

Polycast™ UV-SC UV Blocking & Solar Heat Control Cell Cast Acrylic Sheet

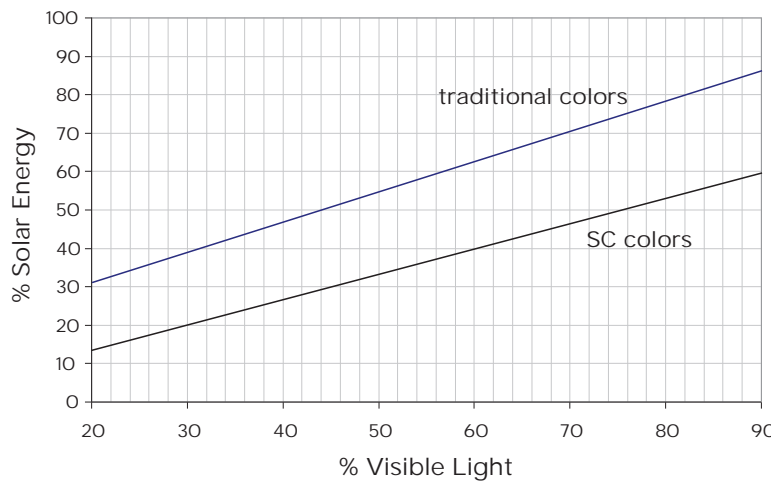
Performance Characteristics & Comparisons

Polycast™ UV-SC is a custom cell cast acrylic sheet solution that blocks out significant amounts of near-infrared (NIR) radiation while maintaining high visible light transmission.

This aircraft-quality monolithic glazing material can be manufactured to MIL-PRF 5425, 8184 and 25690; DTD-5592; L-P-391; ASTM D-4802 and other specifications. It is available in a wide range of colors and light transmissions, including Night Vision Compatibility (NVG).

Solar Energy vs. Visible Light Transmission

This graph depicts the typical relationship between solar energy transmission and visible light transmission when using traditional colors versus Polycast UV-SC colors.



Spectral Transmission Comparisons of Glazing Materials

These two graphs illustrate the type of radiation allowed to pass through two different glazing materials. Graph A compares standard clear acrylic with Polycast 83SC while Graph B shows differences between traditional 2515 and SC15 Gray.

83SC vs. Clear Acrylic

Note: Both Polycast UV-SC materials transmit high amounts of visible light (400 to 700 nm) and transmit much less radiation in the near-infrared (NIR) and in the UV. The NIR and UV regions contain significant amounts of solar energy, but do not contribute to visibility.

Heat Reduction Comparisons by Color

The following tables show examples of the heat reduction advantages of Polycast UV-SC colors compared with traditional materials. All SC colors reduce UV damage by at least 98%. This typical data is not intended to be used for specification purposes.



* Indicates special solar control properties. Colors not listed are available upon request. UV-SC colors are available in a wide range of light transmissions.

** Solar Energy calculated using Lawrence Berkeley National Laboratory Optics v.5 software. The actual temperature in service will be dependent on the combination of many factors, such as weather conditions (including wind velocity) and type of application.

UV-SC Color Examples

COLOR	% VISIBLE LIGHT	% SOLAR ENERGY	% ENERGY REDUCTION
Clear acrylic 82SC*	92 82	85 53	15 47
2111 green SC11 green*	77 72	75 45	25 55
2515 gray SC15 gray*	76 72	74 51	26 49
2540 bronze SC40 bronze*	75 71	72 47	28 53
2256 gray SC56 gray*	65 65	66 47	34 53
2094 gray SC94 gray*	45 45	49 38	51 62
2537 gray SC37 gray*	32 32	41 27	59 73
2412 bronze SC12 bronze*	27 27	35 26	65 74
2064 gray SC64 gray*	26 26	34 24	66 76
2130 green SC30 green*	23 24	40 21	60 79
2538 gray SC38 gray*	16 15	26 15	74 85
2074 gray SC74 gray*	13 13	23 13	77 87
2370 bronze SC70 bronze*	10 10	16 13	84 87

NVG Compatible Colors

COLOR	DESCRIPTION	RELATIVE HEAT GAIN (BTU/HR X FT ²)	% T SOLAR	% VLT	% T _{NVG}	R (VLT/T SOLAR)
Gold Coat	Gold coating standard	--	--	--	72	--
NV73	Copper	173	57	73	75	1.3
NV83	Near clear	174	60	83	73	1.4
NV72	Light gray	173	59	73	73	1.2

Distributed by:



Toll Free: 1.800.277.7898
www.piedmontplastics.com



Copyright © 2016, PolyOne Designed Structures and Solutions, LLC. PolyOne makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. PolyOne makes no warranties or guarantees respecting suitability of either PolyOne's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. POLYONE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.