



Vitro Architectural Glass

Glass Performance Tables for International Markets



Performance for Insulated Glass Units of 6mm Outer Lite + 12mm Airspace + 6mm Inner Lite

Table of Performance Values ¹																	
Glass Configuration 6mm + 12mm Gap + 6mm	UV%	Visible Light			Solar Energy					U-Values ² W/m ² *K						LSG ⁴	
		Ref% ³					SF				Win-NFRC		Sum-NFRC		EN673		
		Trans%	Ext	Int	Ref% ³	Trans%	EN410	SHGC ³	SC	air	argon	air	argon	air	argon		

SOLARBAN® 90 Quad Silver Neutral Low-e Glasses

SOLARBAN® 90 (2) Clear + Clear	7	51	12	19	37	19	0.26	0.23	0.27	1.63	1.35	1.57	1.25	1.5	1.2	2.22
SOLARBAN® 90 (2) STARPHIRE® + STARPHIRE®	10	54	13	20	55	21	0.26	0.23	0.27	1.63	1.35	1.57	1.25	1.5	1.2	2.33
SOLARBAN® 90 (2) AZURIA® + Clear	5	39	9	19	8	14	0.22	0.21	0.24	1.63	1.35	1.57	1.25	1.5	1.2	1.88
SOLARBAN® 90 (2) ATLANTICA® + Clear	2	39	9	19	8	13	0.21	0.20	0.23	1.63	1.35	1.57	1.25	1.5	1.2	1.90
SOLARBAN® 90 (2) SOLEXIA® + Clear	4	45	10	19	13	16	0.24	0.22	0.26	1.63	1.35	1.57	1.25	1.5	1.2	1.99
SOLARBAN® 90 (2) OPTIBLUE® + Clear	5	37	9	19	30	14	0.21	0.20	0.23	1.63	1.35	1.57	1.25	1.5	1.2	1.87
SOLARBAN® 90 (2) PACIFICA® + Clear	2	25	6	18	7	9	0.17	0.17	0.19	1.63	1.35	1.57	1.25	1.5	1.2	1.46
SOLARBAN® 90 (2) SOLARBLUE® + Clear	4	32	8	18	16	12	0.20	0.19	0.22	1.63	1.35	1.57	1.25	1.5	1.2	1.69
SOLARBAN® 90 (2) SOLARBRONZE® + Clear	3	31	7	18	20	11	0.18	0.18	0.21	1.63	1.35	1.57	1.25	1.5	1.2	1.71
SOLARBAN® 90 (2) OPTIGRAY® + Clear	4	36	8	19	18	13	0.21	0.20	0.23	1.63	1.35	1.57	1.25	1.5	1.2	1.82
SOLARBAN® 90 (2) SOLARGRAY® + Clear	3	26	6	18	15	10	0.17	0.17	0.19	1.63	1.35	1.57	1.25	1.5	1.2	1.53

SOLARBAN® 72 Triple Silver Neutral Low Iron Ultra-Clear Low-e Glass

SOLARBAN® 72 (2) STARPHIRE® + STARPHIRE®	9	71	13	13	53	28	0.34	0.30	0.34	1.63	1.34	1.57	1.23	1.5	1.2	2.37
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SOLARBAN® 70XL Triple Silver Neutral Low-e Glasses

SOLARBAN® 70XL (2) Clear + Clear	6	64	12	13	52	25	0.31	0.27	0.32	1.62	1.34	1.56	1.23	1.5	1.2	2.33
SOLARBAN® 70XL (2) AZURIA® + Clear	5	52	9	12	7	18	0.26	0.25	0.29	1.62	1.34	1.56	1.23	1.5	1.2	2.06
SOLARBAN® 70XL (2) ATLANTICA® + Clear	2	51	9	12	8	17	0.25	0.24	0.28	1.62	1.34	1.56	1.23	1.5	1.2	2.09
SOLARBAN® 70XL (2) SOLEXIA® + Clear	4	58	10	13	13	21	0.28	0.27	0.31	1.62	1.34	1.56	1.23	1.5	1.2	2.14
SOLARBAN® 70XL (2) PACIFICA® + Clear	2	32	6	12	7	12	0.20	0.20	0.23	1.62	1.34	1.56	1.23	1.5	1.2	1.64
SOLARBAN® 70XL (2) SOLARBLUE® + Clear	4	42	8	12	15	17	0.24	0.23	0.26	1.62	1.34	1.56	1.23	1.5	1.2	1.84
SOLARBAN® 70XL (2) SOLARBRONZE® + Clear	3	40	7	12	19	15	0.22	0.22	0.25	1.62	1.34	1.56	1.23	1.5	1.2	1.85
SOLARBAN® 70XL (2) OPTIGRAY® + Clear	4	47	8	12	18	18	0.26	0.24	0.28	1.62	1.34	1.56	1.23	1.5	1.2	1.96
SOLARBAN® 70XL (2) SOLARGRAY® + Clear	3	34	6	12	15	13	0.20	0.20	0.23	1.62	1.34	1.56	1.23	1.5	1.2	1.68

