



# PPG Monolithic Glass Comparisons

Glass Thickness		Table of Performance Values <sup>1</sup>					(BTU/hr•ft <sup>2</sup> •F) NFRC U-Value <sup>4</sup>		U-Value <sup>5</sup> EN 673 (W/m <sup>2</sup> •K)	Shading Coefficient <sup>6</sup>	Solar Heat Gain Coefficient <sup>7</sup>	Light to Solar Gain (LSG) <sup>8</sup>
Inches	mm	Transmittance <sup>2</sup>			Reflectance <sup>2</sup>		Winter Night time	Summer Day time				
		Ultra- violet %	Visible %	Total Solar Energy %	Visible Light %	Total Solar Energy %						
<b>Uncoated</b>												
<b>STARPHIRE® Glass</b>												
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	1.00
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
<b>CLEAR Glass</b>												
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	1.07
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	1.09
5/16	8	61	87	72	8	7	1.01	0.92	5.7	0.90	0.79	1.10
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	1.16
5/8	16	49	84	59	8	6	0.97	0.88	5.4	0.80	0.70	1.20
3/4	19	45	83	55	8	6	0.95	0.86	5.3	0.77	0.67	1.24
1	25	40	80	48	8	6	0.92	0.84	5.2	0.72	0.63	1.27
<b>OPTIBLUE® Glass</b>												
1/4	6	44	64	64	6	6	1.02	0.93	5.8	0.84	0.73	0.88
<b>SOLEXIA® Glass</b>												
1/8	3	43	83	60	8	6	1.04	0.94	5.8	0.81	0.70	1.19
5/32	4	39	81	56	8	6	1.04	0.94	5.8	0.78	0.68	1.19
3/16	5	35	79	52	8	6	1.03	0.93	5.8	0.75	0.65	1.22
1/4	6	31	77	47	8	6	1.02	0.93	5.8	0.71	0.62	1.24
<b>ATLANTICA® Glass</b>												
1/4	6	16	67	34	7	5	1.02	0.93	5.8	0.61	0.53	1.26
<b>AZURIA® Glass</b>												
5/32	4	50	75	40	7	5	1.04	0.94	5.8	0.66	0.57	1.32
3/16	5	46	72	36	7	5	1.03	0.93	5.8	0.62	0.54	1.33
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	1.27
3/8	10	31	57	23	6	5	1.00	0.91	5.6	0.53	0.46	1.24
<b>PACIFICA® Glass</b>												
1/4	6	15	42	27	5	5	1.02	0.93	5.8	0.56	0.49	0.86
<b>SOLARBLUE® Glass</b>												
1/4	6	31	56	47	6	5	1.02	0.93	5.8	0.71	0.61	0.92
<b>SOLARBRONZE® Glass</b>												
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	0.75
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	0.57
<b>OPTIGRAY® Glass</b>												
1/4	6	33	63	51	6	6	1.02	0.93	5.2	0.74	0.64	0.98
<b>SOLARGRAY® Glass</b>												
1/8	3	37	60	58	6	6	1.04	0.94	5.8	0.79	0.69	0.87
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
<b>GRAYLITE II Glass</b>												
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	0.33
1/4	6	2	9	8	4	4	1.02	0.93	5.8	0.41	0.36	0.25

One-inch insulating glass data and comparisons can be found at [www.ppgideascape.com](http://www.ppgideascape.com) or by calling PPG at 1-888-774-4332.

For data on:  
 Solargreen® Glass — see Atlantica® Glass  
 Solex® Glass — see Solestia® Glass  
 Azurlite® Glass — see Azuria® Glass

