www.sphinxglass.com

PRODUCTS
CATALOGUE

SPHINX
GLASS

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ABOUT US

We turn grains of sand into all that glamor that is part of your everyday surroundings!

Established in 2008 and headquartered in Cairo, Sphinx Glass is a leading, float glass manufacturer in Egypt and the MENA region. With our professional team and years of experience, we established an extremely advanced high-tech float glass line, becoming one of the most distinguished regional glass manufacturers in the industry. For more than a decade, the company has held a leading market share in each segment of the glass industry. Our quality and reliability is what drives our success and attracts strategic alliances with local companies and large foreign corporations.

Since the company's inception, we have chosen to change the domestic market. We opted for the hard way; educating the market about why they should consider doing things in a different way, using advanced technology, raising all the standards and shifting the whole landscape of the glass industry. We changed the equation by providing value for money, steady, reliable, superior quality supply and service, and set the bar higher for the Egyptian market. And when the real estate and construction boom came, the market was ready and Sphinx Glass was fully capable of supplying the high demand for glass.

Sphinx Glass is known for its superior quality glass, using cutting-edge manufacturing technology, strict quality assurance and first-rate raw materials. Vitro (formerly PPG), a world renowned glass manufacturer, is the primary know-how and technology partner of our production facility, which is a key factor in our ability to position Sphinx Glass as a star glass producer in the region and a synonym to high-quality products.

We bring sparkle to the world by supplying float glass products to the architectural, decorative, home appliances and automotive industries. We manufacture a large range of glass sizes and thicknesses (from 2mm to 19mm, including jumbo size). Our state-of-the-art, high production facility (with an annual capacity of 220,000 tones) is strategically located near the main sea ports, giving Sphinx Glass the ability to deliver excellent and efficient logistics service to the export markets, currently spanning across five continents.

For 10 years and still counting, there's a landmark being constructed every day with Sphinx signature glass adorning its façade.

SPHINX GLASS

WHY SPECIFY SPHINX GLASS

Sphinx Glass is known for the superior quality of its products, thanks to the use of advanced manufacturing technology, strict quality assurance and world class raw materials.

Vitro (formerly PPG) industries, a world renowned glass manufacturer, is the primary know-how and technology provider for our production facility. Vitro (formerly PPG) is at the leading edge of developing innovative technology. Sphinx Glass' utilization of Vitro (formerly PPG) technology is a key factor in its ability to position itself as the leading producer in the region and to consistently supply high-quality products.

Choose Sphinx Glass products and you'll benefit from the superior standards of product and service for which Sphinx Glass is highly recognized.

Our plant is an exemplary demonstration of how we value Health and Safety requirements and systems. All our team is experienced and well trained to maintain to Health & Safety standards.

Glass experts at your service

In addition, Sphinx Glass always supports customers in planning, designing and processing glass via highly qualified technical teams who are just one call away from all our partners.

CERTIFICATION

ISO 14001:2015

SGS ISO 45001:2018

ISO 9001:2015

ISO 50001:2011

Grand Egyptian Museum
Isolite Sky Blue, Trulite Clear , Isolite Euro Grey
LEED Project, Gold certified

Al Masa Restaurant
Vistalite Euro Grey
LEED Project, Gold certified

Head Quarters of the Council of Ministers
Vistalite Euro Grey

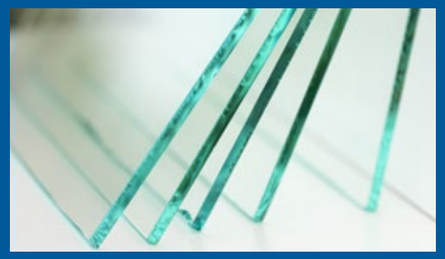
PRODUCTS
RANGE

Sphinx Glass' wide range of products allows a full commitment to meet customer's needs. Innovation at every level offering sustainable solutions for energy conservation and environmental protection.

We bring the best silica sand from Sinai, melt it to perfection in a state of art production facility – backed up by Vitro (formerly PPG).

Liquid sand is then turned to glass that becomes a part of our everyday surroundings. We proudly combine world class materials to manufacture superior quality float glass manufactured under strict quality assurance standards.

TRULITE - CLEAR GLASS



- Automotive Quality
- Silvering Quality
- Architectural Quality

ISOLITE - TINTED GLASS

- Isolite Euro Bronze
- Isolite Euro Grey
- Isolite Sky Blue
- Isolite Dark Bronze
- Isolite Coal Grey

SOLARLITE AND VISTALITE - COATED GLASS

- Solarlite Glass
- Vistalite Glass
- Low-E Glass

TRULITE - CLEAR GLASS

Sphinx Trulite glass is produced by means of the float process, which gives the glass its perfectly flat and parallel glass surface. The products come with advanced optical properties, exceptional clarity and light transmittance, thanks to Egypt's high quality silica sands.

AUTOMOTIVE QUALITY

SILVERING QUALITY

ARCHITECTURAL QUALITY

AUTOMOTIVE QUALITY

Automotive glass manufacturing has been evolving hand-in-hand with automobile design. More recently, the curved shape has grown in popularity, becoming one of the commonest in demand shapes for many producers and processors.

Sphinx Glass is committed to meeting the changing demands of car manufacturers, utilizing the most advanced manufacturing technologies to ensure the optimum quality of its products and services.

Sphinx Automotive Quality comes in varying sizes and thicknesses, beginning from 2.1 mm to 5mm, yet its defining characteristic is its clear and undistorted visibility, whether in the clear float or green ranges, which provide high transmittance and reduce solar heat gain, making the different varieties of Sphinx Glass products ideal for windscreens, sidelights and backlights.

Trulite Clear: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light				Solar Energy						U Value W/ M2K
Trulite Clear	%	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Color Render Index Ra (D65)	Transmit-tance	Reflec-tance	Absorp-tion	Solar Factor EN410	SHGC	SC	
2.1	69	90	9	9	99	87	10	3	0.88	0.87	1.01	5.9
2.5	68	90	9	9	99	87	10	3	0.88	0.87	1.01	5.9
2.7	67	90	9	9	99	86	10	4	0.88	0.87	1.00	5.9
3	66	90	9	9	99	85	10	5	0.87	0.86	0.99	5.8
4	62	90	9	9	99	84	9	7	0.86	0.85	0.99	5.8
5	59	89	9	9	98	82	9	9	0.85	0.84	0.98	5.8

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value

– Color Rendering Index Ra (D65) = the ability transmitted daylight to portray a variety of colors compared to those seen under day light without the glazing.

– "a(D65)" refers to an average of eight color samples at 6500 K color temperature. In illumination, general color rendering indicies Ra above 90 are very good and Ra between 80 and 90 are good.

SILVERING QUALITY

Glass is the main component of mirrors, thus a perfectly smooth glass surface will be a perfect mirror. Sphinx Glass' perfectly uniform and smooth surface provides an effective base for a reflective layer of silver.

Sphinx Glass provides a range that is uniformly smooth and practical for all purposes from interior designs, car mirrors, household mirrors, etc. Designers need only to specify the thickness required; from 2.7 mm till 6 mm and Sphinx Glass will provide perfect silvering quality glass for the best quality mirrors.

Trulite Clear: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light				Solar Energy						U Value W/ M2K
Trulite Clear	%	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Color Render Index Ra (D65)	Transmit-tance	Reflec-tance	Absorp-tion	Solar Factor EN410	SHGC	SC	
2.7	67	90	9	9	99	86	10	4	0.88	0.87	1.00	5.9
3	66	90	9	9	99	85	10	5	0.87	0.86	0.99	5.8
4	62	90	9	9	99	84	9	7	0.86	0.85	0.99	5.8
5	59	89	9	9	98	82	9	9	0.85	0.84	0.98	5.8
6	55	89	9	9	98	80	9	11	0.84	0.83	0.97	5.7

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

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ARCHITECTURAL QUALITY

GALLERIA 40 MALL
Solarban R100
LEED Project, Gold certified

Sphinx Glass range is produced by means of the float process, which gives the glass its perfectly flat and parallel surface. The product comes with advanced optical properties, exceptional clarity and light, transmittance, thanks to Egypt's high quality silica sands.

