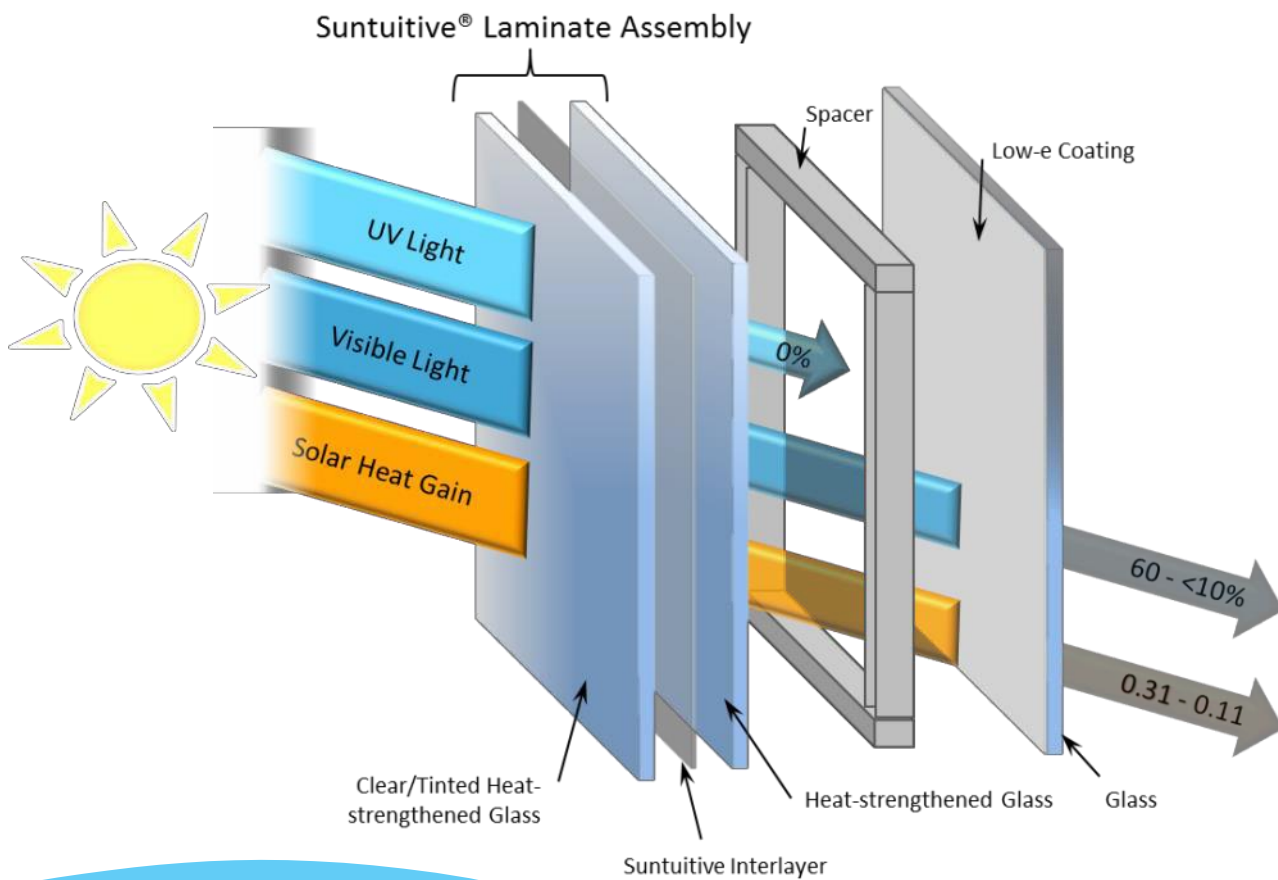


Self-tinting Windows Technical Information
Typical Vertical Construction





Depending on glass tint and low-e used

ABOUT SUNTUITIVE®

Suntuitive, is a thermochromic interlayer for dynamic windows which lightens and darkens by itself – with absolutely no mechanical intervention – based on heat from direct sunlight. The more direct and intense the sunlight is on the window the darker it will become. The system maximizes natural daylight while minimizing heat gain. No wires, no controls and no power supplies.

