

SHEERFILL® and FABRASORB®

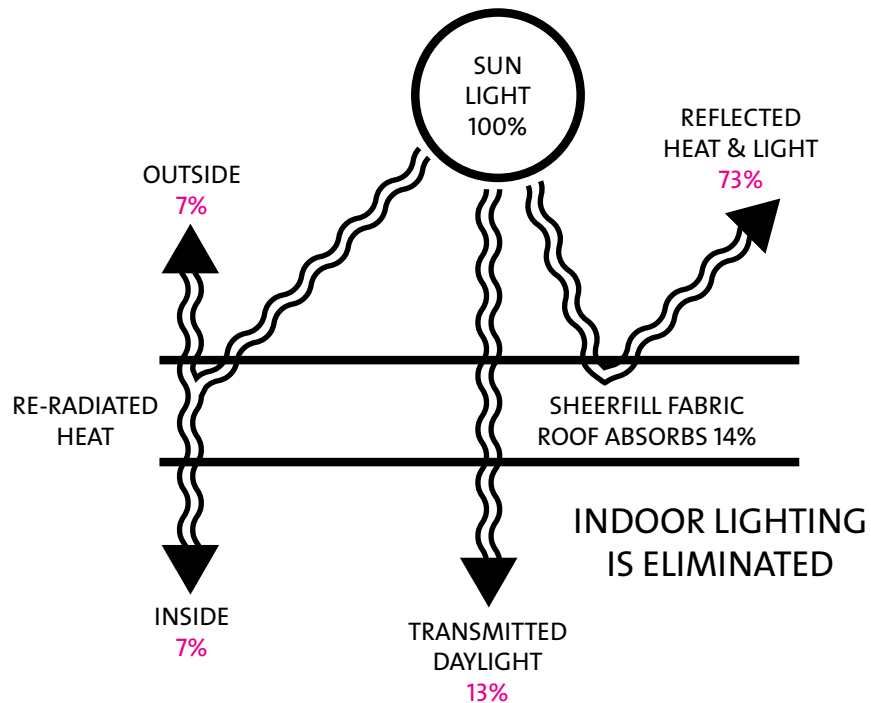
Architectural Membrane

Acoustical Membrane

Energy Technical Bulletin

Rev. A | September 2013

Figure 1
SHEERFILL® Comparative Energy Performance



Natural lighting is now a firmly established concept in architecture. Sheerfill Architectural Membrane offers the aesthetic and performance benefits of natural lighting while minimizing heat gains which can result from conventional glass glazing systems.

As lighting levels increase, even cooler climates can afford overall energy savings using Sheerfill. The principal element that differentiates Sheerfill from conventional glazings is its very low shading coefficient.

Table 1 (on reverse) provides comparative data on Sheerfill glazing versus glass which is graphically demonstrated in Figure 1 above.

Table 1
SHEERFILL® Architectural Membrane Comparative Energy Characteristics

	Thickness	Transmittance (%)	Reflectance (%)	Winter* Nighttime U'/R'		Summer** Daytime U/R		Shading Coefficient
Sheerfill I	.037"	11	73	1.26	.79	.84	1.19	.14
Sheerfill II	.030"	13	73	1.26	.79	.84	1.19	.18
Sheerfill V	.022"	16	72	1.26	.79	.84	1.19	.21
Clear Glass	.25"	89	8	1.13	.88	1.04	.96	.95
Tinted Glass (Grey)	.25"	41	6	1.13	.88	1.10	.91	.69
Sheerfill Fabrasorb ¹	(6" AS.)	7	77	.41	2.44	.49	2.04	.12
Tinted Glass (Bronze)	1" unit w/ .5" AS. & 2 (.25") lites	47	8	.49	2.04	.57	1.75	.57

¹ U-value – Overall coefficient of the heat transmission (air-to-air) due only to difference in indoor and outdoor air temperatures. U = 1/R. Measured in (BTU/hr.sq.ft°F).

² R-value – Overall resistance to heat transmission (air-to-air) due only to difference in indoor air temperature. R = 1/U. Measured in (hr.sq.ft.°F/BTU).

* ASHRAE Winter Condition: Outside temperature equals 0°F (-18°C). Inside temperature equals 70°F (21°C) w/15 mph wind (6.7 m/sec.).

** ASHRAE Summer Condition: Outside temperature equals 89°F (32°C). Inside temperature equals 75°F (24°C) w/7.5 mph wind (3.3 m/sec.).

³ Overall thickness comprised of outer membrane Sheerfill II. 6 inch air space and inner membrane Fabrasorb.

Shading Coefficient – a relative measure of the total amount of solar energy that enters a building space through a glazing compared with ordinary 1/8" (3mm) clear glass. It includes both direct solar energy transmission plus that portion of absorbed solar energy subsequently released as heat into the room. If, for example, a glass lite has a Shading Coefficient of 0.50, it will allow 50% as much solar energy into the space as a piece of 1/8" (3mm) clear glass would under the same conditions.



Saint-Gobain Performance Plastics

701 Daniel Webster Highway
Merrimack, NH 03054

Tel: +1 603 420 1250
Fax: +1 603 424 9012

sheerfill@saint-gobain.com
www.sheerfill.com



SHEERFILL® and FABRASORB® are registered trademarks.

NOTE: Saint-Gobain Performance Plastics Corporation does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product(s) or of any final product into which the product(s) may be incorporated by the purchaser and/or user. The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product(s) for the particular purpose desired in any given situation.