Product Data Sheet

SOLARBAN®90
Solar Control Low-E Glass

Aesthetic Description

The latest evolution in solar control low-e glass, *Solarban*® 90 glass combines major advances in coating technology with the aesthetic appeal of clear glass.

Developed with input from architects, *Solarban*® 90 glass conveys a true neutral appearance similar to that of clear glass in both color and reflectance, whether viewed from the interior or exterior of a building. The advanced solar control low-e coating manages the light spectrum to balance visible light transmittance and help manage glare, while providing exceptional solar performance.

As with other *Solarban*® low-e coated glasses, *Solarban*® 90 glass has the versatility to be paired with clear, *Starphire Ultra-Clear*® or an array of performance-tinted glasses to provide a broad range of aesthetic and performance options. In any configuration, the neutral nature of *Solarban*® 90 glass harmonizes well with other building materials to support the architect's design vision.

Performance Characteristics

Combining advanced coating technology with refinements to Vitro Architectural Glass' (formerly PPG glass) proven triple-silver coating technology, *Solarban*® 90 glass is engineered to outperform *Solarban*® 70 glass, the most preferred high-performance solar control low-e glass in North America.

When paired with clear glass in a standard one-inch insulating glass unit (IGU), *Solarban*® 90 glass offers a Solar Heat Gain Coefficient (SHGC) of 0.23, an improvement of 15 percent compared to *Solarban*® 70 glass. The same pairing yields a Visible Light Transmittance (VLT) of 51 percent, which fits well within the ideal range of most commercial glazing applications, along with an exceptional Light to Solar Gain (LSG) ratio of 2.22.

Due to its exceptional solar control performance, *Solarban*® 90 glass enables architects to specify larger expanses of glass to connect people to the outdoor environment.

The ENT Center for the Arts at the University of Colorado, Colorado Springs is one of the first projects to feature *Solarban*® 90 glass by Vitro Architectural Glass.

Comparison Chart

Product*	VLT	SHGC	LSG Ratio	Exterior Reflectance
Solarban® 90 Glass	51%	0.23	2.22	12%
Solarban® 70 Glass	64%	0.27	2.37	12%

*performance data based on a 1-inch IGU with clear glass

Supporting Sustainable Design

Vitro Architectural Glass provides abundant opportunities for architects and building owners to realize their sustainability objectives.

Energy Use & Operating Cost Reduction: High-performance glasses by Vitro are engineered to facilitate downsized mechanical equipment costs, leading to reduced long-term energy costs. Visit **tools.vitroglazings.com** for glass comparison and configuration tools for analyzing glass products.

Sustainability Documentation: Vitro Architectural Glass is the first U.S. float glass manufacturer to have its entire selection of products recognized by the ***Cradle to Cradle Certified***™ program, and the first in North America to publish third-party verified EPDs for its Flat Glass and Processed Glass products.

For additional credit opportunities and supporting documentation, visit **vitroglazings.com/LEED**

LEED Credit Opportunities			
Possible Points	**LEED Credit**	***Solarban*® 90 Feature**	**Path/Option Satisfied**
18	**Energy & Atmosphere (EA)** Optimize Energy Performance	Excellent SHGC, U-value and Tvis performance	Whole Building Energy Simulation (Option 1) or Prescriptive Compliance: ASHRAE Advanced Energy Design Guide (Option 2)
5	**Innovation (IN)** Innovation in Design	Exceeds minimum performance mandated by local energy codes	Innovation (Option 1), Pilot (Option 2) and Exemplary Performance (Option 3)

Fabrication and Availability

Solarban® 90 glass is available exclusively through the *Vitro Certified*™ Network. *Vitro Certified*™ Fabricators can meet tight construction deadlines and accelerate the delivery of replacement glass before, during and after construction. *Solarban*® 90 glass is manufactured using the magnetron sputtering vacuum deposition (MSVD) process and is available heat-strengthened and tempered.