The production process itself entails pouring molten glass over a bath of molten tin; the glass then flows over the surface, forming a smooth floating ribbon, with even thickness on either side of the tin. The ribbon then passes through a cooling tunnel known as the annealing (LEHR.). In this controlled setting, the temperature is gradually lowered to remove any internal stresses in the glass sheet and allow for its workability during processing.

At Sphinx Glass, special attention is paid to annealing process to ensure optimum post processing results in the tempering, double glazing, lamination, coasting and silvering stages. High dimensional accuracy is applied during the online cutting process to ensure the glass sheets come out as perfect rectangle.

Trulite Clear: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light				Solar Energy						U Value W/ M2K
Trulite Clear	%	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmittance	Transmittance	Reflectance Outdoors	Reflectance Indoors	Color Render Index Ra (D65)	Transmittance	Reflectance	Absorption	Solar Factor EN410	SHGC	SC	
4	62	90	9	9	99	84	9	7	0.86	0.85	0.99	5.8
5	59	89	9	9	98	82	9	9	0.85	0.84	0.98	5.8
6	55	89	9	9	98	80	9	11	0.84	0.83	0.97	5.7
8	51	88	9	9	97	77	8	15	0.82	0.81	0.94	5.6
10	49	87	9	9	97	75	8	17	0.80	0.79	0.92	5.6
12	46	86	9	9	96	72	8	20	0.78	0.77	0.90	5.5
15	42	84	8	8	95	68	7	25	0.76	0.75	0.87	5.4
19	39	84	8	8	95	65	7	28	0.73	0.72	0.84	5.3

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value

– Color Rendering Index Ra (D65) = the ability transmitted daylight to portray a variety of colors compared to those seen under day light without the glazing.

– "a(D65)" refers to an average of eight color samples at 6500 K color temperature. In illumination, general color rendering indices Ra above 90 are very good and Ra between 80 and 90 are good.

Raya Office Building
Solarlite Euro Grey
LEED Project, Gold certified

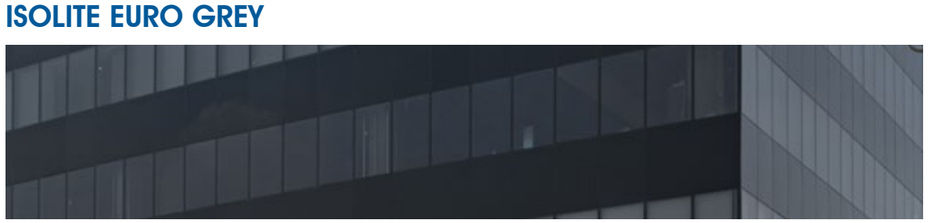
ISOLITE - TINTED GLASS

Sphinx Isolite glass provides solar control by absorbing some of the sun direct radiation, which softens the brightness of daylight. It only transmits the optimum amount of light and protects against unwanted UV radiations, while reducing heat intake, creating an ideal and a private interior setting.

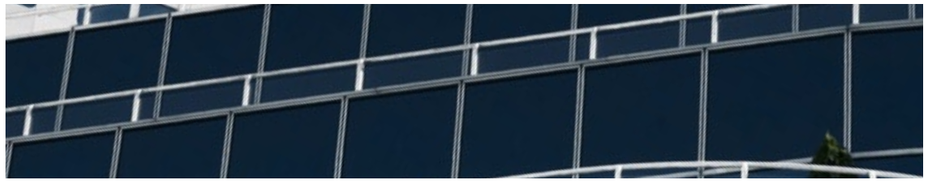
ISOLITE EURO BRONZE

ISOLITE DARK BRONZE

ISOLITE EURO GREY



ISOLITE COAL GREY



ISOLITE SKY BLUE

Waterway Compound
Isolite Euro Grey

ISOLITE EURO BRONZE

Isolite Euro Bronze: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Isolite Euro Bronze	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
4	32	62	6	6	60	6	34	0.69	0.70	0.81	5.8
5	26	57	6	6	54	6	40	0.65	0.65	0.76	5.7
6	22	51	6	6	49	6	45	0.61	0.62	0.72	5.7
8	15	42	5	5	40	5	55	0.56	0.57	0.66	5.6
10	11	35	5	5	33	5	62	0.51	0.52	0.60	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

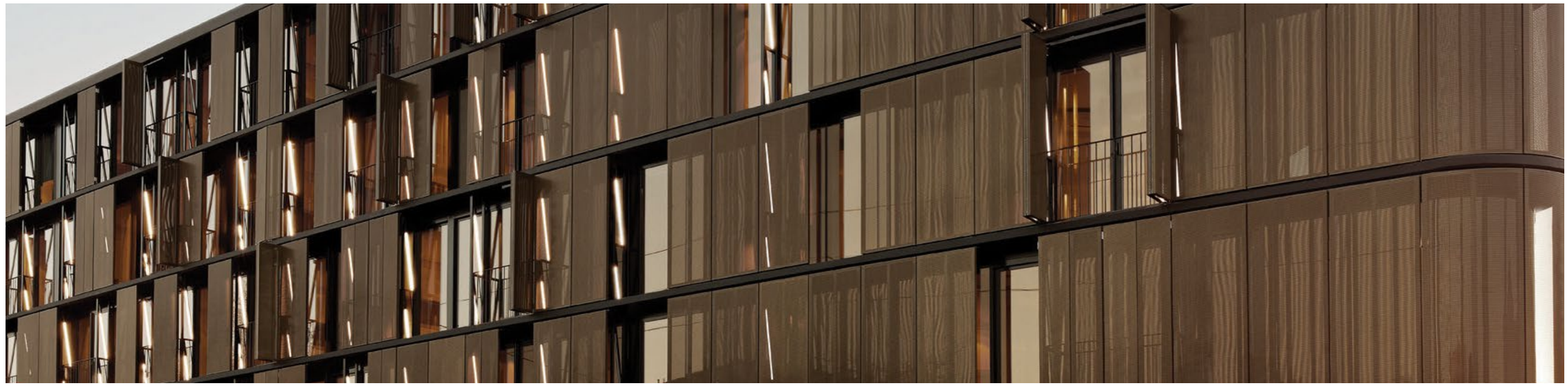
– SF = Solar Factor (EN410) also known as g-value.

Isolite Euro Bronze: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	44%	7%	13%	0.57	0.50	2.80	2.70	2.70
SG 500 -Hard coat Low E#3	42%	9%	15%	0.52	0.45	1.90	1.80	1.80
Single Silver Low E#3	38%	8%	12%	0.49	0.43	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC &EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

ISOLITE DARK BRONZE



Isolite Dark Bronze: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Isolite Dark Bronze	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
4	27	57	6	6	54	6	40	0.64	0.64	0.72	5.8
5	24	53	6	6	49	6	45	0.6	0.61	0.69	5.7
6	20	46	6	6	43	5	52	0.55	0.56	0.63	5.7
8	18	37	5	5	33	5	58	0.48	0.49	0.56	5.6
10	12	31	5	5	29	5	64	0.45	0.46	0.52	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Isolite Dark Bronze: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	42%	7%	12%	0.45	0.39	2.80	2.70	2.70
SG 500 -Hard coat Low E#3	40%	9%	15%	0.41	0.36	1.90	1.80	1.80
Single Silver Low E#3	35%	8%	12%	0.40	0.35	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

ISOLITE EURO GREY

Isolite Euro Grey: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Isolite Euro Grey	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
4	30	55	6	6	55	6	39	0.66	0.67	0.77	5.8
5	25	48	6	6	48	5	47	0.62	0.62	0.72	5.7
6	20	42	5	5	42	5	53	0.58	0.58	0.67	5.7
8	15	33	5	5	33	5	62	0.52	0.52	0.60	5.6
10	10	25	5	5	25	5	70	0.47	0.48	0.55	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Isolite Euro Grey: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	40%	7%	13%	0.51	0.44	2.80	2.70	2.70
SG 500 -Hard coat Low E#3	38%	8%	15%	0.44	0.38	1.90	1.80	1.80
Single Silver Low E#3	36%	8%	12%	0.41	0.35	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

Cloudnine Mall
Isolite Euro Grey

CFC Admin Building
Isolite Euro Grey

ISOLITE COAL GREY

Isolite Coal Grey glass delivers optimum levels of solar control together with a fashionable, nearly black appearance.

