

SUNMAX PREMIUM REFLECT THICK

Extra clear thick mirror for Concentrated Solar Power (CSP)



SunMax Premium Reflect Thick is a high reflectivity flat solar mirror available in thickness 3 mm and 4 mm. SunMax Premium Reflect Thick is perfectly suited for use in power tower and linear Fresnel reflectors. 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.

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



SunMax Premium Reflect Thick

Applications

- Power tower
- Linear Fresnel reflectors

Performances

Main Characteristics*

Solar hemispherical reflectance (%)**	3mm: average 94.4 4mm: average 94.0	ASTM G173 ASTM G173
Specific weight (kg/m ²)	3mm: 7.5kg 4mm: 10kg	
Typical length	Up to 2550mm	
Typical width	Up to 3210mm	

Other dimensions and thicknesses available on request.

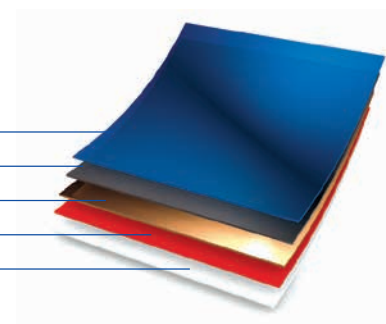
AGC can help evaluating these values according to other standards and/or to the specificities of the final application.

** The monochromatic hemispherical reflectance loss at 660nm is 0% after a Neutral Salt Spray test (NSS – ISO 9227) according to SolarPACES reflectance measurement guideline.

Durability tests*

Humid chamber - 480h	Passed	ISO 6270-2 (EN 1036)
Neutral salt spray test – 480h	Passed	ISO 9227
CASS - 120h and 600h	Passed	ISO 9227
Thermal / humidity cycling – 960h	Passed	85°C to -39°C to 40°C / RH 98% 85°C / 85 % RH to -15°C
EMMAQUA	Passed	ASTM G147 / ASTM G90 30 year equivalent exposure
UV resistance	Passed	UVA 340 lamps, 40W/m ² (300 – 400nm), 0.8W/m ² /nm (340nm), 60°C
UV + humidity exposure - 1500h	Passed	ASTM D4587 - 8h dry cycle: UVA 340 lamps, 40W/m ² (300 – 400nm), 0.8W/m ² /nm (340nm), 60°C - 4h wet cycle: dark period - Condensation @50°C
Cross cut	Passed	ISO 2409
Taber	Passed	ISO 7784-2 800 cycles
Sand storm test (4mm)	Passed	Based on MIL-STD-810G

- Glass
- Silver
- Copper
- Prime Coat
- Top Coat



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

