

BUILD WITH LIGHT™

SUNGUARD®

Advanced Architectural Glass

BUILDING WITH LIGHT. That's what SunGuard Advanced Architectural Glass from Guardian is all about. Our comprehensive range of coatings, colors and design solutions allows architects to explore fully the aesthetic and functional possibilities of light — both interior and exterior — while meeting complex energy and performance requirements. Drawing on the cumulative expertise of glassmakers and production teams throughout the world, Guardian continually applies science and cutting-edge technology to the development of new SunGuard products that expand the limits of performance. This level of commitment extends locally to SunGuard Select™ Fabricators, who are trained and certified by Guardian to provide high-quality coated glass products. In these pages you will see the many ways Guardian helps architects build some of the world's most innovative buildings. With light.



SILVER
20 ON GREEN



70 CREMANZIE
HULL, QC, CANADA

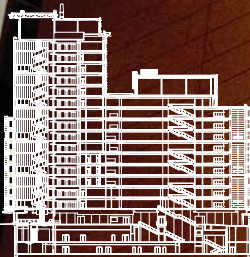
ARCHITECT: Marcel Landry

GLAZIER: Vitrierie Vertech

FABRICATOR: Industries Cover

TO REQUEST SAMPLES
visit SunGuardGlass.com or call **1-866-GuardSG**
482-7374

**SUPER-
NEUTRAL**
68/ON CLEAR



**CONCORDIA UNIVERSITY
MONTREAL, QC, CANADA**
ARCHITECT: **KPMB Architects**
GLAZIER: **Antamex**
FABRICATOR: **Trulite Industries**

SUNGUARD®

SuperNeutral™ Series

NATURAL LIGHT, NEUTRAL COLOR AND SOLAR PERFORMANCE

SUPERNEUTRAL 68 transmits the most light and has the most neutral appearance



of any SunGuard product. It can be used on the #2 surface for maximum solar control or, for enhanced energy performance, on the #3 surface of an insulating glass unit in conjunction with a tinted or coated outboard lite.

SUPERNEUTRAL 54 combines a neutral appearance with exceptional solar-energy control to strike the perfect balance between natural daylight, glare control and energy savings. In fact, SuperNeutral 54 exceeds most energy code requirements with a SHGC of 0.28 in a standard 1" insulating glass unit.

SUPERNEUTRAL ON ULTRAWHITE™ LOW-IRON GLASS

For a stunning, ultra-clear appearance combined with superior energy efficiency, SuperNeutral 68 and SuperNeutral 54 are available with Guardian's UltraWhite in both laminated or standard insulating glass units. UltraWhite's virtual absence of color is perfect for applications — such as atriums, skylights, entranceways and curtainwalls — where neutral color and pure, sparkling clarity are desired. UltraWhite glass can be fabricated, laminated and heat-treated just like standard float glass.

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SUNGUARD®

High Performance Series

HIGH PERFORMANCE LOW-E COATED GLASS

SunGuard High Performance Series glass delivers medium to high visible light transmission and moderate reflectivity along with maximum energy savings that meet or exceed energy code requirements. There are seven low-emissivity coatings to choose from in both clear and green substrates:

