PPG Monolithic Glass Comparisons

Table of Performance Values[*1]												
Glass Thickness		Transmittance[2]			Reflectance[2]		(BTU/hr•ft²°F) NFRC U-Value[4]		U-Value[5] EN 673 (W/m²*K)	Shading Coefficient[6]	Solar Heat Gain Coefficient[7]	Light to Solar Gain (LSG)[8]
Inches	mm	Ultra-violet %	Visible %	Total Solar Energy %	Visible Light %	Total Solar Energy %	Winter Night time	Summer Day time				
Uncoated												
***STARPHIRE*® Glass**												
1/8	3	89	91	90	8	8	1.04	0.94	5.8	1.04	0.91	1.00
5/32	4	88	91	90	8	8	1.04	0.94	5.8	1.04	0.91	1.01
3/16	5	88	91	90	8	8	1.03	0.93	5.8	1.04	0.90	1.01
1/4	6	87	91	89	8	8	1.02	0.93	5.8	1.03	0.90	1.01
5/16	8	86	91	88	8	8	1.01	0.92	5.7	1.02	0.89	1.02
3/8	10	85	91	87	8	8	1.00	0.91	5.6	1.02	0.89	1.02
1/2	12	83	90	86	8	8	0.98	0.89	5.5	1.01	0.88	1.02
5/8	16	81	90	84	8	7	0.97	0.88	5.4	1.00	0.87	1.03
3/4	19	80	90	83	8	7	0.95	0.86	5.3	0.99	0.86	1.05
1	25	77	89	80	8	7	0.92	0.84	5.2	0.97	0.84	1.06
CLEAR Glass												
1/8	3	73	90	83	9	8	1.04	0.94	5.8	0.98	0.86	1.05
5/32	4	71	90	81	9	7	1.04	0.94	5.8	0.97	0.84	1.06
3/16	5	69	89	79	9	7	1.03	0.93	5.8	0.96	0.83	1.07
1/4	6	66	89	77	8	7	1.02	0.93	5.8	0.94	0.82	1.08
5/16	8	61	87	72	8	7	1.01	0.92	5.7	0.90	0.79	1.11
3/8	10	58	87	69	8	7	1.00	0.91	5.6	0.88	0.77	1.13
1/2	12	53	85	63	8	6	0.98	0.89	5.5	0.84	0.73	1.17
5/8	16	49	84	59	8	6	0.97	0.88	5.4	0.80	0.70	1.21
3/4	19	45	83	55	8	6	0.95	0.86	5.3	0.77	0.67	1.23
1	25	40	80	48	8	6	0.92	0.84	5.2	0.72	0.63	1.28
***OPTIBLUE*® Glass**												
1/4	6	44	64	64	6	6	1.02	0.93	5.8	0.84	0.73	0.88
***SOLEXIA*™ Glass**												
1/8	3	43	83	60	8	6	1.04	0.94	5.8	0.81	0.70	1.18
5/32	4	39	81	56	8	6	1.04	0.94	5.8	0.78	0.68	1.20
3/16	5	35	79	52	8	6	1.03	0.93	5.8	0.75	0.65	1.23
1/4	6	31	77	47	8	6	1.02	0.93	5.8	0.71	0.62	1.25
***ATLANTICA*™ Glass**												
1/4	6	16	67	34	7	5	1.02	0.93	5.8	0.61	0.53	1.27
***AZURIA*™ Glass**												
5/32	4	50	75	40	7	5	1.04	0.94	5.8	0.66	0.57	1.31
3/16	5	46	72	36	7	5	1.03	0.93	5.8	0.62	0.54	1.32
1/4	6	42	68	32	7	5	1.02	0.93	5.8	0.59	0.52	1.31
5/16	8	35	61	26	6	5	1.01	0.92	5.7	0.55	0.48	1.28
3/8	10	31	57	23	6	5	1.00	0.91	5.6	0.53	0.46	1.23
***PACIFICA*™ Glass**												
1/4	6	15	42	27	5	5	1.02	0.93	5.8	0.56	0.49	0.86
***SOLARBLUE*™ Glass**												
1/4	6	31	56	47	6	5	1.02	0.93	5.8	0.71	0.61	0.91
***SOLARBRONZE*® Glass**												
1/8	3	39	67	64	7	6	1.04	0.94	5.8	0.84	0.73	0.92
5/32	4	35	63	60	7	6	1.04	0.94	5.8	0.81	0.70	0.90
3/16	5	30	58	55	6	6	1.03	0.93	5.8	0.77	0.67	0.87
1/4	6	25	53	50	6	6	1.02	0.93	5.8	0.73	0.63	0.84
5/16	8	18	43	39	6	5	1.01	0.92	5.7	0.65	0.57	0.76
3/8	10	14	37	34	5	5	1.00	0.91	5.6	0.61	0.53	0.70
1/2	12	9	27	24	5	5	0.98	0.89	5.5	0.54	0.47	0.58
***SOLARGRAY*® Glass**												
1/8	3	37	60	58	6	6	1.04	0.94	5.8	0.79	0.69	0.88
5/32	4	33	56	53	6	6	1.04	0.94	5.8	0.75	0.66	0.85
3/16	5	29	50	48	6	5	1.03	0.93	5.8	0.71	0.62	0.81
1/4	6	24	44	42	6	5	1.02	0.93	5.8	0.67	0.58	0.76
5/16	8	17	33	31	5	5	1.01	0.92	5.7	0.59	0.51	0.65
3/8	10	13	28	26	5	5	1.00	0.91	5.6	0.55	0.48	0.58
1/2	12	8	18	17	5	5	0.98	0.89	5.5	0.49	0.42	0.43
***GRAYLITE* II Glass**												
1/8	3	8	24	22	5	4	1.04	0.94	5.8	0.51	0.45	0.53
5/32	4	5	18	17	4	4	1.04	0.94	5.8	0.48	0.41	0.44
3/16	5	3	13	12	4	4	1.03	0.93	5.8	0.44	0.39	0.35
1/4	6	2	9	8	4	4	1.02	0.93	5.8	0.41	0.36	0.25

