

Product Data Sheet

SUNGATE® 400 Low-E Glass

Sungate® 400 is a passive low-e glass from Vitro Architectural Glass (formerly PPG glass) designed specifically for heating-dominated climates. Manufactured with a magnetron sputtered vacuum deposition (MSVD) “soft coat,” *Sungate*® 400 glass aids commercial buildings in retaining solar and furnace heat to help reduce winter heating costs. The MSVD soft coat enables *Sungate*® 400 glass to deliver a winter U-value that is nine percent better than passive low-e glasses manufactured with a “hard” pyrolytic coating, such as *Sungate*® 500 glass by Vitro Glass, and similar products from other manufacturers.

Aesthetic and Performance Options

In addition to offering excellent insulating performance, *Sungate*® 400 glass has an exceptionally clear aesthetic. When coated on a standard clear glass substrate, *Sungate*® 400 glass has a Visible Light Transmittance (VLT) of 76 percent. On *Starphire* Ultra Clear™ glass, VLT climbs to more than 80 percent.

Sungate® 400 glass performs best as a passive low-e product when specified as a third-surface coating on *Starphire*® glass. In a one-inch insulating glass unit (IGU) with *Starphire*® glass, this configuration generates a winter U-value of 0.32 and a Solar Heat Gain Coefficient (SHGC) of 0.73, which is 15 percent better than the 0.63 SHGC attained with a similar *Sungate*® 400 unit with conventional clear glass in a third-surface configuration. *Sungate*® 400 glass also has been engineered to work with *Sungate*® 70XL and *Solarban*® 60 glasses to optimize performance in triple-pane IGU’s.

For an even greater range of aesthetic and performance options, *Sungate*® 400 glass can be combined with nearly any of Vitro’s wide range of tinted glasses to generate Light to Solar Gain (LSG) ratios of up to 1.73. *Sungate*® 400 glass also can be paired with subtly reflective, color-enriched *Vistacool*® and traditional *Solarcool*® reflective coatings.



Cherry Street Plaza

Location: Olympia, WA | Products: *Sungate*® 500 Glass | Architect: Glenn Wells Architect | Glass Fabricator: Hartung Glass | Glazing Contractor: DK Boos Glass Inc. *Sungate*® 400 glass is a highly transparent, low-e glass designed specifically for heating-dominated, northern climates. It features the same clear aesthetic as *Sungate*® 500 glass (pictured), but with a 9 percent improvement in winter U-value.

Sustainable Design and Architectural Glass

Sustainable design, green building, safeguarding the environment and the long-term management of energy costs are vital considerations for today’s building designers. *Sungate*® 400 glass is one more tool Vitro Glass offers architects and building owners to reach their design objectives. Vitro Glass also promotes regional sourcing through its worldwide network of certified glass fabricators and laminators.

Sungate® 400 glass supports sustainable design and can provide LEED® credit opportunities according to the following criteria:

LEED/Green Design Category	Feature	Benefit
Optimize Energy Performance Daylight & Views Innovation in Design	SHGC designed for passive solar applications, U-value and Tvis performance <i>Sungate</i> ® 400 glass has exceptional visible light transmittance Cradle to Cradle Certification™	Enhance energy performance of building Connectivity to natural lighting and the outdoors Selection of environmentally focused products



Sungate® 400 Glass

Fabrication and Availability

Sungate® 400 passive low-e glass provides maximum processing flexibility and can be easily laminated, tempered or heat-strengthened to satisfy increased strength or safety glazing requirements. It is sold through more than 65 locations of the Vitro Certified™ Network. Vitro Certified™ Fabricators can meet tight construction deadlines and accelerate the delivery of replacement glass before, during and after construction. Sungate® 400 glass must be heat-treated.

Additional Resources

Sungate® 400 glass is Cradle to Cradle Certified™. For more information or to obtain samples of any Vitro Glass product, call 1-855-VTRO-GLS (887-6457) or visit vitroglazings.com.

Vitro Architectural Glass is the first U.S. float glass manufacturer to have its products recognized by the Cradle to Cradle Certified™ program, and offers more C2C-certified architectural glasses than any other float glass manufacturer.

Insulating Glass Unit Performance Comparisons 1-inch (25mm) units with 1/2-inch (13mm) airspace and two 1/4-inch (6mm) lites								
Glass Type	Visible Light Transmittance (VLT)	Visible Light Reflectance		(BTU/hr ² ft ^{20°} F) NFRC U-Value		Solar Heat Gain Coefficient (SHGC)	Light to Solar Gain (LSG)	
		Exterior %	Interior %	Winter Nighttime	Winter Argon			
Sungate® 400 Passive Low-E Glass								
Sungate® 400 (2) Clear + Clear	76	14	14	0.32	0.28	0.60	1.27	
Sungate® 400 (2) Starphire® + Starphire®	80	14	14	0.32	0.28	0.68	1.18	
Clear + Sungate® 400 (3) Clear	76	14	14	0.32	0.28	0.63	1.21	
Starphire® + Sungate® 400 (3) Starphire®	80	14	14	0.32	0.28	0.73	1.10	
Solexia® + Sungate® 400 (3) Clear	66	11	13	0.32	0.28	0.44	1.50	
Atlantica® + Sungate® 400 (3) Clear	58	10	12	0.32	0.28	0.35	1.66	
Azuria® + Sungate® 400 (3) Clear	59	10	12	0.32	0.28	0.34	1.74	
Solarblue® + Sungate® 400 (3) Clear	48	8	12	0.32	0.28	0.42	1.14	
Pacifica® + Sungate® 400 (3) Clear	37	7	11	0.32	0.28	0.30	1.23	
Solarbronze® + Sungate® 400 (3) Clear	46	8	12	0.32	0.28	0.44	1.05	
Optigray® + Sungate® 400 (3) Clear	54	9	12	0.32	0.28	0.46	1.17	
Solargray® + Sungate® 400 (3) Clear	38	7	12	0.32	0.28	0.39	0.97	
Graylite® II + Sungate® 400 (3) Clear	8	4	11	0.32	0.28	0.15	0.53	

All performance data calculated using LBNL Window 7.3 software, except European u-value, which is calculated using WinDat version 3.0.1 software. 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 Sungate® 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).