LIGHT BLUE 63

NEUTRAL 61

NEUTRAL 50

NEUTRAL 40

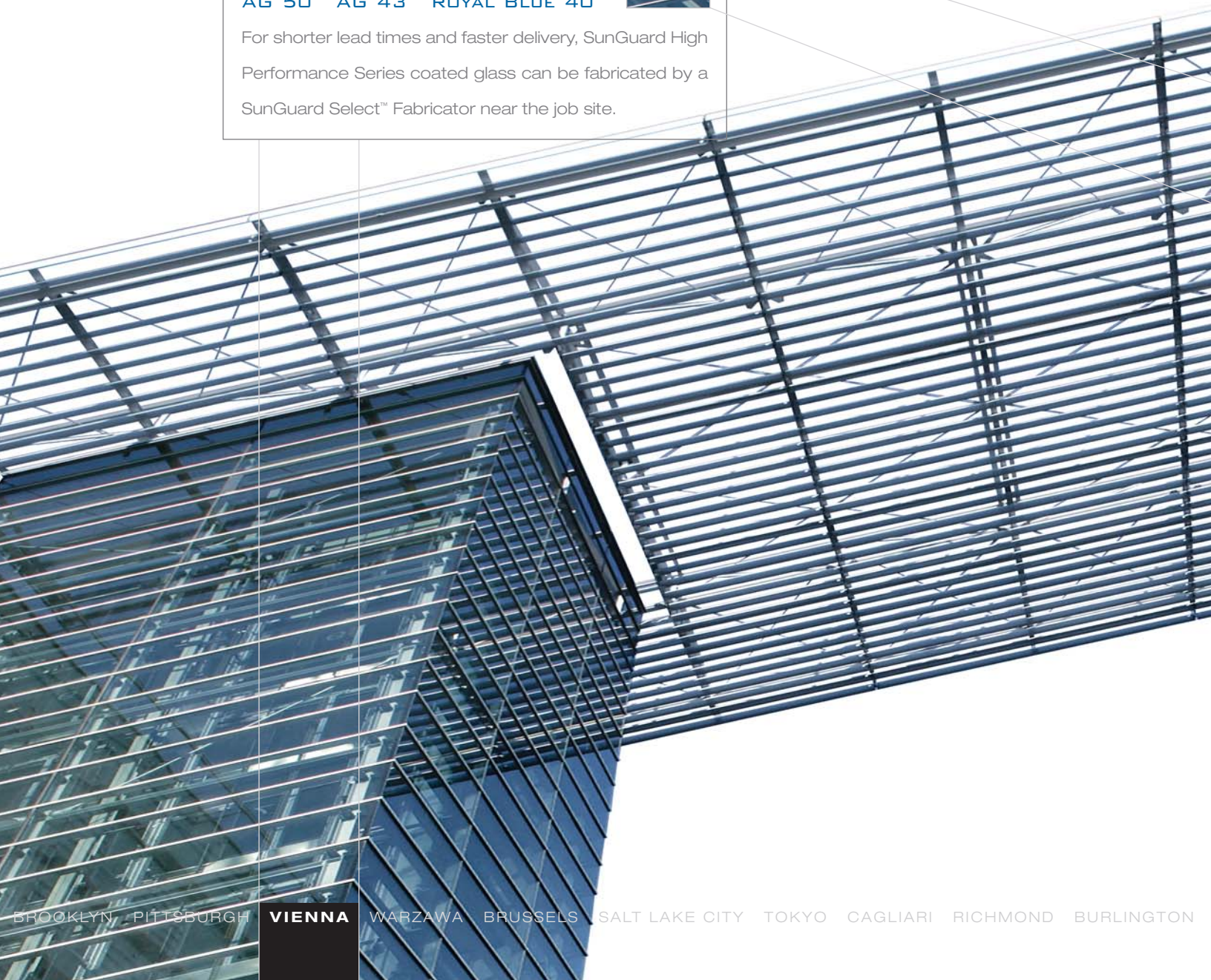
AG 50

AG 43

ROYAL BLUE 40



For shorter lead times and faster delivery, SunGuard High Performance Series coated glass can be fabricated by a SunGuard Select™ Fabricator near the job site.



LIGHT
BLUE
63 ON CLEAR



**OFFICE PARK
VIENNA, AUSTRIA**

ARCHITECT: Holzbauer and Partners

GLAZIER: Petschenig Glastec

FABRICATOR: Steindl Glas

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482-7374

SILVER
32 ON CLEAR



TIME WARNER CENTER
NEW YORK, NY, USA

ARCHITECT: Skidmore, Owings & Merrill LLP

GLAZIER: Glassalum

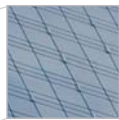
FABRICATOR: Guardian, JE Berkowitz

SUNGUARD®

Solar Series

SOLAR CONTROL REFLECTIVE COATED GLASS

The SunGuard Solar Series consists of high-performance, solar-reflective coated glass products that specialize in blocking heat. Two coatings are available on clear and green glass, offering silver, blue-gray and green aesthetic options:



SILVER 32

SILVER 20

Both deliver energy efficiency that meets or exceeds energy code requirements.

For shorter lead times and faster delivery, SunGuard Solar Series coated glass can be fabricated near the job site.

TO REQUEST SAMPLES

visit SunGuardGlass.com or call **1-866-GuardSG**
482-7374

PLYMOUTH GENUA TEL AVIV MILWAUKEE **NEW YORK** DURHAM TAMPA ANN ARBOR ORLANDO ZURICH CHICAGO

SUNGUARD®

Laminated Glass

SAFETY, SECURITY, SOUND AND SOLAR CONTROL

Many SunGuard products can be laminated to meet a wide variety of project requirements, including sound attenuation, safety, security, and hurricane protection. Contact Guardian for help with your project.



