SYRACUSE GLASS COMPANY

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TECH TIPS

For New York's Glazing & Design Professionals

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#14 – GLASS AND ENERGY – CENTER-OF-GLASS SHGC

A SHGC, or solar heat gain coefficient, is a measure of how well a glazing material blocks solar heat gain. The lower the number, the better the performance. Shading Coefficients can be converted to SHGC values by multiplying the SC by .87.

Glass SHGC values are improved with:

- tinted glass
- solar control coatings

Center-of-glass SHGC values are published by the glass manufacturers or fabricators. They are derived from a database maintained by the Lawrence Berkley National Lab. Center-of-glass SHGC values and visible light transmittance figures for some common glass products are as follows:

	SHGC	Vis. Light Trans.%
- 1" clear insulating	.70	79
- 1" Pilkington Low e insulating	.66	73
- 1" bronze insulating	.50	47
- 1" Pilkington arctic blue insulating	.40	45
- 1" Guardian SN-68 Solar Control Low e	.38	68
- 1" Pilkington Evergreen Eclipse insulating	.29	44
- 1" PPG Solarcool gray insulating	.31	16
- 1" PPG Graylite insulating	.18	11

As the glass manufacturers create glass tinted substrates and coatings that are more "spectrally selective", improvements in SHGC values can be achieved without a highly reflective look or without sacrificing as much visible light transmittance. Note the outstanding SHGC value of the SN-68 product from a glass product that looks very nearly like clear glass!

The center-of-glass SHGC value is the starting point for calculating the whole glazing system SHGC, in accordance with NFRC 200, the method adopted in the code to determine compliance.

Aluminum framing material improves whole glazing system SHGC ratings. Whole system SHGC values can be calculated using the AAMA 507 Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings, or by using charts supplied by the manufacturer of the framing system.