

PRODUCT DESCRIPTION

Solargray® tinted glass by Vitro Architectural Glass is a soda-lime float glass product with a medium gray color that deepens as thickness increases. In a 6mm thickness, Solargray® glass provides 44% visible light transmittance with a solar heat gain coefficient of 0.55 for improved solar control. Solargray® glass mechanical and physical properties are similar to other soda-lime float glass products.

APPROXIMATE WEIGHTS

Per m ²		Per ft ²	
thickness	weight	thickness	weight
3.0 mm	8.2 kg	1/8	1.5 lbs
4.0 mm	9.9 kg	5/32	2.0 lbs
5.0 mm	11.9 kg	3/16	2.4 lbs
6.0 mm	14.2 kg	1/4	2.9 lbs
8.0 mm	19.8 kg	5/16	4.0 lbs
10.0 mm	23.8 kg	3/8	4.9 lbs
12.0 mm	31.8 kg	1/2	6.4 lbs

COLOR

	6.0mm
Transmitted Color: D65, 10° L*	72.5
a*	0.6
b*	-2.2
Hue Angle (°)	285
Dominant wavelength: C, 2°	477 nm

CHEMICAL COMPOSITION

SiO ₂	73%
Na ₂ O	14%
CaO	9%
MgO and Trace elements	4%

MECHANICAL PROPERTIES

Knoop Hardness Number (indentation hardness) indenter load--500 gm	470 kgf/mm ²	
Poisson's Ratio	0.22	
Modulus of Elasticity (Young's)	73.1 GPa	10,600,000 psi
Tensile Strength (Determined as Modulus of Rupture, ultimate)	41.4 MPa	6,000 psi
Density at 21°C (70°F)	2.51 g/cm ³	157 lb/ft ³

THERMAL PROPERTIES

Hemispherical Emissivity at -18 to 66 °C (0 to 150°F) glass / coating	0.84 / 0.14	
Expansion Coefficient (linear) 20 to 300°C (68 to 572°F)	8.6*10 ⁻⁶ / °C	4.8*10 ⁻⁶ / °F
Specific heat at 0 to 100°C (32 to 212°F)	858 J/kg-K	0.205 Btu/lb-°F
Thermal Conductivity (k) at 50°C (122°F)	0.937 W/m-K	0.542 Btu/hr-ft-°F
Softening Point	724°C	1336°F
Annealing Point	547°C	1016°F
Strain Point	507°C	944°F

SUSTAINABILITY

To provide architects with the assurance and documentation they need to meet and verify their sustainability goals, Vitro Architectural Glass participates in a range of programs and initiatives. Resources available include, but are not limited to:

- Type III Environmental Product Declarations
- Cradle to Cradle Certified™ Bronze with associated Gold Material Health Certificate
- LEED® and Living Building Challenge documentation
- Material Ingredient Disclosure and Safety Data Sheets
- Annual Corporate Sustainability Report

Further information is available through VitroGlazings.com or by calling 855-887-6457 (VTRO GLS)



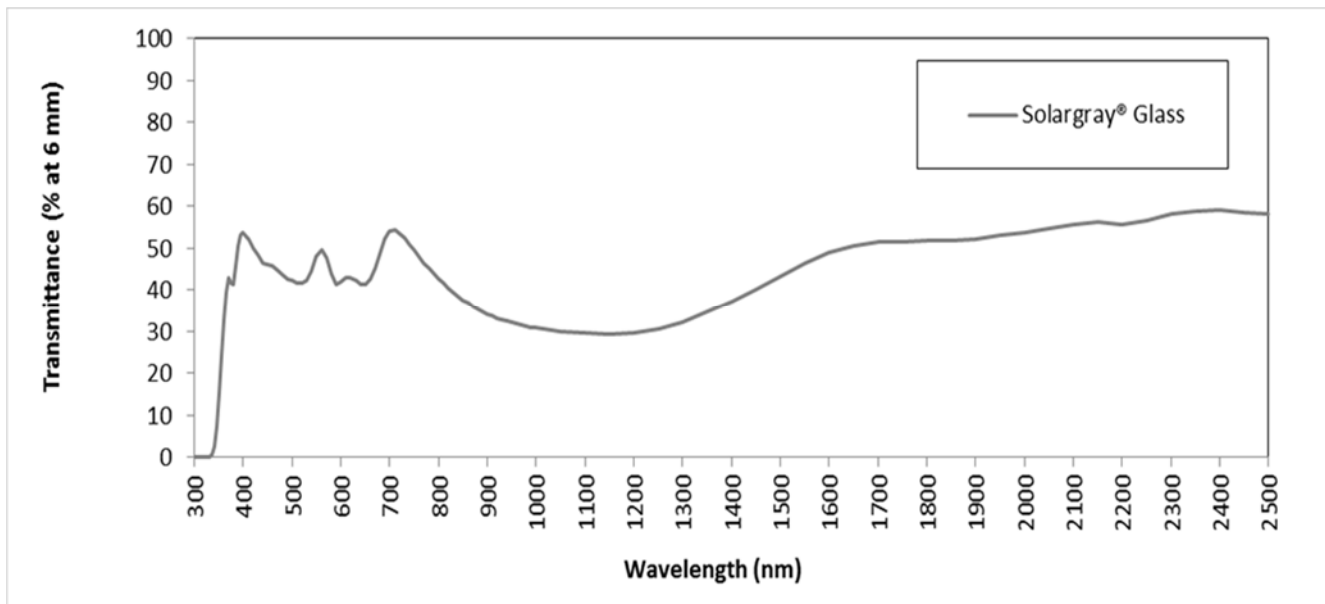
SOLAR PERFORMANCE VALUES ^[1]

