Self-Tinting Interlayer for Dynamic Windows

In Alliance with PPG, [Other Logo], [Glass Magazine Awards Winner]
All of the windows above have the same exterior tint of glass. Only one pane does not contain Suntuitive interlayer.

Pleotint produces Suntuitive® interlayer that darkens gradually in response to rising temperatures caused by direct sunlight on the window, then cools as the sun moves across the sky, returning to a clear, neutral state in cloudy or dark environmental conditions when direct sun is no longer present.
As part of a dynamic window system, *Suntuitive* interlayer can help manage a building’s changing needs for passive solar gain, solar control and natural daylight transmittance. Ultimately, that can lower costs associated with air conditioning, artificial lighting and heating, which together can represent up to 70 percent of a building’s total energy consumption.

In addition, because of its laminated glass design, windows made with *Suntuitive* interlayer reduce outside noise and enhance building security.

Building tenants also enjoy more consistently comfortable temperatures, reduced interior glare, more natural lighting and clear views of the outdoors every day of the year.

Why Use *Suntuitive*?

*Suntuitive* dynamically darkens to balance the sun’s heat entering a building throughout the day. This creates a more consistent level of illuminance and temperature in a building throughout the year increasing occupant comfort.

Occupyant comfort is maximized by:

- Clear view of the outdoors
- Allowing for increased use of daylighting
- More consistently comfortable temperatures
- Reduced glare

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*Innovative Green Technology*

*Typical Vertical Insulated Glass Unit (IGU) Configuration*

*Suntuitive* Tinting Profile

*Time of Day vs. Light Transmission*
Suntuitive preserves your window’s view by reducing the need for shades, blinds, exterior overhangs and other light-blocking devices.

- **Suntuitive** interlayer gradually darkens to a neutral gray
- **Suntuitive** helps block ultraviolet light and reduces absorbed heat and light which are significant causes of fading to:
  - Wall coverings, carpet, flooring, furniture, fabric, artwork, photographs
- As a laminated glass system, **Suntuitive** provides:
  - Impact resistance, sound reduction, insulation, enhanced building security, reduced interior glare

**Benefits**

**Suntuitive is Smart and Sustainable**

- Green:
  - Powered by heat from direct sunlight
  - No manual, mechanical or electrical intervention
  - With **Suntuitive**, occupants can quite literally see and experience the energy savings and well-being the technology offers
  - Durable and maintenance-free
  - **Suntuitive** is a GreenSpec® listed product putting it in the top 10% of green building products

- **Energy Savings:**
  - **Suntuitive** interlayer can help manage a building’s changing needs for passive solar gain, solar control and natural daylight transmittance.
  - **Suntuitive** can lower costs associated with air conditioning, artificial lighting and heating (which is up to 70% of a building’s total energy consumption).
  - Potential to significantly downsize a building’s heating and cooling systems.
  - The greatest energy savings come during time of peak energy consumption when energy costs are higher. That saves you money and is also good for the environment.
**Suntuitive is Off-the-Grid**

Many dynamic window systems require mechanical support, such as electricity and computer software, to transition between states of high and low transmission. These required devices not only add to the initial and on-going maintenance costs, but also increases their potential for failure. *Suntuitive* interlayer eliminates those worries by drawing all of its operational energy directly from the sun. Because the darkening process is entirely self-sustaining, windows made with *Suntuitive* interlayer do not require any energy or manual intervention so they are virtually impervious to mechanical failure.

**No wires, no worries.**

**LEED:**

*Suntuitive* interlayer can contribute toward LEED certification in:

<table>
<thead>
<tr>
<th>LEED Credit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAp2: Minimum Energy Performance (Required)</td>
<td>EQc8.1: Daylight and Views – Daylight (Possible 1 point)</td>
</tr>
<tr>
<td>EAc1: Optimize Energy Performance (Possible 19 points)</td>
<td>EQc8.2: Daylight and Views – Views (Possible 1 point)</td>
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<tr>
<td>EQc6.2: Controllability of Systems - Thermal Comfort (Possible 1 point)</td>
<td>IDC1: Innovation in Design (Possible 5 points)</td>
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<td>EQc7.1: Thermal Comfort - Design (Possible 1 point)</td>
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<td></td>
<td>EQc2: Acoustic Environment (Healthcare) (Possible 2 points)</td>
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<td></td>
<td>RPc1: Regional Priority (Possible 4 points)</td>
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The *Suntuitive* Solution

In a typical window, the configuration and tint are fixed – but the environmental conditions are variable. Finding the right balance of visible light transmission (VLT) and solar heat gain has typically been a compromise. Now, *Suntuitive* interlayer offers a solution that provides a window with the ability to adapt to these variable environmental conditions when necessary.

*Suntuitive* helps create a natural balance

*Suntuitive* is perfect for:
retrofits, new installations, commercial and residential use including replacement windows

Applications possible:
Vertical or sloped windows that can be curved or shaped

The possibilities are endless...
*Suntuitive* interlayer can be combined with most tints of glass and paired with many different low-e coatings

**Suntuitive Interlayer**

**Installation:**
Windows with *Suntuitive* install the same as any other typical window (or IGU)

**Size:** Approx. 5’ x 10’

**Durability:**
Pleotint conservatively calculates a life span of 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) and Qlab Corporation

**Modeling:**
Pleotint’s *Suntuitive* interlayer is available on the International Glazing Database (IGDB)
INSTALLATIONS

Wolverine Enclosures
Allegan, Michigan

Private Residence
Fenton, Michigan

Hotel
Shenzhen, China

Linel Architectural Glass & Metal Solutions
Mooresville, Indiana

Palm Springs Installation
Palm Springs, California

Private Residence
Holland, Michigan