As part of a dynamic window system, Suntuitive can help manage a building's changing needs for passive solar heat gain and natural daylight. All together this can lower costs associated with heating, air conditioning and artificial lighting. Suntuitive also provides all of the benefits of a safety laminated window. Suntuitive puts the view back in windows again by reducing the need for shades, blinds and other devices that block vision.

With Suntuitive, architects, building owners, building professionals and home owners can specify an adaptive window system that transitions seamlessly between light and dark throughout the day, every day of the year. Simply put, Suntuitive is the next generation of glass technologies and provides the ultimate in comfort and view.

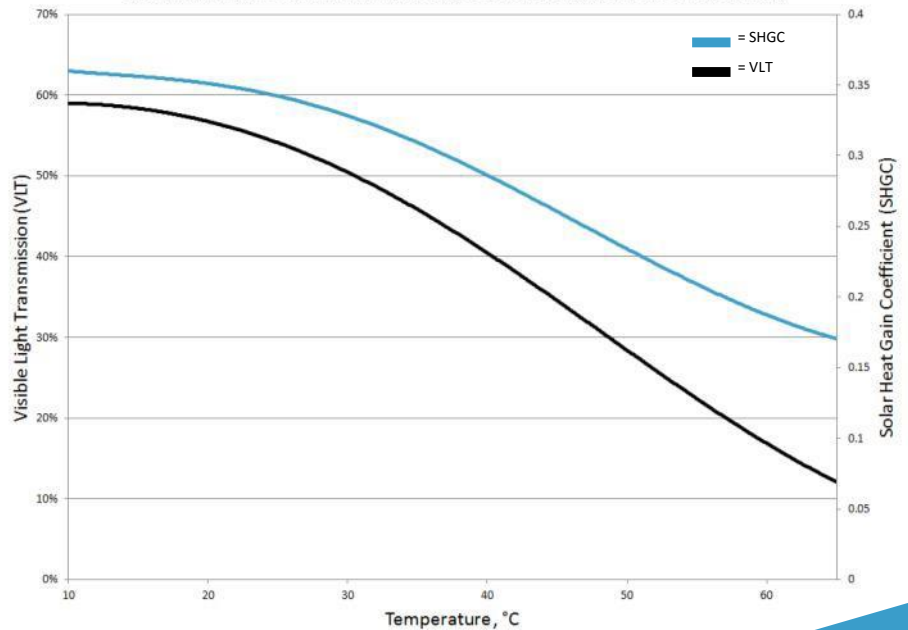
PERFORMANCE

QUICK FACTS

- Suntuitive is an extruded polyvinyl butyral (PVB) interlayer and serves as a safety laminate
- Suntuitive is a thermochromic technology that transitions to find an equilibrium between a non-tinted and tinted state
- Suntuitive passively adapts with the heat from the sun
- Window will gradually tint and untint to balance environmental conditions
- No wires, electricity or control systems required
- Suntuitive is a laminate in an insulated glass unit
- Interlayer thickness: 0.047 inches (1.2mm)

Suntuitive IGU Visible Light Transmission and Solar Heat Gain Coefficient vs. Temperature

Outboard: 6mm Clear, .047 Suntuitive, 5mm Clear, 7/16 Air gap 90% Argon 10% Air, Inboard: 6mm Solarban 60 on Clear



Installation:

Windows with Suntuitive install the same as any other typical window (or insulated glass unit)

Size:

Maximum size is approximately 5' x 10'

Modeling:

Suntuitive interlayer is available on the International Glazing Database (IGDB)

Durability:

Life span of Suntuitive at 20+ years based on our own durability tests as well as:

