etc., %)	<1	

AGC is committed to environmental stewardship through the use of recyclable materials and sustainable process in the manufacturing and distribution of our state-of-the-art, energy efficient flat glass products.

*The information contained in this datasheet is intended to assist you in designing with AGC materials. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. The user is responsible for determining the suitability of AGC materials for each applications.

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AGC Glass Europe – Avenue Jean Monnet 4, 1348 Louvain-la-Neuve, Belgium - solar@agc.com - www.agc-solar.com