Important glass design considerations and comprehensive technical information, including performance, thermal stress and wind load tools for all PPG glasses are available at www.ppgideascapes.com/glasstechnical. Monolithic Glass Data can also be found at www.ppgideascapes.com/glasstechnical or by calling 1-888-PPG-IDEA (1-888-774-4332).

One-inch insulating glass data and comparisons can be found at www.ppgideascapes.com or by calling PPG at 1-888-774-4332.

For data on:
Solargreen® Glass — see *Atlantica*™ Glass
Solex® Glass — see *Solexia*™ Glass
Azurlite® Glass — see *Azuria*™ Glass

Table of Performance Values*[1]												
Glass Thickness		Transmittance[2]			Reflectance[2]		(BTU/hr•ft²°F) NFRC U-Value[4]		U-Value[5] EN 673 (W/m²*K)	Shading Coefficient[6]	Solar Heat Gain Coefficient[7]	Light to Solar Gain (LSG)[8]
Inches	mm	Ultra-violet %	Visible %	Total Solar Energy %	Visible Light %	Total Solar Energy %	Winter Night time	Summer Day time				
Coated												
VISTACOOL™ (2) AZURIA™ Glass												
1/4	6	35	52	25	19	10	1.02	0.92	5.7	0.52	0.46	1.14
5/16	8	29	46	20	16	9	1.01	0.91	5.7	0.49	0.43	1.09
VISTACOOL™ (2) ATLANTICA™ Glass												
1/4	6	13	51	27	18	9	1.02	0.92	5.7	0.54	0.47	1.09
VISTACOOL™ (2) PACIFICA™ Glass												
1/4	6	12	32	22	10	7	1.02	0.93	5.7	0.51	0.44	0.73
VISTACOOL™ (2) SOLARGRAY® Glass												
1/4	6	20	34	35	11	8	1.02	0.92	5.7	0.60	0.53	0.64
5/16	8	14	26	26	8	7	1.01	0.91	5.7	0.54	0.47	0.54
SOLARCOOL® (1) SOLEXIA™ Glass												
1/4	6	9	30	23	37	30	1.03	0.93	5.8	0.43	0.37	0.79
SOLARCOOL® (2) SOLEXIA™ Glass												
1/4	6	9	30	23	23	12	1.03	0.93	5.8	0.50	0.43	0.70
SOLARCOOL® (1) AZURIA™ Glass												
3/16	5	13	27	16	36	30	1.03	0.93	5.8	0.37	0.32	0.84
1/4	6	12	26	13	36	30	1.03	0.93	5.8	0.36	0.31	0.83
SOLARCOOL® (2) AZURIA™ Glass												
3/16	5	13	27	16	20	10	1.04	0.94	5.8	0.45	0.39	0.70
1/4	6	12	26	13	19	9	1.03	0.93	5.8	0.44	0.38	0.68
SOLARCOOL® (1) PACIFICA™ Glass												
1/4	6	4	16	13	36	30	1.02	0.93	5.8	0.35	0.31	0.52
SOLARCOOL® (2) PACIFICA™ Glass												
1/4	6	4	16	13	10	7	1.02	0.93	5.8	0.44	0.38	0.42
SOLARCOOL® (1) SOLARBLUE™ Glass												
1/4	6	9	21	24	36	30	1.02	0.93	5.8	0.44	0.38	0.56
SOLARCOOL® (2) SOLARBLUE™ Glass												
1/4	6	9	21	24	14	10	1.02	0.93	5.8	0.51	0.45	0.47
SOLARCOOL® (1) SOLARBRONZE® Glass												
1/4	6	7	21	27	36	30	1.03	0.93	5.8	0.46	0.40	0.51
SOLARCOOL® (2) SOLARBRONZE® Glass												
1/4	6	7	21	27	13	11	1.03	0.93	5.8	0.53	0.47	0.45
SOLARCOOL® (1) SOLARGRAY® Glass												
1/4	6	7	17	23	36	30	1.03	0.93	5.8	0.43	0.37	0.46
SOLARCOOL® (2) SOLARGRAY® Glass												
