Product Data Sheet

SOLARBAN® R77
Solar Control Low-E Glass

Solarban® R77 glass by Vitro Architectural Glass (formerly PPG Glass) reveals new design possibilities with its neutral-reflective, soft silver-blue aesthetic. Utilizing a magnetron sputtered vacuum deposition (MSVD) solar control, low-emissivity (low-e) coating, *Solarban*® R77 glass joins Vitro Glass's family of neutral-reflective low-e glasses to showcase reflectivity that is higher than that of *Solarban*® 67 glass but lower than that of *Solarban*® R100 glass.

Thanks to its balanced, reflective visual quality, *Solarban*® R77 glass is ideal for realizing façade and curtainwall designs intended to capture the visual character of the sky and ambient environment.

Aesthetic Description

Offering a crisp, silver-blue exterior reflected color that is more subtle than *Solarban*® R100 glass's steel-gray look but more pronounced than that of *Solarban*® 67 glass, *Solarban*® R77 glass adds depth and character to vision glazing. *Solarban*® R77 glass has an exterior reflectance of 25 percent and softens the green hue of conventional clear glass.

On the building interior, *Solarban*® R77 glass enables daylighting that has a natural and neutral appearance. With interior reflectance of only 16 percent, *Solarban*® R77 glass offers crisp, lively views of the outdoors.

Performance Characteristics

Solarban® R77 glass is formulated to meet increasingly stringent mandates for energy and environmental performance required by contemporary energy codes. Its Solar Heat Gain Coefficient (SHGC) of 0.25 satisfies fenestration performance requirements for all climate zones in the United States and Canada under ASHRAE 90.1 standards.

Solarban® R77 glass, with its exterior reflectance of 25 percent, is ideal for realizing façade and curtainwall designs intended to capture the visual character of the sky and ambient environment.

As an MSVD coating, *Solarban*® R77 glass is engineered to offer exceptional levels of solar control performance while delivering a high degree of transparency. In a standard one-inch insulating glass unit (IGU) with conventional clear glass, *Solarban*® R77 glass offers a Visible Light Transmittance (VLT) of 47 percent.

Solarban® R77 glass is available on clear glass, as well as Vitro Glass's full range of low-iron and tinted glass substrates.

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 Environmental Product Declarations (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*® R77 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)

Solarban® R77 Glass

Solarban® R77 glass's superior color neutrality is accentuated with white blinds drawn.

Fabrication and Availability

Solarban® R77 glass is available 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*® R77 glass is manufactured using the sputter-coating process and must be heat-treated. It is not available annealed, even in laminated applications.

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 (25 mm) units with 1/2-inch (13 mm) airspace and two 1/4-inch (6 mm) 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*® R77 Neutral-Reflective Low-E Glass**							
Solarban® R77 (2) Clear + Clear	47	25	16	0.29	0.24	0.25	1.88
Solarban® R77 (2) *Acuity*™ + *Acuity*™	49	26	16	0.29	0.24	0.25	1.96
Solarban® R77 (2) *Starphire*® + *Starphire*®	50	26	16	0.29	0.24	0.25	2.00
Solarban® R77 (2) *Solexia*® + Clear	41	20	16	0.29	0.24	0.23	1.78
Solarban® R77 (2) *Atlantica*® + Clear	35	16	16	0.29	0.24	0.20	1.75
Solarban® R77 (2) *Azuria*® + Clear	36	17	16	0.29	0.24	0.21	1.71
Solarban® R77 (2) *Optiblue*® + Clear	34	15	16	0.29	0.24	0.21	1.62
Solarban® R77 (2) *Solarblue*® + Clear	30	13	16	0.29	0.24	0.20	1.50
Solarban® R77 (2) *Pacifica*® + Clear	23	9	15	0.29	0.24	0.17	1.35
Solarban® R77 (2) *Solarbronze*® + Clear	28	12	16	0.29	0.24	0.19	1.47
Solarban® R77 (2) *Optigray*® + Clear	33	15	16	0.29	0.24	0.21	1.57
Solarban® R77 (2) *Solargray*® + Clear	23	10	15	0.29	0.24	0.18	1.28

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*® R77 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).**

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CERTIFIED cradle to cradle

Vitro® Architectural Glass