

CHALLENGE

Windows, doors, skylights, and glass structures must meet the challenging requirements of providing visual access to the outdoors while minimizing heat transfer into and out of the living space. Sunrooms and conservatories, with large surface areas comprised of glass, are susceptible to sudden temperature fluctuations. Continued advancements in the glass industry including: insulated glass, stainless steel spacers, 20-year seal warranties, shades, tints, and multitudes of LoE coatings have contributed to reducing the fluctuations and increasing efficiency. However, these static tools do not offer the dynamic solution that can respond to sudden changes in cloud cover. For example, Solar Innovations’ sunroom, located in its corporate headquarters, experiences rapid temperature fluctuations from varying solar intensity throughout the day. The sunroom is equipped with the highest quality insulated glass with LoE coatings, motorized shades, and motorized vents, which combine to mitigate sudden heat gains. Solar Innovations’ Research and Design Department has been actively pursuing a simplified method to solve this challenge.



SOLUTION

Solar Innovations recently partnered with Pleotint, LLC to carry Suntuive, a dynamic, self-tinting glass. This glass is unlike anything on the market today. Suntuive uses thermochromic technology that reacts to the heat produced by direct sunlight and tints accordingly. The only other dynamic glass product with similar properties is electrochromic glass. This product requires extensive electrical wiring and complex light monitors to respond and tint to varying light levels. Suntuive insulated glass units do not require any inputs to react to the changing outdoor conditions. The reaction initiates on the outer surface of the glass unit before the negative effects, like rapid heat gain, impact the interior space.

The primary benefit of Suntuive is its immediate and proactive response to varying light levels, which automatically moderates solar heat gain. Secondly, it eliminates the need for shades and the initial cost and daily operation that comes with this accessory. It also reduces the amount of ventilation required in sunrooms and conservatories. Suntuive glass alone does all of the work of multiple components for you. Solar Innovations installed half of its sunroom with Suntuive while the other half still had LoE insulated glass and motorized shades. The side-by-side comparison shows the Suntuive glass is the more effective system for temperature control.

PROJECT DETAILS

Series: SI5000 Glazed Structures

Finish: AAMA 2603 Sandstone Finish

Glazing: 3/16" Solarban 70XL over
3/8" Clear Suntuive HS laminated
(3/8" technoform spacer with argon)

