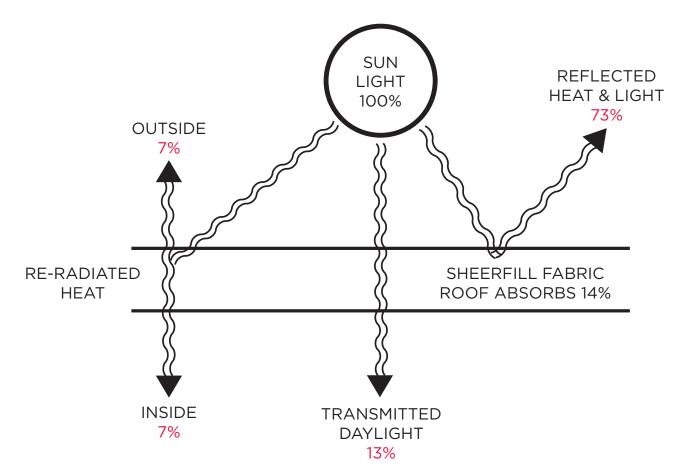
Energy Technical Bulletin



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® Comparative Energy Characteristics

	Thickness	Transmittance (%)	Reflectance (%)	Winter Nighttime U ¹ /R ² *		Shading 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	.25″	41	6	1.13	.88	1.10	.91	.69
SHEERFILL Fabrasorb ³	(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 temp = O°F(-18°C). Inside temp = 70°F(21°C) with 15mph wind (6.7m/sec) **ASHRAE Summer Condition: Outside temp = 89°F(32°C). Inside temp = 75°F(24°C) w/ 7.5mph wind (3.3m/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.

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