



UC San Diego Torrey Pines Living & Learning Neighborhood | San Diego, CA | Solarban® 70 Glass\* | Architect: HKS Architects, Safdie Rabines Architects  
Vitro Certified® Fabricator: Glasswerks NWI | Glazing Contractor: Tower Glass, Inc. | Photographer: Tom Harris

\*Similar to Sungate ThermL™ glass, Solarban® 70 glass shown here on the UC San Diego Torrey Pines Living & Learning Community is neutral, colorless and provides low reflectivity while offering remarkable thermal performance.

# What do U-value in low-e glass?

Sungate ThermL™ glass delivers exceptional U-values without sacrificing clarity.



# Superior Insulating Performance. Remarkably Clear.

*Sungate ThermL™* glass is a low-e coating engineered for use on the interior surface of a typical one-inch insulating glass unit (IGU) that dramatically improves U-values when paired with any *Solarban®* solar control low-e glass by Vitro on the second surface.

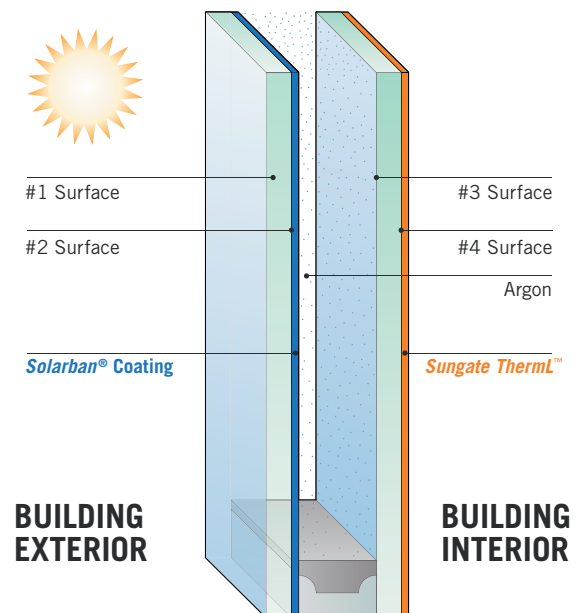
*Sungate ThermL™* glass offers superior insulation without changing the visual characteristics of the IGU. It is engineered to allow for a high rate of visible light transmittance (VLT) and to retain the indoor heated air by slowing down heat transfer through the IGU to reduce winter heating costs. *Sungate ThermL™* glass is ideal wherever increased insulation performance is needed and can also be used with argon or in a triple IGU for even greater insulating value.

*Sungate ThermL™* coatings are as durable and resistant to mechanical abrasion as uncoated glass.

## Performance Data

When *Sungate ThermL™* glass is paired in a one-inch IGU with a half-inch airspace with argon and *Solarban®* 70 glass on the second surface, the U-value is 0.19, which is a 21% improvement over using *Solarban®* 70 glass alone. This pairing provides a VLT of 63% and a solar heat gain coefficient (SHGC) of 0.27.

In a one-inch IGU with a half-inch airspace with argon, *Solarban®* 60 glass on the second surface and *Sungate ThermL™* glass on the fourth surface provides a U-value of 0.20, which is a 20% improvement over using *Solarban®* 60 glass alone on the second surface. The pairing also delivers a VLT of 69%, and an SHGC of 0.38.



## Fabrication & Availability

*Sungate ThermL™* glass is available from Vitro Authorized® and Vitro Certified® fabricators.

To request samples of *Sungate ThermL™* glass, visit [vitroglazings.com/Sungate-ThermL](http://vitroglazings.com/Sungate-ThermL).

# Aesthetics & Performance

## Aesthetics

*Sungate Therml™* glass is neutral, colorless and provides low reflectivity, so it looks just like uncoated clear glass while offering enhanced durability and insulation. To help create bright, striking facades, *Sungate Therml™* glass allows visible light to pass through for exceptional daylighting while delivering remarkably low interior and exterior reflectance to preserve views.

## Performance Data Comparisons

Insulating Glass Unit (IGU) Performance for 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•ft <sup>2</sup> •°F) NFRC U-Value		Solar Heat Gain Coefficient (SHGC)	Color Rendering Index (CRI)	
		Exterior %	Interior %	Winter Night-time	Winter Argon			
Coated								
<b>SOLARBAN® 60 Solar Control Low-E Glass</b>								
SOLARBAN® 60 (2) Clear + Clear	70%	11%	12%	0.29	0.24	0.39	95	
SOLARBAN® 60 (2) Clear + SUNGATE THERML™ (4) Clear	69%	10%	11%	0.23	0.20	0.38	95	
<b>SOLARBAN® 70 Solar Control Low-E Glass</b>								
SOLARBAN® 70 (2) Clear + Clear	64%	13%	14%	0.28	0.24	0.27	91	
SOLARBAN® 70 (2) Clear + SUNGATE THERML™ (4) Clear	63%	13%	13%	0.23	0.19	0.27	91	

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](http://vitroglazings.com).

Additional configurations paired with *Solarban®* low-e coatings can be found at [construct.vitroglazings.com](http://construct.vitroglazings.com).

# 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. For glass comparison and configuration tools, visit [tools.vitroglazings.com](http://tools.vitroglazings.com).

**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 information about sustainability credentialing and supporting documentation, visit [vitroglazings.com/sustainability](http://vitroglazings.com/sustainability).

To order samples and access more information about *Sungate Therml™* glass and other architectural glasses by Vitro Glass, call 1-88-VTRO-GLS (887-6457) or visit [vitroglazings.com/Sungate-Therml](http://vitroglazings.com/Sungate-Therml)



## Additional Resources

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