NEUTRAL
61 ON CLEAR



1700 K STREET
WASHINGTON, D.C., USA
ARCHITECT: Pei Cobb Freed & Partners
GLAZIER: Antamco
FABRICATOR: Trulite Industries

TO REQUEST SAMPLES
visit SunGuardGlass.com or call 1-866-GuardSG
482-7374



SUNGUARD® Spandrel

Guardian can help architects and designers achieve a desired spandrel appearance for SunGuard coatings—matching to vision glass or complementary—by using ceramic frit or silicone paint. We recommend that full-size mock-ups be prepared and approved in order to confirm the most desirable spandrel option for your specific project.

SUNGUARD® SELECT Fabricators



SunGuard Advanced Architectural Glass products are produced at several U.S. locations and are distributed through a nationwide network of independent SunGuard Select Fabricators (shown above). These fabricators have completed a rigorous certification process administered by Guardian. SunGuard Select Fabricators offer comprehensive glass fabrication for commercial projects and typically are able to cut, heat-treat, insulate, laminate, silkscreen and produce spandrel glass. In addition, some Select Fabricators can bend SunGuard coated glass for more complex designs. SunGuard Select Fabricators provide glass samples for mock-ups and typically offer fast-track delivery. To locate a SunGuard Select Fabricator near your project site, visit www.SunGuardGlass.com.

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482-7374



Guardian Industries

INNOVATION AND TECHNICAL SUPPORT

USGBC LEED Specification Using SunGuard SuperNeutral Series, SunGuard High Performance Series and SunGuard Solar Series glass products can be an important part of obtaining LEED certification in four credit categories: Energy and Atmosphere, Materials and Resources, Indoor Environment and Innovation and Design Process. For a copy of our LEED Brochure, call 1-866-GuardSG (482-7374) or visit www.SunGuardGlass.com/LEED.

Web Resources at www.SunGuardGlass.com Guardian provides several easy-to-use online tools and resources to help architects specify SunGuard products on our Web site at www.SunGuardGlass.com. These include a searchable commercial building project database, a SunGuard performance comparison tool and a SunGuard Select Fabricator locator.

3-Part Specifications Guardian's SunGuard specifications in standard CSI 3-part format are available from your Guardian Architectural Sales Manager (ASM) and at www.SunGuardGlass.com. In addition, PRODUCT MASTERSPEC™ is available on the SunGuard Web site and, for AIA members, on the quarterly updated AIA MASTERSPEC® CD-ROM.

AIA/CES Presentations Guardian participates in the American Institute of Architects Continuing Education System (AIA/CES) by providing seminar presentations, some of which qualify for Health, Safety and Welfare credits. Whether you are interested in basic commercial glass knowledge, glass from an energy conservation perspective or current applications for laminated glass, we can provide you with helpful information regarding design using glass. Call 1-866-GuardSG (482-7374) or your local SunGuard Architectural Sales Manager (ASM) to arrange a time and place for a seminar presentation.

Technical Support Hotline: 1-866-GuardSG (482-7374)

For technical or product information, please call us. Some areas where we can help are:

- solar, thermal or acoustical performance of coated glass
- computer-based wind load and thermal stress analysis program
- product availability and specification information
- architectural sample boxes and 12" x 12" samples



SUNGUARD[®]