Additional Resources

To obtain samples of any Vitro Glass product, call 1-855-VTRO-GLS (877-6457) or visit **samples.vitroglazings.com**. For videos, design insights and technical education, visit the Vitro Glass Education Center at **glassed.vitroglazings.com**. For glass comparison and configuration tools, visit **tools.vitroglazings.com**.

Insulating Glass Unit Performance Comparisons | 1-inch (25mm) units with 1/2-inch (13mm) airspace and two 1/4-inch (6mm) lites

Glass Type: Outdoor Lite: Coating if Any (Surface) Glass + Indoor Lite: Coating if Any (Surface) Glass	Visible Light Transmittance (VLT)	Visible Light Reflectance		(BTU/hr°ft²°°F) NFRC U-Value		Solar Heat Gain Coefficient (SHGC)	Light to Solar Gain (LSG)
		Exterior %	Interior %	Winter Nighttime	Winter Argon		
***Solarban*® 90 Solar Control Low-E Glass**							
Solarban® 90 (2) Clear + Clear	51	12	19	0.29	0.24	0.23	2.22
Solarban® 90 (2) *Acuity*™ + *Acuity*™	53	12	19	0.29	0.24	0.23	2.30
Solarban® 90 (2) *Starphire*® + *Starphire*®	54	13	20	0.29	0.24	0.23	2.35
Solarban® 90 (2) *Solexia*® + Clear	44	10	19	0.29	0.24	0.22	2.00
Solarban® 90 (2) *Atlantica*® + Clear	39	9	19	0.29	0.24	0.20	1.95
Solarban® 90 (2) *Azuria*® + Clear	39	9	19	0.29	0.24	0.21	1.86
Solarban® 90 (2) *Optiblue*® + Clear	37	8	19	0.29	0.24	0.20	1.85
Solarban® 90 (2) *Solarblue*® + Clear	32	8	18	0.29	0.24	0.19	1.68
Solarban® 90 (2) *Pacifica*® + Clear	24	6	18	0.29	0.24	0.17	1.41
Solarban® 90 (2) *Solarbronze*® + Clear	31	7	18	0.29	0.24	0.18	1.72
Solarban® 90 (2) *Optigray*® + Clear	36	8	19	0.29	0.24	0.20	1.80
Solarban® 90 (2) *Solargray*® + Clear	26	6	18	0.29	0.24	0.17	1.53
Solexia® + *Solarban*® 90 (3) Clear	44	16	12	0.29	0.24	0.30	1.47
Atlantica® + *Solarban*® 90 (3) Clear	39	13	12	0.29	0.24	0.26	1.50
Azuria® + *Solarban*® 90 (3) Clear	39	13	12	0.29	0.24	0.27	1.44
Solarblue® + *Solarban*® 90 (3) Clear	32	10	11	0.29	0.24	0.25	1.28
Pacifica® + *Solarban*® 90 (3) Clear	24	8	11	0.29	0.24	0.21	1.14
Solarbronze® + *Solarban*® 90 (3) Clear	30	10	11	0.29	0.24	0.24	1.25
Optigray® + *Solarban*® 90 (3) Clear	36	12	11	0.29	0.24	0.27	1.33
Solargray® + *Solarban*® 90 (3) Clear	25	8	11	0.29	0.24	0.22	1.14
Graylite® II + *Solarban*® 90 (3) Clear	5	4	11	0.29	0.24	0.11	0.45

All performance data calculated using LBNL Window 7.3 software and represents center of glass performance data. For detailed information on the methodologies used to calculate the aesthetic and performance values in this table, please visit vitroglazings.com or request our Architectural Glass Catalog.

For more information about *Solarban*® passive low-e glass and other *Cradle to Cradle Certified*™ architectural glasses by Vitro Glass, visit **vitroglazings.com**, or call **1-855-VTRO-GLS (887-6457).**

CERTIFIED cradle to cradle

Vitro® Architectural Glass