SOLARBAN® z75 Triple Silver Blue-Gray Low-e Glass

SOLARBAN® z75 (2) + Clear	6	48	9	12	29	19	0.27	0.24	0.28	1.62	1.34	1.56	1.23	1.5	1.2	1.98
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SOLARBAN® R100 Triple Silver Reflective Low-e Glasses

SOLARBAN® R100 (2) Clear + Clear	12	42	32	14	41	19	0.25	0.23	0.27	1.66	1.38	1.61	1.29	1.6	1.3	1.78
SOLARBAN® R100 (2) STARPHIRE® + STARPHIRE®	16	44	33	14	57	21	0.26	0.24	0.27	1.66	1.38	1.61	1.29	1.6	1.3	1.86
SOLARBAN® R100 (2) AZURIA® + Clear	8	32	21	13	11	12	0.21	0.20	0.23	1.66	1.38	1.61	1.29	1.6	1.3	1.63
SOLARBAN® R100 (2) ATLANTICA® + Clear	3	32	20	13	11	12	0.20	0.19	0.22	1.66	1.38	1.61	1.29	1.6	1.3	1.64
SOLARBAN® R100 (2) SOLEXIA® + Clear	6	36	25	13	17	15	0.22	0.21	0.25	1.66	1.38	1.61	1.29	1.6	1.3	1.69
SOLARBAN® R100 (2) OPTIBLUE® + Clear	8	30	19	13	31	14	0.21	0.20	0.23	1.66	1.38	1.61	1.29	1.6	1.3	1.48
SOLARBAN® R100 (2) PACIFICA® + Clear	3	20	11	13	9	9	0.17	0.16	0.19	1.66	1.38	1.61	1.29	1.6	1.3	1.21
SOLARBAN® R100 (2) SOLARBLUE® + Clear	6	26	15	13	17	12	0.20	0.19	0.22	1.66	1.38	1.61	1.29	1.6	1.3	1.38
SOLARBAN® R100 (2) SOLARBRONZE® + Clear	5	25	15	13	20	11	0.19	0.18	0.21	1.66	1.38	1.61	1.29	1.6	1.3	1.36
SOLARBAN® R100 (2) OPTIGRAY® + Clear	6	29	18	13	20	13	0.21	0.20	0.23	1.66	1.38	1.61	1.29	1.6	1.3	1.48
SOLARBAN® R100 (2) SOLARGRAY® + Clear	5	21	12	13	16	10	0.17	0.17	0.20	1.66	1.38	1.61	1.29	1.6	1.3	1.21

¹Data is based on center of glass performance of representative factory production samples. Actual values may vary due to the production process and manufacturing tolerances. All tabulated data is based on NFRC methodology and EN 410/673 methodology using the LBNL Window 7.3 software. This data is to be used for comparison purposes and should not be considered a contract.

It is the recipient's responsibility to ensure the manufacturability of the glazing configurations as well as evaluating appropriate design considerations such as wind and snow load analysis, thermal stress analysis and local building code compliance.

Vitro Architectural Glass recommends a full size mock-up be reviewed under the specific job-site conditions and the mock-up be retained as a basis of acceptable final product.

Important glass design considerations and comprehensive technical information, including performance, thermal stress and wind load tools for all Vitro Glasses, are available at www.VitroGlazings.com.

Construct custom glass units from a virtually unlimited number of glazing configurations at <http://Construct.VitroGlazings.com>.

²U-Value – A measure of the insulating characteristics of the glass or how much heat gain or loss occurs through the glass due to the difference between indoor and outdoor temperatures and is measured W/m²*K. The lower the number, the better the insulating performance. This number is the reciprocal of the R-value. U-value performances are provided with both a 100% air-filled cavity and a 90% argon/10% air/gas mixture.