In a 24mm insulating unit, Isolite Coal Grey glass has a Solar Heat Gain Coefficient of 0.34, which is also among the lowest available for any uncoated glass. In addition, Isolite Coal Grey glass helps protect interior fabrics and colors from fading by blocking up to 94% of the sun's ultraviolet energy, more than any architectural glass on the market today.

Isolite Coal Grey: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U-Value W/m2*k
Isolite Coal Grey	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors.	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor (SF) EN410	SHGC	SC	EN 673
5	8	15	5	5	27	16	57	0.49	0.50	0.56	5.8
6	7	14	5	5	26	17	55	0.47	0.48	0.55	5.7
8	6	12	5	5	22	19	59	0.42	0.43	0.48	5.6
10	4	8	5	6	18	22	62	0.34	0.35	0.39	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Isolite Coal Grey: Performance Data for IG Unit Glass (6mm /16mm air space/6mm)

	Transmit-tance VLT	Visible light Reflectance		Solar Energy				U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.	Transmit-tance %	Reflec-tance %	SC	Solar Factor (SF) EN410	Winter	Summer	EN 673 Air
Trulite Clear	12	5	12	19	12	0.39	0.34	2.80	2.70	2.70
SG 500 -Hard coat Low E#3	10	7	13	17	15	0.34	0.30	1.90	1.80	1.80
Single Silver Low E#3	8	6	11	16	17	0.32	0.27	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

ISOLITE SKY BLUE

Al-Nasr Children Hospital – Cleopatra Group – Port Saeid
Isolite Sky Blue

Isolite Sky Blue: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Isolite Sky Blue	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
6	18	58	6	6	53	12	35	0.60	0.61	0.68	5.7
8	15	52	5	5	42	14	44	0.56	0.55	0.64	5.6
10	11	44	5	5	37	16	47	0.51	0.52	0.60	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value

Isolite Sky Blue: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	53%	8%	12%	0.55	0.48	2.80	2.70	2.70
SG 500 -Hard coat Low E#3	48%	10%	17%	0.51	0.44	1.90	1.80	1.80
Single Silver Low E#3	42%	12%	15%	0.48	0.42	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC &EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values.

SOLARLITE AND VISTALITE - COATED GLASS

Commonly known as 'online' coating, the Pyrolytic coating process involves fusing metal oxide particles with hot glass during the floating process, which allows the two substances to bond on a molecular level, creating a hard coating that is both mechanically and chemically durable.

Sphinx Pyrolytic reflective coatings – Solarite and Vistalite – have all characteristics of Pyrolytic coated glass:

- Long shelf-life
- Do not require edge deletion
- Useable for all post-processing operations, including: tempering, curving, bending, laminating, silk-screen printing.
- Can be used in monolithic or IG configuration
- Sphinx Pyrolytic coated glass is CE, marked and conforms to EN 1096.

SOLARLITE GLASS

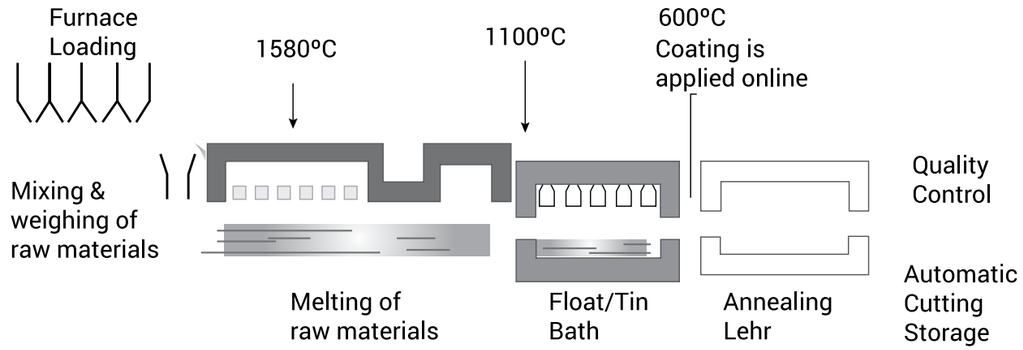
VISTALITE GLASS

LOW-E GLASS

APPLICATIONS

The reflective solar control glass is widely used in areas where reduction of solar heat gain is necessary for maintaining cool interiors. Common examples are windows, curtain walls and structurally glazed facades.

Schematic of a float production line showing the Pyrolytic coating method:



SOLARLITE - COATED GLASS

Stunning brilliance

The Solarlite family of reflective coated glass was introduced in 2010 to the Egyptian market to enhance the appearance of thousands of buildings and to the comfort of millions of inhabitants.

Solarlite glass can be glazed with the reflective coating positioned on either the first or second surface. The glass has improved performance and higher exterior visible-reflectivity with a metallic sheen when installed with the coating on the first surface. Combined in IG Unit insulating glass unit with clear glass, Solarlite glass offers an expansive palette of appearance and performance options with solar heat gain coefficients (SHGCs) ranging from 0.34 to 0.14 and exterior reflectance of up to 37 percent.

When installed with the coating on the second surface, the glass has lower exterior visible reflectivity and maintains the substrate glass color. Combine Solarlite glass with Trulite and Isolite Glass, such as Euro Grey, Coal Grey, Euro Bronze, and Sky Blue to produce an even greater range of aesthetic options.

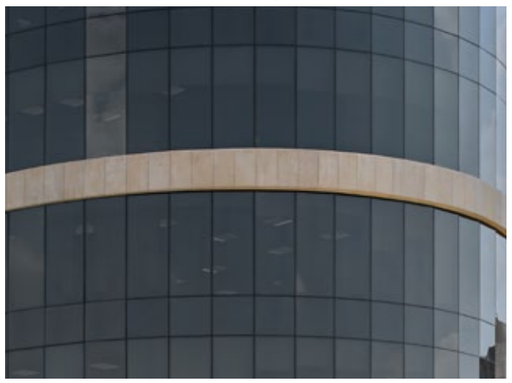
For detailed performance of thermal and mechanical properties, please review the Reflective Glass product data sheet.

Solarlite Clear

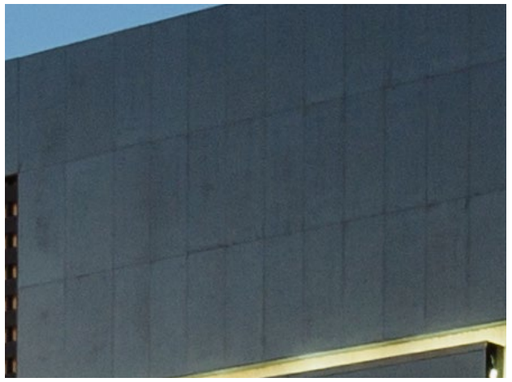
Solarlite Euro Bronze

Solarlite Dark Bronze

Solarlite Euro Grey



Solarlite Coal Grey



Solarlite Sky Blue

SOLARLITE CLEAR

Solarlite Clear: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Solarlite Clear	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorp-tion	Solar Factor EN410	SHGC	SC	
4	17	35	29	37	44	24	32	0.49	0.50	0.57	5.8
5	17	35	29	37	42	23	35	0.48	0.49	0.56	5.7
6	16	34	29	36	41	23	36	0.47	0.48	0.55	5.7
8	15	33	28	36	38	21	41	0.48	0.47	0.54	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

