Passive Solar Low-E Glasses

Sungate® 500 Low-E Glass

With more than 200 million square feet shipped in the last decade, ***Sungate*** 500 Low-E glass is one of the industry's most trusted and proven products. Thanks to the increased emphasis on energy efficiency, the value of this proven technology continues to multiply.

In certain geographic areas, the ability of ***Sungate*** 500 Low-E glass to transmit the warming rays of the sun (as measured by its higher Solar Heat Gain Coefficient) can lower heating requirements.

Performance

Sungate 500 glass has the color neutrality of a clear uncoated glass, together with outstanding energy performance. When used in a one-inch insulating glass unit, ***Sungate*** 500 coated glass produces winter nighttime U-value improvements of 27% compared to a standard clear glass insulating unit, while transmitting as much as 74% of its visible light.

Versatility

When added solar control is required, ***Sungate*** 500 glass can be teamed with a spectrally selective tint from the ***Oceans of Color***® collection in a one-inch insulating glass unit. This produces the benefits of high visible light transmittance, improved solar control and a variety of aesthetic options.

For example, ***Sungate*** 500 ***Azuria***™ glass delivers a Light to Solar Gain (LSG) ratio of 1.66, well above the minimum standard for spectrally selective glass* as defined by the U.S. Department of Energy.

(For performance data on other ***Sungate*** 500/***Oceans of Color***® combinations, see pages 10-11.)

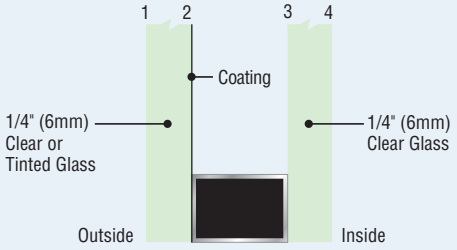
Orthopedic Center at Lancaster General Hospital
Location: *Lancaster, PA*
Products: Sungate® *500 Glass*
Architect: *IKM Incorporated*
Glazing Contractor: *National Glass & Metal Company, Inc.*
Glass Fabricator: *JE Berkowitz, LP*
Owner/Developer: *Lancaster General Hospital*

Cherry Street Plaza
Location: *Olympia, WA*
Products: Azuria™ *Glass/Sungate*® *500 Glass*
Architect: *Glenn Wells Architect*
Glazing Contractor: *DK Boos Glass Inc.*
Glass Fabricator: *Hartung Glass*
Owner/Developer: *Vine Street Investors, LLC*

Understanding Coated Glass Surface Options

Solarban® Solar Control Low-E and ***Sungate***® 500 Low-E coatings must be glazed within the insulating glass airspace, on either the #2 or #3 surface. When combined with a tinted glass, these coatings are typically glazed in the #3 surface orientation.

Solarcool® reflective coated glasses are glazed either in the #1 or #2 orientation depending on the desired exterior aesthetic. The ***Vistacool***™ coating is only available in the #2 position.



* The U.S. Department of Energy defines spectrally selective glass as glass with a Light to Solar Gain ratio of 1.25 or higher.

PPG Industries Performance Glass Calculator Calculated *Center-of-Glass* Thermal and Optical Properties Based on NFRC 100-2001 Environmental Design Conditions

Details for Double Glazing as Specified	
Outdoor Glass Lite	1/4" (6mm) Clear
Gas Cavity Dimension	1/2" (13mm)
Gas Fill	Air
Indoor Glass Lite	1/4" (6mm) Sungate 500 on Clear (Surface #3)

Calculated Thermal and Optical Properties			
Shading Coefficient	0.75		
Solar Heat Gain Coefficient	0.65		
U-Values (K-Values)	**Metric (Kcal/hr/m²/C)**	**Metric (W/m²/C)**	**English (BTU/hr/ft²/F)**
Winter Nighttime	1.69	1.97	0.35
Summer Daytime	1.71	1.98	0.35
Relative Heat Gain	**Metric (Kcal/hr/m²)** 419	**Metric (W/m²)** 487	**English (BTU/hr.ft²)** 154
LSG (Light to Solar Gain Ratio)	1.13		
Transmittance (%)			
Visible	74		
Ultraviolet / Krochman Damage Weighted	42 / 48		
Total Solar Energy	51		
Reflectance (%)			
Visible (Out)	17		
Visible (In)	16		
Total Solar Energy (Out)	15		
Color Properties	**L***	**a***	**b***
Transmittance	88.68	-2.58	2.42
Reflectance	48.91	-3.88	-3.44

While PPG believes this calculated performance data to be reasonably accurate, it may not precisely agree with similar performance data calculated using the LBL Window 5.2 program. PPG's published data is based on the LBL Window 5.2 program.