³Solar Heat Gain Coefficient (SHGC) – Measures how well a window blocks (or shades) the heat from sunlight. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits and the greater the shading ability. The SHGC is similar to the Shading Coefficient (SC), but also accounts for absorbed, converted and inwardly radiated solar energy.

⁴Light-to-solar gain (LSG) ratio is the ratio of Visible Light Transmittance to Solar Heat Gain Coefficient.

Performance for Insulated Glass Units of 6mm Outer Lite + 12mm Airspace + 6mm Inner Lite

Table of Performance Values ¹																	
Glass Configuration 6mm + 12mm Gap + 6mm	UV%	Visible Light				Solar Energy					U-Values ² W/m ² *K						LSG ⁴
		Trans%	Ref%		Ref%	Trans%	SF		SC	Win-NFRC		Sum-NFRC		EN673			
			Ext	Int			EN410	SHGC ³		air	argon	air	argon	air	argon		

SOLARBAN® 67 Double Silver Subtly Reflective Low-e Glasses

SOLARBAN® 67 (2) Clear + Clear	11	54	19	16	34	24	0.32	0.29	0.34	1.66	1.38	1.60	1.29	1.6	1.3	1.84
SOLARBAN® 67 (2) STARPHIRE® + STARPHIRE®	15	57	20	16	49	28	0.33	0.30	0.35	1.66	1.38	1.60	1.29	1.6	1.3	1.89
SOLARBAN® 67 (2) AZURIA® + Clear	8	42	13	16	9	16	0.24	0.23	0.26	1.66	1.38	1.60	1.29	1.6	1.3	1.81
SOLARBAN® 67 (2) ATLANTICA® + Clear	3	41	13	16	9	15	0.23	0.23	0.26	1.66	1.38	1.60	1.29	1.6	1.3	1.81
SOLARBAN® 67 (2) SOLEXIA® + Clear	6	47	16	16	13	19	0.28	0.26	0.29	1.66	1.38	1.60	1.29	1.6	1.3	1.83
SOLARBAN® 67 (2) OPTIBLUE® + Clear	8	39	12	15	27	19	0.27	0.25	0.28	1.66	1.38	1.60	1.29	1.6	1.3	1.57
SOLARBAN® 67 (2) PACIFICA® + Clear	3	26	8	15	8	11	0.20	0.19	0.22	1.66	1.38	1.60	1.29	1.6	1.3	1.37
SOLARBAN® 67 (2) SOLARBLUE® + Clear	6	34	10	15	15	16	0.24	0.23	0.26	1.66	1.38	1.60	1.29	1.6	1.3	1.50
SOLARBAN® 67 (2) SOLARBRONZE® + Clear	5	32	10	15	18	15	0.23	0.22	0.25	1.66	1.38	1.60	1.29	1.6	1.3	1.48
SOLARBAN® 67 (2) OPTIGRAY® + Clear	6	38	12	15	17	17	0.25	0.24	0.27	1.66	1.38	1.60	1.29	1.6	1.3	1.60
SOLARBAN® 67 (2) SOLARGRAY® + Clear	5	27	8	15	14	13	0.21	0.20	0.23	1.66	1.38	1.60	1.29	1.6	1.3	1.34

SOLARBAN® z50 Double Silver Blue-Gray Low-e Glass

SOLARBAN® z50 (2) + Clear	14	51	8	11	23	26	0.34	0.33	0.37	1.66	1.38	1.60	1.29	1.6	1.3	1.56
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SOLARBAN® 60 Double Silver Neutral Low-e Glasses