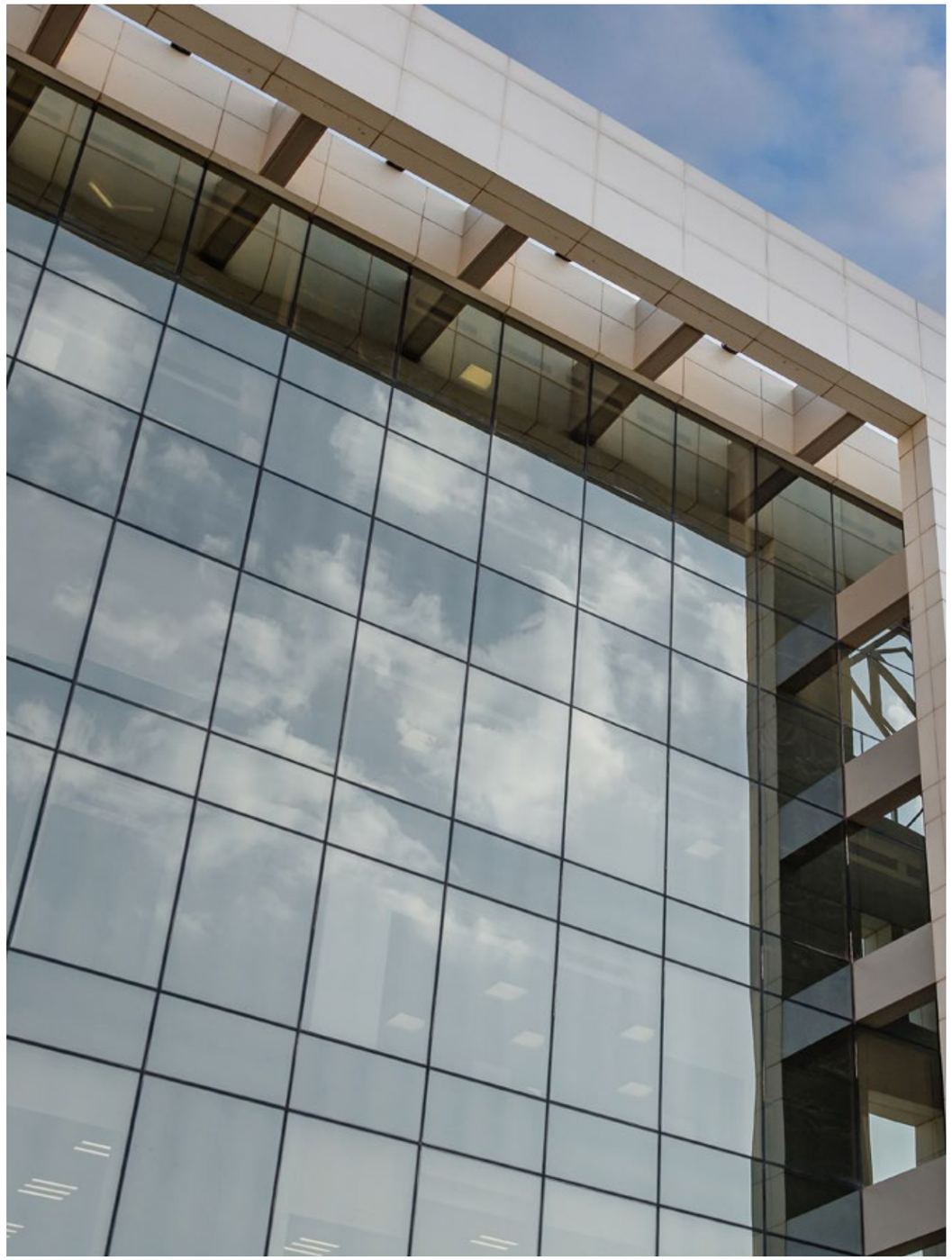
– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Solarlite Clear: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	32%	30%	38%	0.46	0.40	2.80	2.70	2.70
SG 500-Hard coat Low E#3	28%	30%	36%	0.44	0.38	1.90	1.80	1.80
Single Silver Low E#3	27%	28%	35%	0.41	0.36	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values



Namaa 44 -Nestle
Solarlite Clear

SOLARLITE EURO BRONZE

Solarlite Euro Bronze: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Solarlite Euro Bronze	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
4	9	24	16	36	34	14	52	0.49	0.50	0.57	5.8
5	7	22	14	36	30	12	58	0.47	0.48	0.55	5.7
6	6	20	13	36	27	11	62	0.46	0.45	0.53	5.7
8	4	16	10	36	22	9	69	0.44	0.44	0.51	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

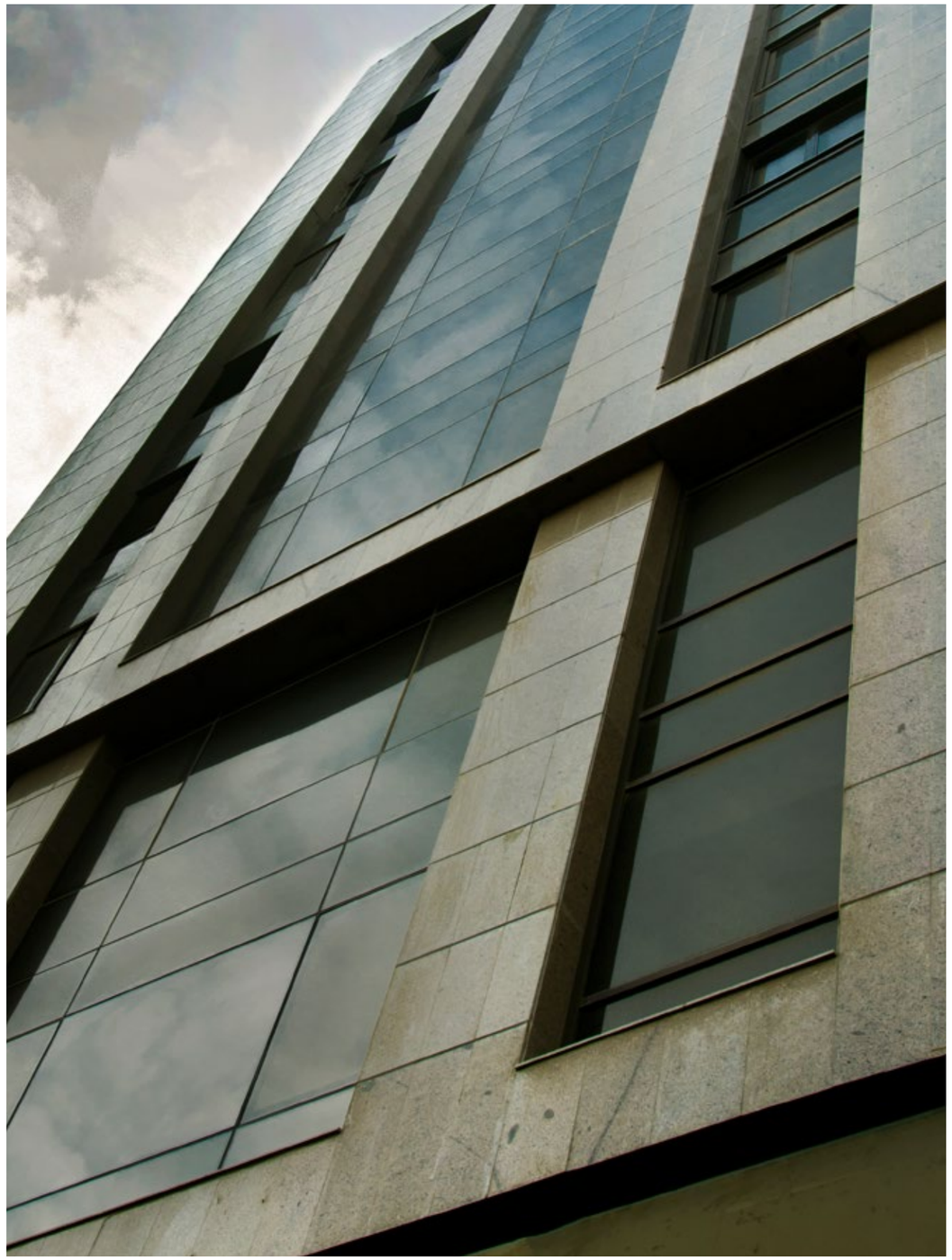
– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Solarlite Euro Bronze: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	19%	14%	37%	0.38	0.33	2.80	2.70	2.70
SG 500-Hard coat Low E#3	18%	14%	35%	0.32	0.28	1.90	1.80	1.80
Single Silver Low E#3	15%	14%	32%	0.31	0.27	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values