1/4	6	7	17	23	11	9	1.03	0.93	5.8	0.51	0.44	0.39
SOLARCOOL® (1) GRAYLITE Glass												
1/4	6	<1	3	4	36	30	1.03	0.93	5.8	0.29	0.24	0.14
SOLARCOOL® (2) GRAYLITE Glass												
1/4	6	<1	3	4	5	5	1.03	0.93	5.8	0.39	0.34	0.09

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

1. **Figures may vary due to manufacturing tolerances. All tabulated data is based on NFRC methodology using the LBNL's Window 6.3 softwarewith version 27.0 of the International Glazing Database and represents center of glass performance data.**
2. Transmittance and reflectance values based on spectrophotometric measurements and energy distribution of solar radiation.
3. Solar infrared transmittance between 800 and 2150 nm (Parry Moon AM 2 irradiance).
4. **U-value** is the overall coefficient of heat transmittance or heat flow measured in BTU/hr. • ft² • °F. Lower U-values indicate better insulating performance. Winter nighttime U-values are calculated using an outdoor air temperature of 0°F (-17.8°C), indoor air temperature of of 70°F (21°C), outdoor air velocity of 15 mph (6.7 m/s), indoor air velocity of 0 mph (0 m/s) and a solar intensity of 0 BTU/hour/square foot (0 w/m²). Summer daytime U-values are calculated using an outdoor air temperature of 89°F (32°C), indoor air temperature of 75°F (24°C), outdoor air velocity of 7.5 mph (3.4 m/s), indoor air velocity of 0 mph (0 m/s), and a solar intensity of 248 BTU/hour/square foot (783 w/m²).
5. **European U-Value** is the overall coefficient of heat transmittance or heat flow measured in Watts/m² • °C, and is calculated using WinDat WIS version 3.0.1 software.
6. **Shading Coefficient** is the ratio of the total amount of solar energy that passes through a glass relative to 1/8-in. (3.0 mm) thick clear glass under the same design conditions. It includes both solar energy transmitted directly plus any absorbed solar energy re-radiated and converted. Lower shading coefficient values indicate better performance in reducing summer heat gain. Shading coefficients at outdoor air temperature of 89°F (32°C), outdoor air velocity of 7.5 mph (3.4 m/s), indoor air temperature of 75°F (24°C), indoor air velocity of 0 mph (0 m/s) and solar intensity of 248 BTU /hour/square foot (783 w/m2).
7. **Solar Heat Gain Coefficient (SHGC)** represents the solar heat gain through the glass relative to the incident solar radiation. It is equal to 86% of the shading coefficient.
8. **Light to Solar Gain (LSG) ratio** is the ratio of visible light transmittance to solar heat gain coefficient.

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