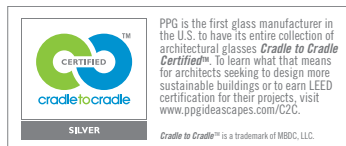


Table of Performance Values <sup>1</sup>													
Glass Thickness		Transmittance <sup>2</sup>			Reflectance <sup>2</sup>		(BTU/hr•ft <sup>2</sup> •F) NFRC U-Value <sup>4</sup>		U-Value <sup>5</sup> EN 673 (W/m <sup>2</sup> •K)	Shading Coefficient <sup>6</sup>	Solar Heat Gain Coefficient <sup>7</sup>	Light to Solar Gain (LSG) <sup>8</sup>	
Inches	mm	Ultra- violet %	Visible %	Total Solar Energy %	Visible Light %	Total Solar Energy %	Winter Night time	Summer Day time					
<b>Coated</b>													
<b>VISTACOOLO<sup>®</sup> (2) AZURIA<sup>®</sup> Glass</b>													
1/4	6	35	52	25	19	10	1.02	0.92	5.8	0.52	0.46	1.13	
5/16	8	29	46	20	16	9	1.01	0.91	5.7	0.49	0.43	1.07	
<b>VISTACOOLO<sup>®</sup> (2) PACIFICA<sup>®</sup> Glass</b>													
1/4	6	12	32	22	10	7	1.02	0.93	5.8	0.51	0.44	0.73	
<b>SOLARCOOL<sup>®</sup> (1) SOLEXIA<sup>®</sup> Glass</b>													
1/4	6	9	30	23	37	30	1.02	0.93	5.8	0.43	0.37	0.81	
<b>SOLARCOOL<sup>®</sup> (2) SOLEXIA<sup>®</sup> Glass</b>													
1/4	6	9	30	23	23	12	1.03	0.93	5.8	0.50	0.43	0.70	
<b>SOLARCOOL<sup>®</sup> (1) AZURIA<sup>®</sup> Glass</b>													
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	1.02	0.93	5.8	0.36	0.31	0.84	
<b>SOLARCOOL<sup>®</sup> (2) AZURIA<sup>®</sup> Glass</b>													
3/16	5	13	27	16	20	10	1.04	0.94	5.8	0.45	0.39	0.69	
1/4	6	12	26	13	19	9	1.03	0.93	5.8	0.44	0.38	0.68	
<b>SOLARCOOL<sup>®</sup> (1) PACIFICA<sup>®</sup> Glass</b>													
1/4	6	4	16	13	36	30	1.02	0.93	5.8	0.35	0.31	0.52	
<b>SOLARCOOL<sup>®</sup> (2) PACIFICA<sup>®</sup> Glass</b>													
1/4	6	4	16	13	10	7	1.02	0.93	5.8	0.44	0.38	0.42	
<b>SOLARCOOL<sup>®</sup> (1) SOLARBLUE<sup>®</sup> Glass</b>													
1/4	6	9	21	24	36	30	1.02	0.93	5.8	0.44	0.38	0.55	
<b>SOLARCOOL<sup>®</sup> (2) SOLARBLUE<sup>®</sup> Glass</b>													
1/4	6	9	21	24	14	10	1.02	0.93	5.8	0.51	0.45	0.47	
<b>SOLARCOOL<sup>®</sup> (1) SOLARBRONZE<sup>®</sup> Glass</b>													
1/4	6	7	21	27	36	30	1.02	0.93	5.8	0.46	0.40	0.53	
<b>SOLARCOOL<sup>®</sup> (2) SOLARBRONZE<sup>®</sup> Glass</b>													
1/4	6	7	21	27	13	11	1.03	0.93	5.8	0.53	0.47	0.45	
<b>SOLARCOOL<sup>®</sup> (1) SOLARGRAY<sup>®</sup> Glass</b>													
1/4	6	7	17	23	36	30	1.02	0.93	5.8	0.43	0.37	0.46	
<b>SOLARCOOL<sup>®</sup> (2) SOLARGRAY<sup>®</sup> Glass</b>													
1/4	6	7	17	23	11	9	1.03	0.93	5.8	0.51	0.44	0.39	

1. Data 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 using the LBNL Window 6.3 software. Variations from previously published data are due to minor changes in the LBNL Window 6.3 software versus Version 5.2.
2. Transmittance and Reflectance values based on spectrophotometric measurements and energy distribution of solar radiation.
3. U-value is the overall coefficient of heat transmittance or heat flow measured in BTU/hr. • ft<sup>2</sup> • °F. Lower U-values indicate better insulating performance.
4. European U-Value is the overall coefficient of heat transmittance or heat flow measured in Watts/m<sup>2</sup> • °C, and is calculated using WinDat WIS version 3.0.1 software.
5. Shading Coefficient is the ratio of the total amount of solar energy that passes through a glass relative to 1/8-inch (3.0mm) thick clear glass under the same design conditions. It includes both solar energy transmitted directly plus any absorbed solar energy re-radiated and convected. Lower shading coefficient values indicate better performance in reducing solar heat gain.
6. 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.
7. Light to Solar Gain (LSG) ratio is the ratio of visible light transmittance to solar heat gain coefficient.

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

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