ERA Building
Solarlite Euro Bronze

SOLARLITE DARK BRONZE

Solarlite Dark Bronze: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Solarlite Dark Bronze	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
4	8	22	15	36	32	16	50	0.47	0.48	0.55	5.8
5	6	20	14	36	30	17	55	0.42	0.43	0.49	5.7
6	5	18	11	36	26	10	64	0.38	0.39	0.44	5.7

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

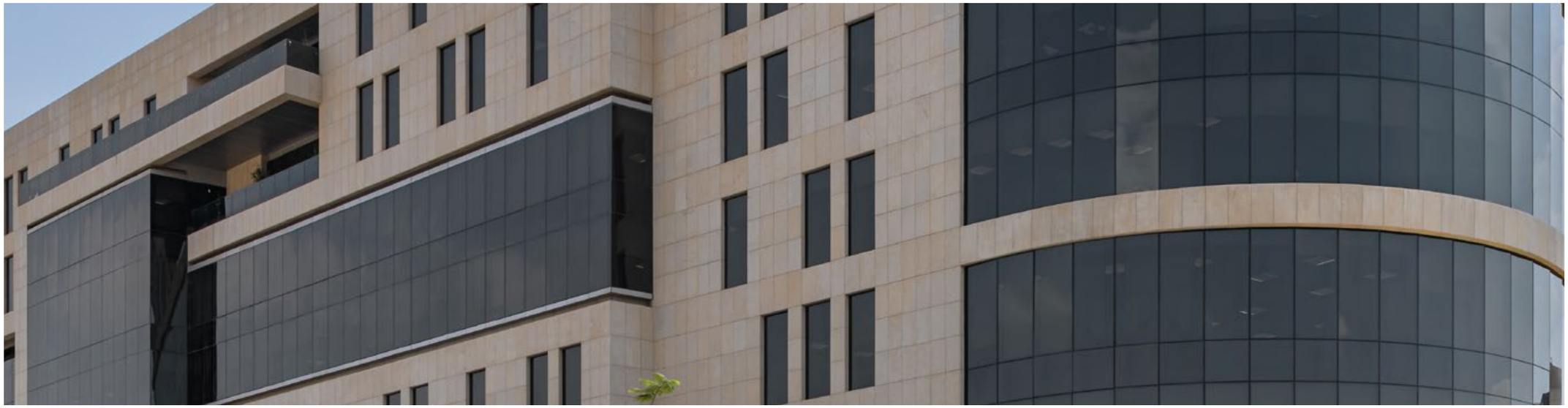
– SF = Solar Factor (EN410) also known as g-value.

Solarlite Dark Bronze : Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	17%	14%	37%	0.25	0.22	2.80	2.70	2.70
SG 500-Hard coat Low E#3	15%	14%	35%	0.23	0.20	1.90	1.80	1.80
Single Silver Low E#3	13%	14%	32%	0.21	0.19	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

SOLARLITE EURO GREY



Raya Connection
Solarlite Euro Grey

Solarlite Euro Grey: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Solarlite Euro Grey	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorp-tion	Solar Factor EN410	SHGC	SC	
4	10	23	15	36	32	13	55	0.49	0.50	0.57	5.8
5	8	20	12	36	28	11	61	0.46	0.47	0.54	5.7
6	7	18	10	35	25	9	66	0.45	0.45	0.52	5.7
8	5	14	8	35	19	7	74	0.42	0.43	0.49	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Solarlite Euro Grey : Performance Data for IG Unit Glass (6mm /16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	16%	11%	38%	0.36	0.31	2.80	2.70	2.70
SG 500-Hard coat Low E#3	15%	12%	36%	0.30	0.26	1.90	1.80	1.80
Single Silver Low E#3	14%	13%	34%	0.28	0.24	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

SOLARLITE COAL GREY

Solarlite Coal Grey glass provides a rich goldish aesthetic when glazed with the reflective coating on the outboard (#1) surface and a dramatic, almost-black aesthetic when glazed with the reflective coating on the inboard (#2) surface.

The very low visible light transmittance of Solarlite Coal Grey glass (5% in IG Unit) makes it ideal for privacy glazing applications or high sunlight climates where glare control is required.

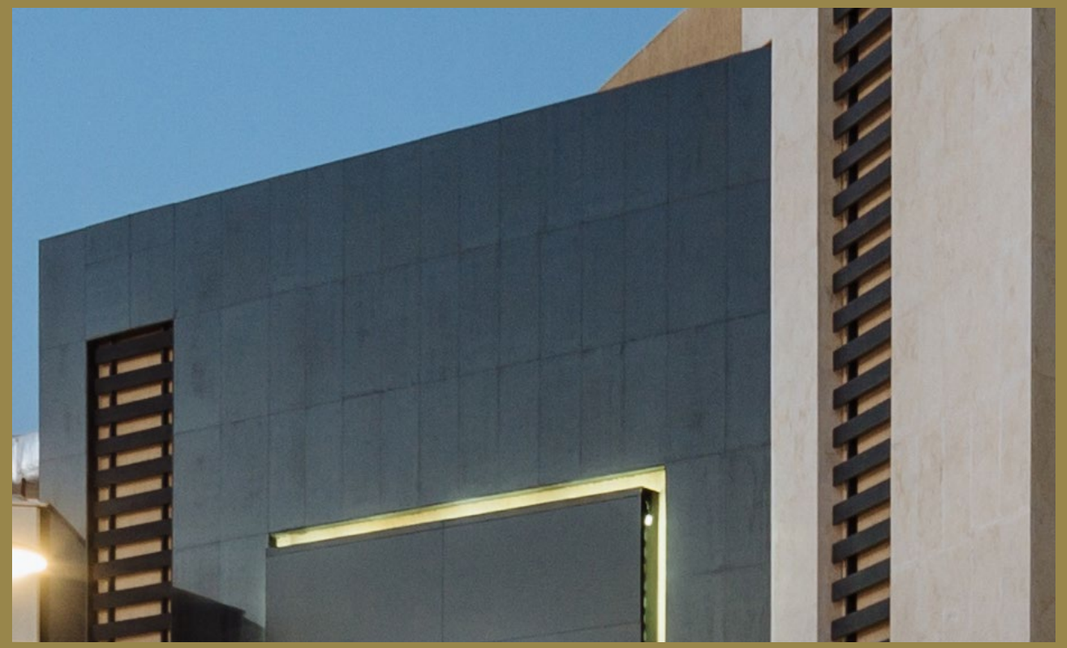
Solarlite Coal Grey: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U-Value W/m2*k
Solarlite Coal Grey	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors.	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor (SF) EN410	SHGC	SC	EN 673
6	2	5	5	36	16	39	33	0.32	0.33	0.36	5.7

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.



Solarlite Coal Grey: Performance Data for IG Unit Glass (6mm /16mm air space/6mm)

	Visible light Reflectance			Solar Energy				U-Value Imperial		U-Value EN 673 W/m²*K
	Transmit-tance	Ext.	Int.	Transmit-tance %	Reflec-tance %	SC	Solar Factor (SF) EN410	Winter	Summer	EN 673 Air
Trulite Clear	5	5	33	13	36	0.26	0.23	2.80	2.70	2.70
SG 500 -Hard coat Low E#3	4	5	30	12	30	0.24	0.21	1.90	1.80	1.80
Single Silver Low E#3	4	5	28	10	27	0.17	0.15	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

SOLARLITE SKY BLUE

Solarlite Sky Blue: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Solarlite Sky Blue	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
6	8	23	16	35	26	17	57	0.36	0.37	0.42	5.7

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL windows 5.2 software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN41 0) also known as g-value

Solarlite Sky Blue : Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	21%	16%	38%	0.29	0.25	2.80	2.70	2.70
SG 500-Hard coat Low E#3	18%	16%	36%	0.26	0.23	1.90	1.80	1.80
Single Silver Low E#3	16%	17%	32%	0.25	0.22	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

Arab Contractors Hospital
Solarlite Sky Blue

VISTALITE - COATED GLASS

Quietly neutral, with a hint of sheen
Vistalite subtly reflective color-enriched glass transmits generous levels of visible light and provides color neutrality, which amplifies and enriches the tint of the glass substrate underneath without a mirror-like appearance. More understated than traditional reflective glass, Vistalite glass is available in two distinct tints—Sky Blue and Euro Grey.