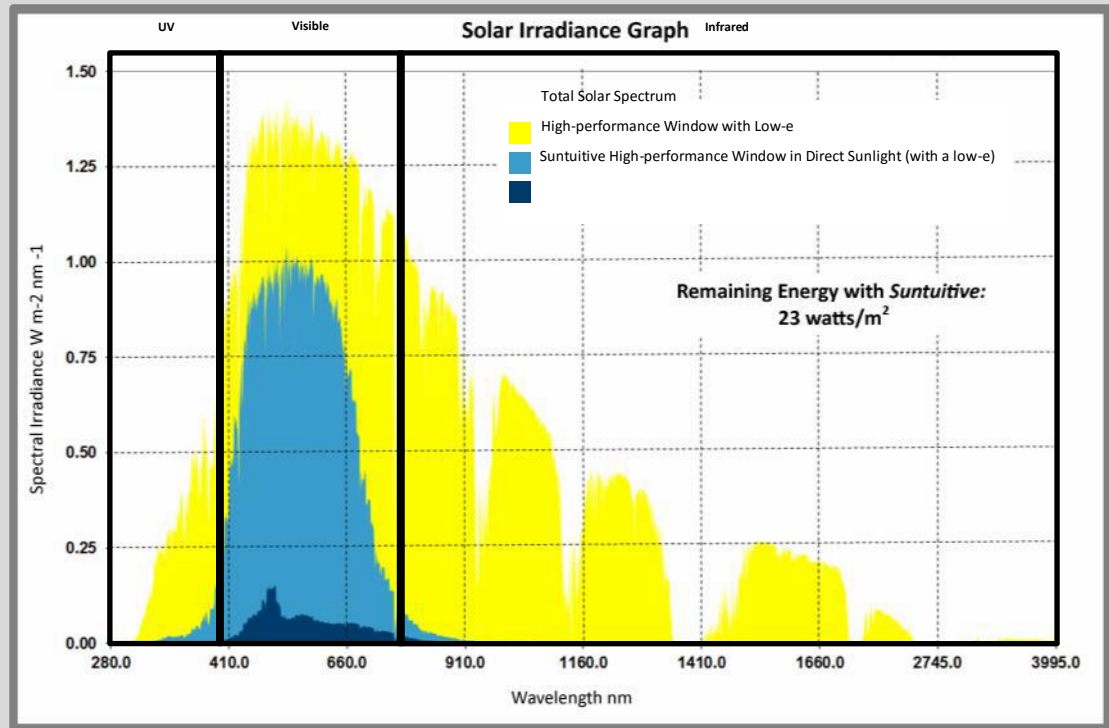
- 8,000 hours of accelerated aging tests under ASTM E2141-06
- Independent testing at the National Renewable Energy Laboratory (NREL), Qlab Corporation, the Lawrence Berkeley National Laboratory (LBNL) and Architectural Testing, Inc (ATI)

Suntuitive has passed impact, boil and pummel tests from the U.S. Consumer Product Safety Commission (CPSC).



DESIGN OPTIONS

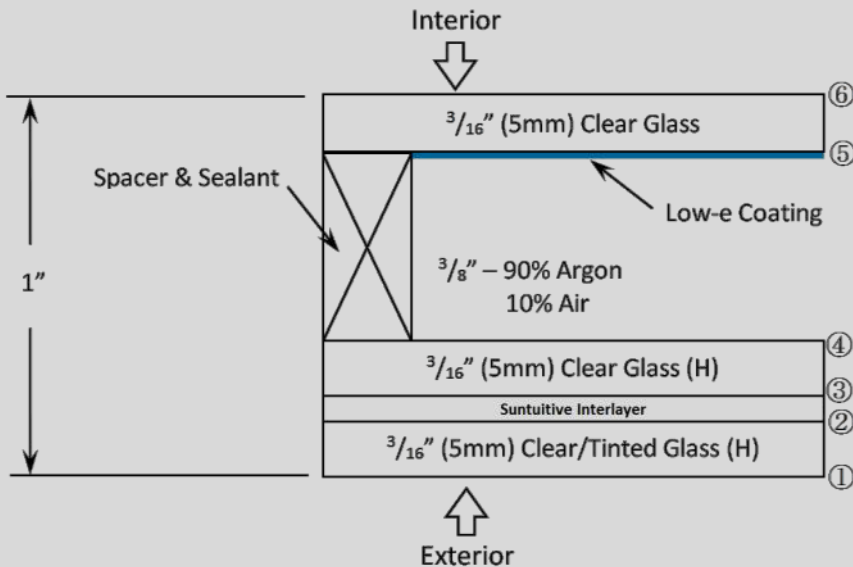
- Suntuitive can be used in retrofit, replacement and new construction in both commercial and residential applications
- Suntuitive can be used in vertical windows or sloped glazing
- Suntuitive units can be curved or shaped
- Suntuitive can be combined with most tints of glass and paired with many different low-e coatings