SOLARBAN® 60 (2) Clear + Clear	18	70	11	12	28	34	0.42	0.39	0.45	1.66	1.38	1.60	1.29	1.6	1.3	1.80
SOLARBAN® 60 (2) STARPHIRE® + STARPHIRE®	24	74	11	12	41	39	0.44	0.41	0.48	1.66	1.38	1.60	1.29	1.6	1.3	1.80
SOLARBAN® 60 (2) AZURIA® + Clear	13	54	8	11	6	21	0.30	0.28	0.32	1.66	1.38	1.60	1.29	1.6	1.3	1.94
SOLARBAN® 60 (2) ATLANTICA® + Clear	5	53	8	11	7	20	0.29	0.28	0.32	1.66	1.38	1.60	1.29	1.6	1.3	1.94
SOLARBAN® 60 (2) SOLEXIA® + Clear	10	61	9	12	10	25	0.34	0.32	0.37	1.66	1.38	1.60	1.29	1.6	1.3	1.90
SOLARBAN® 60 (2) PACIFICA® + Clear	5	34	6	10	6	15	0.23	0.23	0.26	1.66	1.38	1.60	1.29	1.6	1.3	1.49
SOLARBAN® 60 (2) SOLARBLUE® + Clear	10	45	7	11	12	21	0.30	0.29	0.33	1.66	1.38	1.60	1.29	1.6	1.3	1.56
SOLARBAN® 60 (2) SOLARBRONZE® + Clear	8	42	7	11	15	21	0.29	0.28	0.32	1.66	1.38	1.60	1.29	1.6	1.3	1.51
SOLARBAN® 60 (2) OPTIGRAY® + Clear	10	50	8	11	14	23	0.33	0.30	0.35	1.66	1.38	1.60	1.29	1.6	1.3	1.64
SOLARBAN® 60 (2) SOLARGRAY® + Clear	8	35	6	10	12	18	0.26	0.25	0.29	1.66	1.38	1.60	1.29	1.6	1.3	1.40

VISTACOO® Subtly Reflective Tinted Glasses

VISTACOO® (2) AZURIA® + Clear	29	47	21	32	11	22	0.35	0.34	0.39	2.70	2.54	2.84	2.71	2.8	2.7	1.39
VISTACOO® (2) AZURIA® + SOLARBAN® 60 (3) Clear	11	42	20	24	11	16	0.28	0.26	0.30	1.66	1.38	1.60	1.29	1.6	1.3	1.60
VISTACOO® (2) AZURIA® + SOLARBAN® 70XL (3) Clear	4	38	21	23	12	14	0.26	0.24	0.28	1.62	1.34	1.56	1.23	1.5	1.2	1.59
VISTACOO® (2) PACIFICA® + Clear	10	29	11	31	7	19	0.31	0.32	0.37	2.70	2.54	2.85	2.71	2.8	2.7	0.92
VISTACOO® (2) PACIFICA® + SOLARBAN® 60 (3) Clear	4	26	11	23	9	12	0.21	0.22	0.25	1.66	1.38	1.60	1.29	1.6	1.3	1.20
VISTACOO® (2) PACIFICA® + SOLARBAN® 70XL (3) Clear	1	24	11	22	9	9	0.19	0.19	0.22	1.62	1.34	1.56	1.23	1.5	1.2	1.22

SOLARCOOL® Reflective Glasses

SOLARCOOL® (2) AZURIA® + Clear	10	24	20	38	10	12	0.23	0.25	0.29	2.71	2.55	2.85	2.72	2.8	2.7	0.96
SOLARCOOL® (2) PACIFICA® + Clear	4	15	10	38	7	11	0.22	0.25	0.29	2.71	2.55	2.85	2.72	2.8	2.7	0.60
SOLARCOOL® (2) SOLARBLUE® + Clear	7	20	15	38	11	19	0.33	0.33	0.37	2.71	2.55	2.85	2.72	2.8	2.7	0.61
SOLARCOOL® (2) SOLARBRONZE® + Clear	6	19	14	38	12	21	0.35	0.35	0.40	2.71	2.55	2.85	2.72	2.8	2.7	0.54
SOLARCOOL® (2) SOLARGRAY® + Clear	6	16	11	38	10	18	0.32	0.32	0.36	2.71	2.55	2.85	2.72	2.8	2.7	0.50