Vistalite glass can be combined with Solarban solar control low-e glass or SG 500 low-e glass to achieve light-to-solar gain ratios of as high as 1.66.

For detailed performance of thermal and mechanical properties, please review the Reflective Glass product data sheet

Vistalite Clear

Vistalite Euro Grey

Vistalite Sky Blue

VISTALITE CLEAR

Badya School
Vistalite Clear

Vistalite Clear : Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Vistalite Clear	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
6	55	68	29	30	65	18	17	0.69	0.70	0.80	5.7

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL windows 5.2 software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN41 0) also known as g-value

Vistalite Clear : Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	62%	33%	32%	0.69	0.60	2.80	2.70	2.70
SG 500-Hard coat Low E#3	58%	34%	31%	0.62	0.56	1.90	1.80	1.80
Single Silver Low E#3	56%	33%	29%	0.58	0.50	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

VISTALITE EURO GREY

Vistalite Euro Grey: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Vistalite Euro Grey	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
4	27	45	14	28	48	11	41	0.57	0.57	0.66	5.8
5	22	39	12	27	42	10	48	0.55	0.56	0.64	5.7
6	18	34	10	27	37	8	55	0.52	0.53	0.61	5.7
8	13	27	8	27	29	7	64	0.46	0.47	0.54	5.6

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Degla View Meamar el Morshedy
Vistalite Euro Grey

Vistalite Euro Grey : Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		Value EN 673 W/m²*K
		Ext	Int			Winter	Summer	
Trulite Clear	31%	12%	31%	0.46	0.40	2.80	2.70	2.80
SG 500-Hard coat Low E#3	29%	12%	30%	0.39	0.34	1.90	1.80	1.80
Single Silver Low E#3	26%	14%	28%	0.35	0.31	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values

The Spot Mall
Vistalite Euro Grey

VISTALITE SKY BLUE

Vistalite Sky Blue: Performance Data for Monolithic Glass

Glass Configuration	UV	Visible Light			Solar Energy						U Value W/M2K
Vistalite Sky Blue	%	%	%	%	%	%	%	%	%	%	
(MM)	Transmit-tance	Transmit-tance	Reflec-tance Outdoors	Reflec-tance Indoors	Transmit-tance	Reflec-tance	Absorption	Solar Factor EN410	SHGC	SC	
6	18	44	16	29	33	17	50	0.51	0.50	0.58	5.7

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

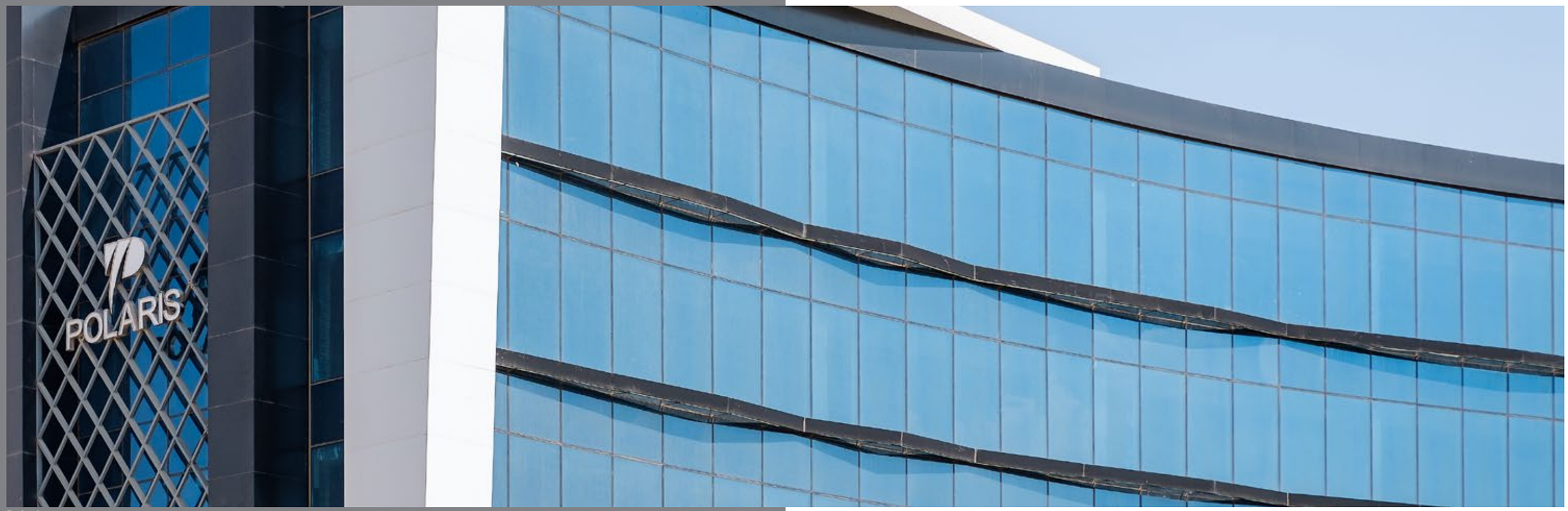
– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Vistalite Sky Blue: Performance Data for IG Unit Glass (6mm /16mm air space/6mm)

	Visible light Transmission VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Trulite Clear	40%	17%	30%	0.45	0.39	2.80	2.70	2.70
SG 500-Hard coat Low E#3	38%	16%	31%	0.39	0.34	1.90	1.80	1.80
Single Silver Low E#3	35%	17%	28%	0.36	0.31	1.80	1.60	1.60

– Data considers 16mm airspace and based on NFRC & EN 673. Other glass thickness is available. See literature or visit www.sphinxglass.com for additional values



Polaris
Vistalite Sky Blue

LOW-E GLASS

For sustainable buildings, architects seek transparent glass that transmits high levels of natural light while blocking the energy-draining effects of the sun.

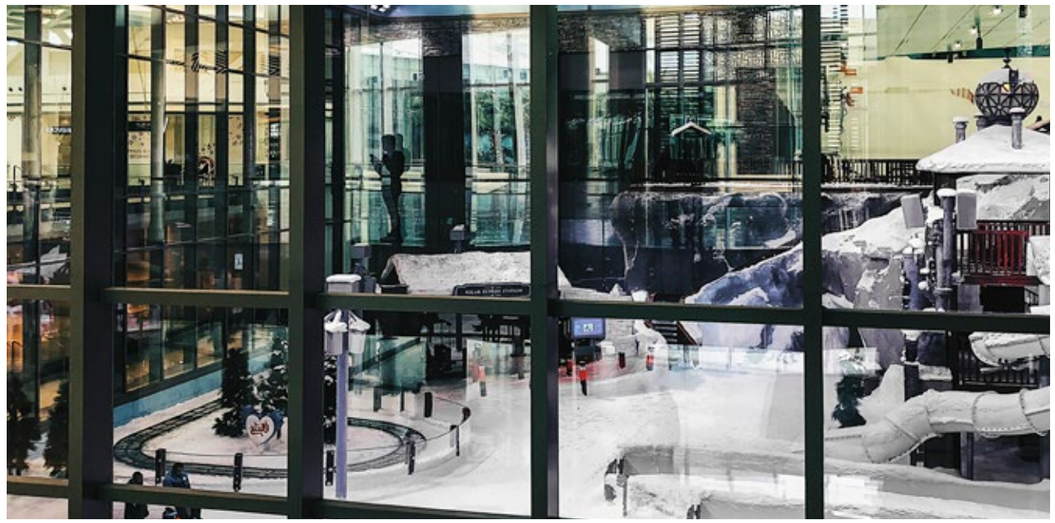
Sphinx Glass supports the Low- E Glass with different range of Solarban 60, 70.R100, z50, 90 And SG 500.