Glass Thickness		Transmittance				Reflectance	
inches	mm	Ultra-violet (%)	Visible (%)	Infrared (%)	Total Solar (%)	Visible (%)	Total Solar (%)
1/8	3.0	37	60	55	58	6	6
5/32	4.0	33	56	50	53	6	6
3/16	5.0	29	50	44	48	6	5
1/4	6.0	24	44	37	42	6	5
5/16	8.0	17	33	27	31	5	5
3/8	10.0	13	28	21	26	5	5
1/2	12.0	8	18	14	17	5	5

^[1] Figures may vary due to manufacturing tolerances. All tabulated solar performance data are based on the methodology prescribed in ISO 9050, 2003 except Infrared, which is based on the solar irradiance data prescribed by ISO 9050, 2003 from 780 to 2500 nm. Slight changes in transmitted optical properties may occur on exposure to sunlight.

Transmittance (% at 6 mm/0.223")

Wave-length (nm)	Solargray® Glass %T	Wave-length (nm)	Solargray® Glass %T	Wave-length (nm)	Solargray® Glass %T	Wave-length (nm)	Solargray® Glass %T	Wave-length (nm)	Solargray® Glass %T
300	0.0	430	90.9	660	42.6	890	34.7	1600	49.0
305	0.0	430	48.3	670	45.2	900	34.2	1650	50.7
310	0.0	440	46.6	680	48.9	910	33.7	1700	51.4
315	0.0	450	46.2	690	52.3	920	33.2	1750	51.7
320	0.0	460	45.9	700	54.1	930	32.8	1800	51.8
325	0.0	470	45.0	710	54.3	940	32.5	1850	51.9
330	0.1	480	43.8	720	53.6	950	32.1	1900	52.3
335	0.6	490	42.8	730	52.4	960	31.8	1950	53.1
340	2.7	500	42.4	740	51.1	970	31.5	2000	53.7
345	7.6	510	41.8	750	49.5	980	31.3	2050	54.6
350	15.3	520	41.7	760	48.1	990	31.0	2100	55.6
355	24.3	530	42.2	770	46.6	1000	30.8	2150	56.3
360	32.8	540	44.7	780	45.3	1050	30.1	2200	55.8
365	39.5	550	48.2	790	44.0	1100	29.7	2250	56.7
370	42.9	560	49.7	800	42.8	1150	29.5	2300	58.2
375	41.7	570	47.9	810	41.6	1200	29.7	2350	59.0
380	41.5	580	44.0	820	40.5	1250	30.5	2400	59.3
385	46.0	590	41.3	830	39.6	1300	32.3	2450	58.7
390	50.6	600	42.0	840	38.7	1350	34.7	2500	58.3
395	53.1	610	42.9	850	37.8	1400	37.3		
400	53.8	620	43.1	860	36.9	1450	40.2		
410	52.2	640	41.5	870	35.9	1500	43.3		
420	50.1	650	41.3	880	35.3	1550	46.4		



ADDITIONAL INFORMATION/DOCUMENTS

The following documents can be referenced for additional information regarding Solargray® glass;
 Solargray® Performance Data, Vitro Float Glass Warranty, Vitro Float Glass SDS, C2C Material Health Certificate, Vitro Float Glass EPD