Uncoated Glasses

Clear + Clear	50	79	15	15	12	61	0.71	0.70	0.81	2.70	2.55	2.85	2.72	2.8	2.7	1.13
STARPHIRE® + STARPHIRE®	77	84	15	15	14	80	0.82	0.82	0.94	2.70	2.55	2.85	2.72	2.8	2.7	1.02
AZURIA® + Clear	34	61	11	14	7	28	0.41	0.39	0.45	2.70	2.55	2.85	2.72	2.8	2.7	1.55
ATLANTICA® + Clear	13	60	11	14	6	29	0.41	0.41	0.47	2.70	2.55	2.85	2.72	2.8	2.7	1.48
SOLEXIA® + Clear	25	69	13	15	8	39	0.50	0.50	0.57	2.70	2.55	2.85	2.72	2.8	2.7	1.38
PACIFICA® + Clear	12	38	7	13	6	23	0.36	0.36	0.41	2.70	2.55	2.85	2.72	2.8	2.7	1.06
SOLARBLUE® + Clear	25	50	9	13	7	37	0.49	0.49	0.56	2.70	2.55	2.85	2.72	2.8	2.7	1.02
SOLARBRONZE® + Clear	21	47	8	13	7	39	0.49	0.51	0.59	2.70	2.55	2.85	2.72	2.8	2.7	0.93
OPTIGRAY® + Clear	27	56	10	13	8	41	0.52	0.52	0.60	2.70	2.55	2.85	2.72	2.8	2.7	1.07
SOLARGRAY® + Clear	20	40	7	13	7	33	0.44	0.46	0.53	2.70	2.55	2.85	2.72	2.8	2.7	0.87
GRAYLITE® II + Clear	2	8	4	12	4	7	0.19	0.22	0.25	2.70	2.55	2.85	2.72	2.8	2.7	0.36

COVER

Busan Bank Headquarters

Location: Busan, Korea

Products: Solarban® R100 on Pacifica®, Solarban® 70XL

on Pacifica® and Solarban® 70XL on clear glasses

Vitro Certified™ Global Fabricator: Jasan Glass

Architect: Ilshin Architecture and Engineering

Performance for Insulated Glass Units of 4mm Outer Lite + 12mm Airspace + 4mm Inner Lite

Table of Performance Values ¹																		
Glass Configuration 4mm+12mmGap+4mm	UV%	Visible Light			Solar Energy						U-Values ² W/m ² *K						LSG ⁴	
		Ref% ³			Ref%			SF				Win-NFRC		Sum-NFRC		EN673		
		Trans%	Ext	Int	Ref%	Trans%	EN410	SHGC ³	SC	air	argon	air	argon	air	argon			

SOLARBAN® Solar Control Low-E Glasses

SOLARBAN® 90 (2) Clear + Clear	8	52	12	19	43	20	0.26	0.23	0.27	1.65	1.36	1.58	1.26	1.6	1.2	2.23
SOLARBAN® 90 (2) STARPHIRE® + STARPHIRE®	10	54	13	20	56	21	0.26	0.23	0.26	1.65	1.36	1.58	1.26	1.6	1.2	2.35
SOLARBAN® 72 (2) STARPHIRE® + STARPHIRE®	9	71	13	13	54	28	0.34	0.30	0.34	1.64	1.36	1.58	1.25	1.6	1.2	2.38
SOLARBAN® 70XL (2) Clear + Clear	6	64	12	13	54	25	0.31	0.28	0.32	1.63	1.35	1.56	1.24	1.6	1.2	2.36
SOLARBAN® R100 (2) Clear + Clear	13	42	33	14	46	20	0.26	0.23	0.27	1.67	1.39	1.62	1.30	1.6	1.2	1.81
SOLARBAN® R100 (2) STARPHIRE® + STARPHIRE®	17	44	33	14	58	22	0.26	0.24	0.27	1.67	1.39	1.62	1.30	1.6	1.2	1.87
SOLARBAN® 67 (2) Clear + Clear	12	55	19	16	39	25	0.32	0.29	0.34	1.67	1.39	1.61	1.30	1.6	1.2	1.86
SOLARBAN® 67 (2) STARPHIRE® + STARPHIRE®	16	57	19	16	50	28	0.33	0.30	0.35	1.67	1.39	1.61	1.30	1.6	1.2	1.90
SOLARBAN® 60 (2) Clear + Clear	20	72	11	12	32	35	0.43	0.40	0.46	1.67	1.39	1.61	1.29	1.6	1.2	1.80
SOLARBAN® 60 (2) STARPHIRE® + STARPHIRE®	25	75	11	12	42	40	0.45	0.42	0.48	1.67	1.39	1.61	1.29	1.6	1.2	1.80