Mall Of Egypt
Solarban 70 on Clear
LEED Project, Gold Certified

Solarban

SG 500

LOW-E GLASS - SOLARBAN



Mall Of Egypt
Solarban 70 on Clear
LEED Project, Gold Certified

Solarban has produced for commercial buildings around the globe, adding beauty while delivering immeasurable energy savings.

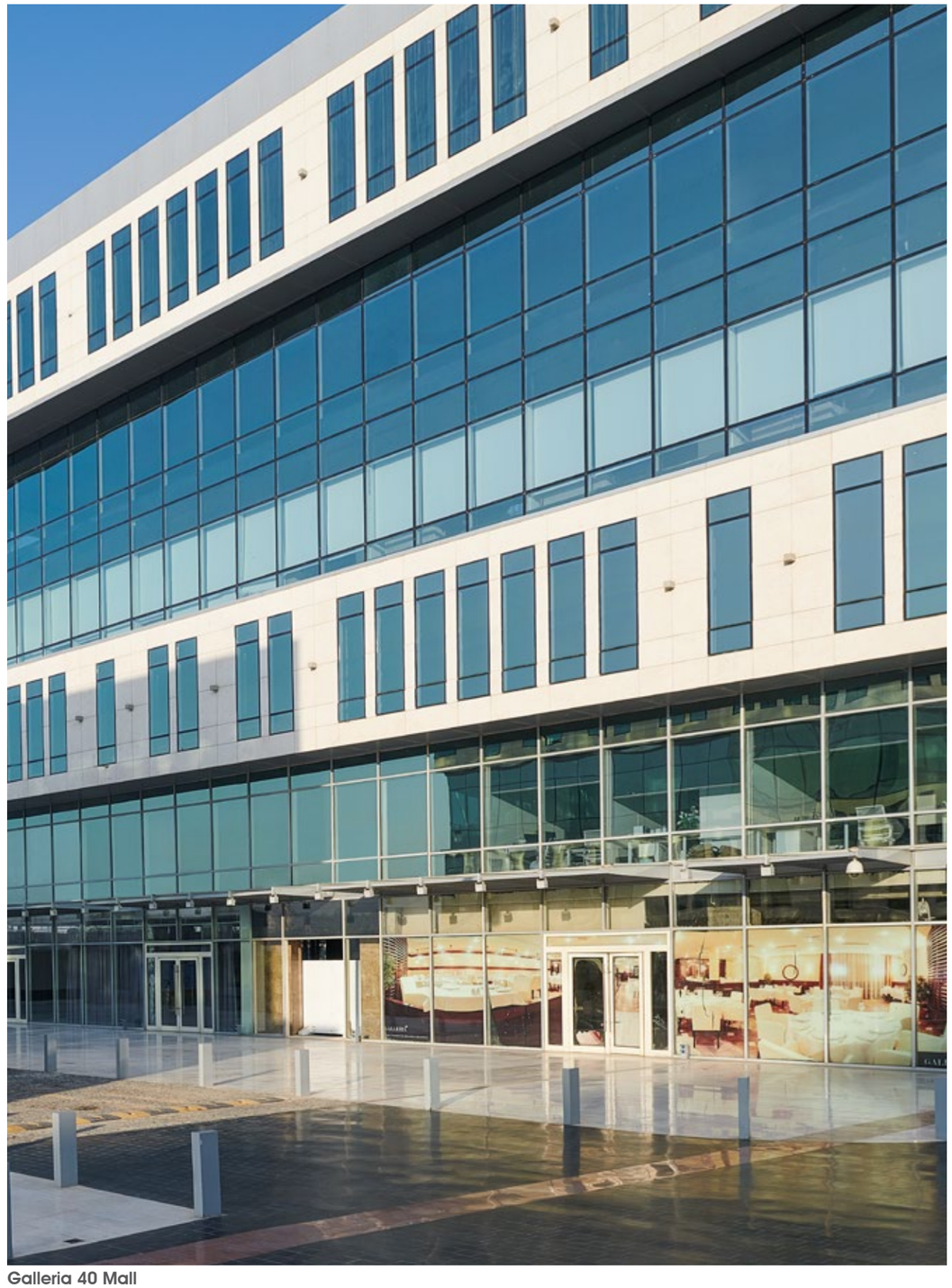
Solarban Range: Performance Data for IG Unit Glass (6mm/16mm air space/6mm)

	Visible light Transmis-sion VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
Solarban 60 (2) Clear + Clear	70%	11%	12%	0.45	0.39	1.60	1.30	1.30
Solarban 70 (2) Clear + Clear	64%	12%	13%	0.31	0.27	1.50	1.30	1.30
Solarban 72 (2) Starphire + Starphire	71%	13%	13%	0.34	0.3	1.60	1.30	1.30
Solarban 90 (2) Clear + Clear	51%	12%	19%	0.26	0.23	1.50	1.30	1.30
Solarban z50 (2) Optiblue + Clear	51%	8%	11%	0.36	0.32	1.60	1.30	1.30
Solarban R100 (2) Clear + Clear	42%	32%	14%	0.26	0.23	1.5	1.30	1.30

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.



Galleria 40 Mall
Solarban R100
LEED Project, Gold Certified

LOW-E GLASS - SG 500

Glass Reliability
SG500 Low-E Glass is one of the industry's most trusted and reliable products. And, with the increased emphasis on energy efficiency and green building, the value of this proven technology continues to grow with age.

Aesthetic Options
SG 500 coated glass yields the color neutrality of clear uncoated glass, together with dramatically improved
performance.

SG500 Versatility
The key advantage of SG 500 glass is its versatility. In situations that would benefit from passive solar energy, the ability of SG 500 glass to transmit the warming rays of the sun (as measured by its higher solar heat gain coefficient) can lower heating requirements. It can also be paired in insulating unit with any tinted glasses to improve solar performance or provide additional aesthetic options

Fabrication
SG 500 Low-E Glass provides maximum processing
flexibility and can be easily laminated, tempered or heat strengthened to satisfy increased strength or safety
glazing requirements. As a pyrolytic or "hard coat,"

SG 500: Performance Data for IG Unit Glass (6mm /16mm air space/6mm)

	Visible light Transmis-sion VLT	Visible light Reflectance		SC	Solar Factor(g) EN 410	U-Value Imperial		U-Value EN 673 W/m²*K
		Ext.	Int.			Winter	Summer	
SG 500 -Hard Coat Low E	74%	15%	15%	0.71	0.62	2.00	1.80	1.80

– Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process.

– Tabulated data is based on NRFC methodology using the LBL Windows 5.2 Software and where noted European methodology using WinDat WIS version 3.0.1 software.

– SF = Solar Factor (EN410) also known as g-value.

Coventry university
Isolite Euro Grey Glass and SG 500

Sodic 40 West
SG 500

GLOSSARY OF TERMS

Light = (visible) radiant energy covering wavelength range of 380 nm to 780 nm with Ill. D65 and CIE 2° observer.

% Transmission = percentage of visible light directly transmitted through the glass.

% Reflection Outdoors = percentage of visible light directly reflected from the glass back outdoors.

% Reflection Indoors = percentage of visible light directly refl¬ected from the glass back outdoors.

Color Rendering Index Ra(D65) = the ability of transmitted daylight to portray a variety of colors compared to those seen under daylight without the glazing.

"a(D65)" refers to an average of eight color samples at 6500K Color temperature. In illumination general color rendering indices Ra above 90 are very good and Ra between 80 and 90 are good.

Solar Factor = **(**g-value) percentage of total solar energy (direct and indirect or absorbed) transferred indoors through the glass. 3mm clear glass has a g-value of approximately 86 and a shading coefficient of 100%.

Shading Coefficient = (SC) a measure of the solar heat gain referenced to 3 mm clear glass designated the value of 1.00. Also known as value, it is the fraction of the incident solar energy (short wave + long wave) transferred through the glazing

Solar Energy = radiant energy from the sun having a wavelength range of 300 nm to 2500 nm at an air mass of 1.0, global.