INSULATING GLASS DATA

Appearance	Product	Outboard Substrate	Inboard Substrate	Transmission			Reflectance			U-Value		Relative Heat Gain	Shading Coefficient	Solar Heat Gain Coefficient	Light to Solar Gain (LSG)
				Visible Light %	Ultra-violet %	Total Solar Energy %	Visible Light Out %	Visible Light In %	Total Solar Energy %	Winter Nighttime	Summer Daytime				
SunGuard SuperNeutral				Coating #2 Surface								6 mm / 12 mm a.s. / 6 mm			
Ultra Clear	SN 68	UltraWhite	UltraWhite	69	32	36	11	12	39	0.29	0.28	93	0.44	0.39	1.79
Ultra Clear	SN 54	UltraWhite	UltraWhite	55	17	25	13	18	41	0.29	0.27	69	0.33	0.28	1.93
Clear	SN 68	Clear	Clear	68	29	33	11	12	32	0.29	0.28	90	0.43	0.38	1.80
Clear	SN 54	Clear	Clear	54	15	23	13	18	33	0.29	0.27	68	0.32	0.28	1.91
Green	SN 68	Green	Clear	58	14	24	9	11	9	0.29	0.28	73	0.34	0.30	1.90
Green	SN 54	Green	Clear	46	7	17	10	18	10	0.29	0.27	59	0.27	0.24	1.88
				===== Coating #3 Surface =====											
Green	SN 68 (#3)	Green	Clear	58	14	24	10	10	10	0.29	0.28	84	0.40	0.35	1.64
Gray	SN 68 (#3)	Gray	Clear	35	13	18	6	9	15	0.29	0.28	71	0.34	0.30	1.20
Bronze	SN 68 (#3)	Bronze	Clear	41	12	20	7	9	16	0.29	0.28	75	0.36	0.31	1.30
Blue	SN 68 (#3)	Blue	Clear	44	17	21	8	9	13	0.29	0.28	78	0.37	0.33	1.33
Dark Green	SN 68 (#3)	SMG III	Clear	51	8	19	9	10	8	0.29	0.28	73	0.35	0.30	1.67
SunGuard High Performance				Coating #2 Surface								6 mm / 12 mm a.s. / 6 mm			
Light Blue	Light Blue 63	Clear	Clear	62	39	43	15	12	15	0.34	0.35	122	0.59	0.51	1.20
Neutral Pewter	Neutral 61	Clear	Clear	61	27	34	20	15	31	0.30	0.29	95	0.45	0.40	1.53
Neutral Blue	Neutral 50	Clear	Clear	50	30	31	16	11	19	0.33	0.32	94	0.45	0.39	1.28
Neutral Gray	Neutral 40	Clear	Clear	40	26	25	20	12	22	0.33	0.33	78	0.37	0.32	1.25
Crisp Silver	AG 50	Clear	Clear	50	26	28	28	18	36	0.30	0.28	80	0.38	0.33	1.51
Crisp Silver	AG 43	Clear	Clear	41	23	24	30	15	33	0.31	0.30	71	0.33	0.29	1.39
Royal Blue	Royal Blue 40	Clear	Clear	38	21	24	24	18	24	0.31	0.31	76	0.36	0.31	1.21
Blue-Green	Light Blue 63	Green	Clear	52	18	26	12	12	8	0.34	0.35	84	0.39	0.35	1.51
Green	Neutral 61	Green	Clear	51	13	23	15	14	11	0.30	0.29	71	0.34	0.30	1.74
Green	Neutral 50	Green	Clear	42	14	20	13	10	9	0.33	0.32	69	0.32	0.28	1.49
Green	Neutral 40	Green	Clear	34	12	16	16	12	10	0.33	0.33	59	0.27	0.24	1.39
Green	AG 50	Green	Clear	43	12	19	21	18	14	0.30	0.28	62	0.29	0.25	1.67
Green	AG 43	Green	Clear	35	11	15	23	14	14	0.31	0.30	55	0.26	0.23	1.52
Aquamarine	Royal Blue 40	Green	Clear	32	9	15	19	17	12	0.31	0.31	56	0.26	0.23	1.40
SunGuard Solar				Coating #2 Surface								6 mm / 12 mm a.s. / 6 mm			
Silver Blue-Gray	Silver 32	Clear	Clear	29	23	20	22	21	18	0.42	0.44	76	0.35	0.31	0.94
Silver	Silver 20	Clear	Clear	18	15	12	31	27	27	0.39	0.41	54	0.24	0.21	0.84
Blue-Green	Silver 32	Green	Clear	24	11	12	17	21	10	0.42	0.44	61	0.27	0.24	1.00
Green	Silver 20	Green	Clear	15	7	8	24	27	13	0.39	0.41	48	0.21	0.19	0.82
				===== Solar Coating #2 Surface / SuperNeutral Coating #3 Surface =====											
Silver Blue-Gray	Silver 32/SN 68	Clear	Clear	24	14	12	21	15	20	0.29	0.28	52	0.24	0.21	1.13
Silver	Silver 20/SN 68	Clear	Clear	15	9	7	31	19	28	0.29	0.27	39	0.17	0.15	0.99
Blue-Green	Silver 32/SN 68	Green	Clear	21	7	9	17	15	10	0.29	0.28	44	0.20	0.18	1.15
Green	Silver 20/SN 68	Green	Clear	13	4	5	24	19	13	0.29	0.27	35	0.16	0.14	0.93

NOTES:

- The performance values shown are nominal and subject to variations due to manufacturing tolerances.
- Guardian performance data are calculated in accordance with the LBNL Window 5.2 computer analysis using an air mass of 1.5.
- Outboard lite may require heat strengthening or tempering to resist potential thermal stresses. Please contact Guardian for assistance.
- A slight shift in visible light reflectance or transmission may be noticed after heat-treatment.
- Guardian recommends edge deletion for all low-E coatings.
- Guardian reserves the right to change product performance characteristics without notice or obligation.

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Please file in 088100 Glass.

HEARST CORPORATION
NEW YORK, NY, USA
ARCHITECT: Foster & Partners
GLAZIER: Permasteelisa
FABRICATOR: Zadra
GLASS: Guardian SunGuard
SuperNeutral Series