SOLARCOOL® Reflective Glasses

SOLARCOOL® (2) AZURIA® + Clear	12	26	22	39	11	16	0.27	0.29	0.33	2.74	2.59	2.88	2.76	2.8	2.7	0.92
SOLARCOOL® (2) PACIFICA® + Clear	6	19	14	39	9	16	0.27	0.29	0.34	2.74	2.59	2.88	2.76	2.8	2.7	0.64
SOLARCOOL® (2) SOLARBLUE® + Clear	10	23	18	39	14	25	0.34	0.37	0.42	2.74	2.59	2.88	2.76	2.8	2.7	0.63
SOLARCOOL® (2) SOLARBRONZE® + Clear	8	22	17	39	15	27	0.35	0.38	0.44	2.74	2.59	2.88	2.76	2.8	2.7	0.58
SOLARCOOL® (2) SOLARGRAY® + Clear	8	20	15	39	13	24	0.33	0.36	0.41	2.74	2.59	2.88	2.76	2.8	2.7	0.55

Performance for Monolithic Laminates in 6mm Outer Lite + 1.52 PVB + 6mm Inner Lite

Table of Performance Values ¹																	
Glass Configuration 6mm + 1.52mm PVB + 6mm	UV%	Visible Light			Solar Energy						U-Values ² W/m ² *K						LSG ⁴
		Reflectance %			Ref%			SF				Win-NFRC	Sum-NFRC	EN673			
		Trans%	Ext	Int	Ref%	Trans%	EN410	SHGC ³	SC	air	argon	air	argon	air	argon		

SOLARBAN® Solar Control Low-E Glasses

SOLARBAN® 90 (2) Clear + Clear	0	45	14	25	39	16	0.31	0.31	0.36	5.40	4.91	5.4	5.4	1.45
SOLARBAN® 90 (2) STARPHIRE® + STARPHIRE®	0	48	15	27	56	18	0.28	0.26	0.30	5.40	4.91	5.4	5.4	1.85
SOLARBAN® 72 (2) STARPHIRE® + STARPHIRE®	0	69	15	17	54	26	0.36	0.32	0.37	5.40	4.91	5.4	5.4	2.12
SOLARBAN® 70XL (2) Clear + Clear	0	60	14	16	50	23	0.34	0.31	0.36	5.40	4.91	5.4	5.4	1.92
SOLARBAN® 70XL (2) OPTIGRAY® + Clear	0	42	9	15	17	15	0.35	0.38	0.43	5.40	4.91	5.4	5.4	1.10
SOLARBAN® z75 (2) + Clear	0	47	10	16	30	18	0.35	0.35	0.40	5.40	4.91	5.4	5.4	1.34
SOLARBAN® R100 (2) Clear + Clear	0	42	28	11	42	17	0.31	0.31	0.35	5.40	4.91	5.4	5.4	1.38
SOLARBAN® R100 (2) STARPHIRE® + STARPHIRE®	0	44	29	11	58	20	0.29	0.27	0.31	5.40	4.91	5.4	5.4	1.66
SOLARBAN® R100 (2) OPTIBLUE® + Clear	0	30	16	11	31	13	0.31	0.31	0.36	5.40	4.91	5.4	5.4	0.98
SOLARBAN® R100 (2) OPTIGRAY® + Clear	0	30	16	11	20	12	0.31	0.34	0.40	5.40	4.91	5.4	5.4	0.87
SOLARBAN® 67 (2) Clear + Clear	0	52	15	13	35	22	0.35	0.36	0.41	5.40	4.91	5.4	5.4	1.44
SOLARBAN® 67 (2) STARPHIRE® + STARPHIRE®	0	56	16	14	50	25	0.34	0.33	0.38	5.40	4.91	5.4	5.4	1.70
SOLARBAN® z50 (2) + Clear	0	52	7	8	22	25	0.43	0.42	0.49	5.40	4.91	5.4	5.4	1.22
SOLARBAN® 60 (2) Clear + Clear	0	72	9	10	28	33	0.47	0.45	0.52	5.40	4.91	5.4	5.4	1.59
SOLARBAN® 60 (2) STARPHIRE® + STARPHIRE®	0	76	9	10	40	38	0.48	0.45	0.51	5.40	4.91	5.4	5.4	1.69
SOLARBAN® 60 (2) OPTIGRAY® + Clear	0	51	7	8	14	23	0.41	0.50	0.44	5.40	4.91	5.4	5.4	1.02

VISTACOOOL® Subtly Reflective Glasses

VISTACOOOL® (2) AZURIA® + Clear	0	56	14	20	8	24	0.45	0.46	0.53	5.40	4.91	5.4	5.4	1.22
VISTACOOOL® (2) PACIFICA® + Clear	0	35	8	19	6	20	0.42	0.44	0.51	5.40	4.91	5.4	5.4	0.79