The graph above illustrates how much solar energy is transmitted through different high-performance glass configurations. The yellow section shows the solar spectrum. The light blue area shows the amount of solar energy transmitted through a high-performance window with a low-e coating. The dark blue area shows the amount of solar energy that is transmitted through a Suntuitive high-performance window (with a low-e) that is in direct sunlight.

HOW TO SPEC SUNTUITIVE®

Suntuitive interlayer is laminated between two pieces of heat strengthened or tempered glass and placed into an insulated glass unit (IGU) with a low emissivity coating. A warm edge spacer is also recommended. In skylight or sloped applications, the Suntuitive laminate assembly faces the interior to meet standard code and improve performance.



- The construction on the left shows a typical 1" overall thickness IGU that is recommended
- Suntuitive can be used in IGUs with a minimum thickness of 3/4" overall and up
- Suntuitive can be used in standard laminate IGUs, double laminate IGUs and triple pane IGUs

Bid spec information available by request.

HOW TO BUY

Suntuitive windows are available for most window manufacturer frames and framing options. Click today to discuss your project.

CLICK: www.SmartFilmsInternational.com

Self-tinting Windows

| Exterior Tint | Low-e | Visible Light Transmission (VLT) | | Solar Heat Gain Coefficient (SHGC) | | Total Solar Transmission | |
|---------------|----------------|----------------------------------|--------|------------------------------------|--------|--------------------------|--------|
| | | Clear | Tinted | Clear | Tinted | Clear | Tinted |
| Clear | Solarban® 60 | 60% | 13% | 0.37 | 0.17 | 26% | 8% |
| Clear | Solarban® 70XL | 55% | 11% | 0.31 | 0.14 | 20% | 5% |
| Azuria® | Solarban® 60 | 46% | 10% | 0.26 | 0.12 | 16% | 4% |
| Azuria® | Solarban® 70XL | 42% | 9% | 0.24 | 0.11 | 14% | 3% |
| Optiblu® | Solarban® 60 | 43% | 9% | 0.31 | 0.16 | 20% | 6% |
| Optiblu® | Solarban® 70XL | 39% | 8% | 0.26 | 0.12 | 15% | 4% |
| Solarbronze® | Solarban® 60 | 36% | 8% | 0.26 | 0.14 | 16% | 5% |
| Solarbronze® | Solarban® 70XL | 33% | 7% | 0.22 | 0.11 | 12% | 3% |
| Solargray® | Solarban® 60 | 30% | 6% | 0.24 | 0.13 | 14% | 4% |
| Solargray® | Solarban® 70XL | 27% | 6% | 0.20 | 0.11 | 10% | 3% |

Configuration assembly of vertical window used above:

1/4" (Clear/Colored Glass) + *Suntuitive* Interlayer + 3/16" CLEAR + 7/16" 90% ARGON + 1/4" (Solarban® 60/Solarban® 70XL)

Data based on performance metrics LBNL Window v6.3.9.0 and Optics v5.1 NFRC 100-2010 Conditions/90° Tilt. CEN EN-410/673 data based on CEN methodology using WIS3.01 software.

Feel free to contact us for additional constructions and performance information!