

Reflective Glass

Solar Reflect™

Description

Solar Reflect™ by Vitro Vidrio Arquitectónico is a temperable reflective glass that offers energy savings by limiting the passage of heat into buildings. It reflects and absorbs part of the incoming solar energy. Additionally, its high reflectivity allows the building to visually integrate with its surroundings. It can be used in monolithic applications or in insulating glass units (IGUs), always orienting the coating to the inside.

Performance Characteristics

Solar Reflect™ is manufactured through the Magnetron Sputtered Vacuum Deposition (MSVD) process, coating the glass with a series of metallic layers that withstand the tempering process, preserving their reflective properties. Solar Reflect™ is available in different Visible Light Transmission (VLT) options to adapt to industry requirements.

Manufacturing and Availability

Solar Reflect™ glass can be subjected to tempering and lamination to meet the protection and safety standards of buildings. It is available on 6 mm clear glass substrates in two sheet sizes: 1.80 x 2.60 m and 2.60 x 3.60 m



Solar Reflect™ Technical Specifications¹

Monolithic									
Thickness		VLT ²	Reflectance ²		(W/m ² K) U-Value ³		SHGC ⁴	LSG ⁵	
in	mm		Exterior	Interior	Winter Air	Winter Argon			
With Coating									
SOLAR REFLECT 8 (2) KLARE									
1/4	6	9%	41%	34%	4.11	N/A	0.20	0.45	
SOLAR REFLECT 8 (2) TINTEX/SOLEXIA									
1/4	6	6%	32%	37%	4.02	N/A	0.21	0.30	
SOLAR REFLECT 20 (2) KLARE									
1/4	6	20%	30%	29%	4.75	N/A	0.32	0.64	
SOLAR REFLECT 20 (2) TINTEX/SOLEXIA									
1/4	6	17%	25%	30%	4.98	N/A	0.31	0.55	
SOLAR REFLECT 36 (2) KLARE									
1/4	6	36%	21%	20%	5.54	N/A	0.48	0.76	
SOLAR REFLECT 36 (2) TINTEX/SOLEXIA									
1/4	6	30%	16%	22%	5.55	N/A	0.40	0.75	

Comparison of the performance of 25 mm (1 inch) double glazing units (DGUs) with a 13 mm (1/2 inch) air space and two 6 mm (1/4 inch) monolithic glass panes									
Glass configuration			VLT ²	Reflectance ²		(W/m ² K) U-Value ³		SHGC ⁴	LSG ⁵
Outer pane: Coating (if applicable) Glass (surface)	+	Inner pane: Coating (if applicable) Glass (surface)		Exterior	Interior	Winter Air	Winter Argon		
With Coating									
SOLAR REFLECT 8 (2) KLARE + CLEAR			8%	41%	36%	2.09	1.89	0.14	0.59
SOLAR REFLECT 8 (2) TINTEX + CLEAR			6%	32%	38%	2.05	1.84	0.13	0.44
SOLAR REFLECT 20 (2) KLARE + CLEAR			18%	30%	31%	2.35	2.17	0.24	0.77
SOLAR REFLECT 20 (2) TINTEX + CLEAR			15%	25%	32%	2.43	2.26	0.21	0.75
SOLAR REFLECT 36 (2) KLARE + CLEAR			32%	22%	24%	2.61	2.46	0.37	0.87
SOLAR REFLECT 36 (2) TINTEX + CLEAR			27%	17%	26%	2.61	2.46	0.28	0.95

1. The data is based on the performance of the central portion of the glass, which is representative of production samples. Actual values may vary due to process and manufacturing tolerances. All data in the table is based on the methodology of the National Fenestration Rating Council (NFRC), using the Window 7.3 software from the Lawrence Berkeley National Laboratory (LBNL).

2. Transmittance and reflectance values are based on spectrophotometric measurements and the energy distribution of solar radiation.

3. U-Values: A measurement of a glass's insulating properties, i.e., the amount of heat gained or lost through the glass due to differences between interior and exterior temperatures. The unit of measurement is W/m²·K. The lower the value, the better the insulation performance. This is the reciprocal of the R-value. "Winter Argon" represents U-Value performance under nighttime winter conditions when the cavity is filled with a mixture of 90% argon gas and 10% air.

4. Solar Heat Gain Coefficient (SHGC): Indicates how well a window blocks heat from the sun. SHGC is the fraction of solar radiation transmitted through a window, plus the portion absorbed by the glass and subsequently re-radiated indoors. SHGC values range from 0 to 1. The lower the SHGC, the less solar heat transmitted and the better the shading performance. SHGC is similar to the shading coefficient (SC), but also includes absorbed and re-radiated energy.

5. Light to Solar Gain Ratio (LSG): The ratio of visible light transmission to the solar heat gain coefficient (SHGC).