SOLARCOOL® Reflective Glasses

SOLARCOOL® (2) AZURIA® + Clear	0	30	16	23	8	13	0.34	0.39	0.45	5.40	4.91	5.3	5.3	0.77
SOLARCOOL® (2) PACIFICA® + Clear	0	19	9	23	6	12	0.33	0.39	0.45	5.40	4.91	5.3	5.3	0.49
SOLARCOOL® (2) SOLARBLUE® + Clear	0	25	12	23	9	21	0.39	0.44	0.51	5.40	4.91	5.3	5.3	0.57
SOLARCOOL® (2) SOLARBRONZE® + Clear	0	24	11	23	9	23	0.40	0.45	0.52	5.40	4.91	5.3	5.3	0.53
SOLARCOOL® (2) SOLARGRAY® + Clear	0	20	9	23	8	19	0.37	0.43	0.50	5.40	4.91	5.3	5.3	0.47

Performance for Monolithic Glasses

Table of Performance Values ¹								
Thickness mm	Visible Light			Solar Energy	U-Values ² W/m ² *K		LSG ⁴	
	Trans%	Reflectance %		SHGC ³	Win-NFRC	Sum-NFRC		
		Ext	Int					
Uncoated								
STARPHIRE Ultra Clear™ Glass								
3	91	8	8	0.91	5.90	5.32	1.00	
4	91	8	8	0.91	5.88	5.31	1.00	
5	91	8	8	0.90	5.86	5.28	1.01	
6	91	8	8	0.90	5.82	5.27	1.01	
8	91	8	8	0.89	5.74	5.20	1.02	
10	91	8	8	0.89	5.69	5.16	1.02	
12	90	8	8	0.88	5.59	5.05	1.02	
16	90	8	8	0.87	5.49	4.97	1.03	
19	90	8	8	0.86	5.39	4.89	1.05	
Clear Glass								
3	90	9	9	0.86	5.90	5.32	1.05	
4	90	9	9	0.84	5.88	5.31	1.07	
5	89	9	9	0.83	5.86	5.28	1.07	
6	89	8	9	0.82	5.82	5.27	1.08	
8	87	8	8	0.79	5.74	5.20	1.11	
10	87	8	8	0.77	5.69	5.16	1.13	
12	85	8	8	0.73	5.59	5.05	1.16	
16	84	8	8	0.70	5.49	4.97	1.20	
19	83	8	8	0.67	5.39	4.89	1.24	
AZURIA® Glass								
4	75	7	7	0.57	5.88	5.31	1.32	
5	72	7	7	0.54	5.86	5.28	1.33	
6	68	7	7	0.52	5.82	5.27	1.31	
8	61	6	6	0.48	5.74	5.20	1.28	
10	57	6	6	0.46	5.69	5.16	1.24	
ATLANTICA® Glass								
6	67	7	7	0.53	5.82	5.27	1.27	
SOLEXIA® Glass								
3	83	8	8	0.70	5.90	5.32	1.19	
4	81	8	8	0.68	5.88	5.31	1.19	
5	79	8	8	0.65	5.86	5.28	1.22	
6	77	8	8	0.62	5.82	5.27	1.25	
PACIFICA® Glass								
6	42	5	5	0.49	5.82	5.27	0.87	
8	32	5	5	0.43	5.74	5.20	0.73	
SOLARBLUE® Glass								
6	56	6	6	0.61	5.82	5.27	0.91	
SOLARBRONZE® Glass								
3	67	7	7	0.73	5.90	5.32	0.92	
4	63	7	7	0.70	5.88	5.31	0.90	
5	58	6	6	0.67	5.86	5.28	0.87	
6	53	6	6	0.63	5.82	5.27	0.84	
8	43	6	6	0.57	5.74	5.20	0.75	
10	37	5	6	0.53	5.69	5.16	0.70	
12	27	5	5	0.47	5.59	5.05	0.57	
OPTIGRAY® Glass								
6	63	6	6	0.65	5.82	5.25	0.97	
SOLARGRAY® Glass								
3	60	6	7	0.69	5.90	5.32	0.87	
4	56	6	7	0.66	5.88	5.31	0.85	
5	50	6	6	0.62	5.86	5.28	0.81	
6	44	6	6	0.58	5.82	5.27	0.76	
8	33	5	6	0.51	5.74	5.20	0.65	
10	28	5	5	0.48	5.69	5.16	0.58	
12	18	5	5	0.42	5.59	5.05	0.43	
GRAYLITE® II Glass								
3	24	5	5	0.45	5.90	5.32	0.53	
4	18	4	5	0.41	5.88	5.31	0.44	
5	13	4	5	0.39	5.86	5.28	0.33	
6	9	4	5	0.36	5.82	5.27	0.25	