% Transmission = percentage of solar energy directly transmitted through the glass.

% Reflection Outdoors = percentage of solar energy directly re¬flected from the glass back outdoors.

% Absorption = percentage of solar energy incident on the outdoorsurface of the glazing that is absorbed.

U-Value = (K-Value) air to air thermal conductance of the glass and associated air lms. The units are W/m2K. Standard conditions: 10°C gap temperature, 15°C difference across gap, surface coefficients of 23W/m2K outdoor and 8 indoor. The lower the number the better. First U-Value is for 90% argon, 10% air fill.

Malvern School
Vistacool Azuria

LAMINATION AND PERFORMANCE OF LOW E-GLASS IN AN IG UNIT

Lamination is used to improve sound insulation and meet safety standards in a variety of building applications.

Low-E coatings are utilized in an IG unit to offer improved shading and insulation. However, insulating bene ts are achieved when the Low-E coating faces the airspace (air or air/argon space of an IG). When using Low-E glass, laminate the Low-E coating facing the airspace to get

the best insulation (U-value=1.51 Watts/m2. °K) and shading (SC=0.32). If only shading improvement is desired, laminate the Low-E coating facing the interlayer (example -PVB); note that the insulation value is compromised in this case.

Silver Palm compound
SG 600

Audi Bank
Solarban 60 on Grey
LEED Project, Gold Certified

THE INTERACTION OF SOLAR ENERGY WITH GLASS

Incident Solar Radiation Flow

When solar radiation passes through glass, it can be re¬flected, absorbed or transmitted. To understand how solar radiation interacts with glass, coatings, air or argon spaces, a number of terms have been developed to compare different glass compositions and IG unit con gurations.

Shading Coefficient (SC):

- Is the ratio of the total amount of solar radiation that passes through any specified glazing, relative to 3 mm clear glass under the same design conditions?
- Includes both the solar energy transmitted directly plus any absorbed solar energy which is re-radiated and convected.
- Is calculated using the NFRC methodology.

Solar Heat Gain Coef cient (SHGC):

- Represents the solar heat gain through the glass relative to the incident solar radiation.
- Is equal to 86% of the Shading Coefficient.

Solar Factor (SF):

- Is similar to the SHGC but uses EN410 methodology to calculateits value.

Light to Solar Gain Ratio (LSG):

- Is the ratio of visible light transmittance to solar heat gain coefficient (0.86* Shading Coefficient).
- Is de ned as LSG=VLT/SHGC=VLT/(0.86*SC).

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Ford Blue - Vistacool Pasifica

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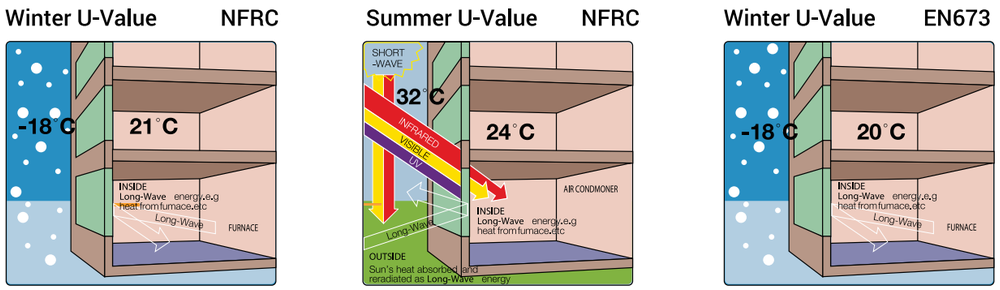
Vistacool Pacifica

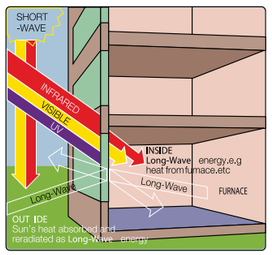
U-VALUE IS:

- The overall coefficient of heat fl¬ow which is measured in Watts/m2 .°K or in BTU/hr .ft2 . °F.
- Calculated using boundary conditions and algorithms that are specific to climates in Europe (EN673) and North America (NFRC) which give different values for the same IG configuration.
- Affected by glass composition, glass coatings, gas cavity dimensions and gas cavity ll (Air vs. Air/ Argon mixture).



LOW-E COATINGS ARE DESIGNED TO:

- Be highly reflective, transparent coatings applied to glass.
- Deliver highly visible-light transmittance while reducing solar heat gain by blocking ultraviolet and infrared (IR) solar radiation.
- Provide insulation by reflecting long-wavelength IR both inside (furnace heat) and outside (when short wavelength energy converted to long wavelength energy is reflected).



PERFORMANCE DATA DIFFERENCES BETWEEN NFRC AND EN METHODOLOGIES

There are two methodologies of calculating insulation and shading coefficient for glass products. In North America, the NFRC methodology is utilized, while in Europe the EN methodology is utilized. Regional climate differences result in using different standard weather conditions

(interior and exterior temperature, air speed, etc.) giving a different U value and SC for the same insulating glass unit.

When using the EN673 methodology (developed for a heating dominated European climate) a 16 mm gap is optimal. The EN673 U-values for argon lled (90% argon / 10% air) IG units with a Low-E coating are compared to a standard clear/clear IG units.

In contrast, a 12.7 mm gap is optimal when using NRFC methodology

The summer NFRC U-value for clear / 12mm airspace / clear IG –led with 90% argon / 10% air mixture ranges from 2.7 Watts/m2 .oK (2.6Watts/m2 . oK for a 16mm airspace) to 1.2 Watts/m2 . oK

A lower U-value offers better insulation and thus energy savings in a heating dominated (very cold) climate by keeping heat inside and cold outside. Similarly, a lower shading coefficient (SC) optimizes energy savings by blocking more solar energy in a cooling dominated (very hot) climate.

GUIDELINES TO CONSIDER FOR OPTIMIZING ENERGY SAVINGS IN CONTINENTALCLIMATES INCLUDE:

- The number of heating days versus the number of cooling days.
- The cost to heat a building versus the cost to cool a building.
- The amount of artificial lighting (added heat load) versus the amount of natural lighting (lower electricity costs).

THE ENERGY BENEFITS OF LOW-E GLASS IN AN IG UNIT

INSULATION

Insulating properties vary based on the glass configuration (monolithic vs insulating glass unit - IGU), filling a (100% air vs argon - 90% argon / 10% air), gap size (12mm vs 16mm), and the low-E glass product utilized.

The insulation benefits of 24mm or 28mm IGU's (6mm Low-E glass / 12or 16mm gap / 6mm clear glass) using EN calculations are each compared to a 6mm monolithic clear glass.

The EN673 insulation improvement in an IG unit with a Low-E glass varies from 66% to79% (EN673 U-value in Watts/m2 .oK) over clear monolithic glass. Similarly, the NFRC insulation improvement in an IG unit with a low-E glass varies from 69% to 81% (NFRC U-value in Watts/m2 .oK) over clear monolithic glass.

Replacing air with argon (90% argon / 10% air mixture results in an additional improvement of 5-7% (for 12mm gap) or 2-3% (for 16mm gap). Similar insulation benefits are achieved when using the NFRC methodology to calculate the corresponding U-values.

Shading Coefficient and Transmission

In heating dominated (very cold) climates a product that balances a high SC with a good U-value with a light outboard tint can optimize energy savings while offering various aesthetics. To lower heating costs, a higher SC is desirable to transmit more of the warming rays of the sun (free heating) with good insulation.

In cooling dominated (very hot) climates, a product with a low SC and a low U-value with a dark inboard lite can optimize energy savings while offering aesthetic options. In this case, to lower cooling costs, choose a product that blocks as much solar energy as possible (lower SC) and offers the best insulation (lower U-value).

In continental climate (heating and cooling dominated zones), choose products that minimize either heating or cooling costs depending on which dominates energy costs. To minimize heating costs, use lighter tints, higher SC, and a low U-value. To reduce cooling costs use darker tints, a lower SC, and a lower U-value.

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