Performance for Monolithic Glasses

Table of Performance Values ¹								
Thickness mm	Visible Light			Solar Energy	U-Values ² W/m ² *K		LSG ⁴	
	Trans%	Reflectance %		SHGC ³	Win-NFRC	Sum-NFRC		
		Ext	Int					
Reflective Coated Tinted Glasses								
VISTACOO[®] (2) AZURIA[®] Glass								
6	52	19	29	0.46	5.80	5.23	1.14	
8	46	16	29	0.43	5.72	5.17	1.09	
VISTACOO[®] (2) PACIFICA[®] Glass								
6	32	10	28	0.44	5.82	5.25	0.73	
8	24	8	28	0.40	5.72	5.16	0.60	
SOLARCOOL[®] (2) AZURIA[®] Glass								
6	26	19	36	0.38	5.85	5.30	0.68	
SOLARCOOL[®] (1) AZURIA[®] Glass								
6	26	36	19	0.31	5.85	5.30	0.84	
SOLARCOOL[®] (2) PACIFICA[®] Glass								
6	16	10	36	0.38	5.85	5.30	0.42	
SOLARCOOL[®] (1) PACIFICA[®] Glass								
6	16	36	10	0.31	5.85	5.30	0.52	
SOLARCOOL[®] (2) SOLARBLUE[®] Glass								
6	21	14	36	0.45	5.85	5.30	0.47	
SOLARCOOL[®] (1) SOLARBLUE[®] Glass								
6	21	36	14	0.38	5.85	5.30	0.55	
SOLARCOOL[®] (2) SOLARBRONZE[®] Glass								
6	21	13	36	0.47	5.85	5.30	0.45	
SOLARCOOL[®] (1) SOLARBRONZE[®] Glass								
6	21	36	13	0.40	5.85	5.30	0.53	
SOLARCOOL[®] (2) SOLARGRAY[®] Glass								
6	17	11	36	0.44	5.85	5.30	0.39	
SOLARCOOL[®] (1) SOLARGRAY[®] Glass								
6	17	36	11	0.37	5.85	5.30	0.46	

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Introducing acid-etched *Pavia*[®] glass from Vitro Architectural Glass. *Pavia*[®] is attained through a special acid-etch treatment process which is applied to either one or both surfaces of the glass for a soft, translucent look. The process can be uniform with 100% coverage or be done in a specific design pattern. *Pavia*[®] can be created with clear, *Starphire Ultra-Clear*[™] glass or tinted glasses.

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Now operating under a global company exclusively committed to growing its core glass business, architects can expect accelerated research and development efforts in addition to greater capacity in years to come.



Vitro's mission is to provide high-performance coated glass products and services to the global construction industry. This is achieved through the *Vitro Certified*™ Network. With fabricator members around the globe, the *Vitro Certified*™ International Fabricator Program is providing the building owner and architect with confidence that glass products will meet both industry and Vitro's quality standards.



Vitro Architectural Glass is committed to environmental sustainability. Throughout its history as PPG Flat Glass, Vitro Glass raised the bar, becoming the first U.S. glass manufacturer to achieve Cradle to Cradle® Certification for its entire collection of architectural glasses. Vitro Glass products also assist architects in achieving LEED® certification for their building projects in seven credit categories under LEED® v4, the most recent version of the rating system.



As members of the Green City Alliance, Vitro Architectural Glass and local glass producers have joined together to provide cost-competitive manufacturing and fabrication of environmentally advanced *Solarban*® low-e glass products to emerging markets around the globe.



A collection of energy efficient low-e glasses are available for Europe and conform with CE standards. This includes triple silver *Solarban*® 72, *Starphire*®, *Solarban*® 70XL and *Solarban*® z75 glasses, as well as *Solarban*® 60 and *Solarban*® z50 glasses. The unparalleled clarity of *Starphire Ultra-Clear*™ glass is also available coated and uncoated. For a complete list of products that conform with CE standards, visit www.VitroGlazings.com.

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