



SunSmart Laminate

Thermochromic Solar Control Film

Brightlands
Materials Center

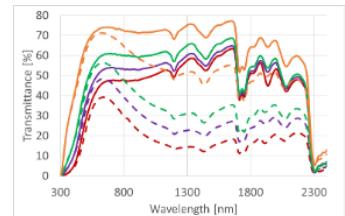
Powered by TNO & Brightlands Chemelot Campus

TNO innovation
for life

Brightlands

SunSmart Laminate is BMCs thermochromic solar control film for laminated safety glazing. The film independently modulates a windows solar heat gain towards the buildings needs.

- BMCs SunSmart film can regulate the solar heat gain of architectural glazing systems. The thermochromic material in the laminate can switch between an infrared (IR) transparent and blocking state at a specific glass temperature. Hereby the solar heat transmitted through the window into the building can be regulated, which leads to a reduced cooling and heating demand in summer and winter, respectively.
- The SunSmart laminate is available with a constant high visible transparency of 70%.
- The total solar transmission is modulated by up to 18%, realizing the transition between properties of low-e and solar control glass.
- Color coordinates comparable to commercial solar control films are reached and can be adapted to end user requirements.
- The switching temperature of SunSmart has been optimized for highest energy efficiency in all seasons using real life measurements.
- The SunSmart laminate can be produced via liquid or solid masterbatch and has been demonstrated on industrial pilot extruders at 90 cm width. Glass lamination up to 1 m² has been demonstrated at industrial vacuum-bed and autoclave lamination.
- The film shows perfect adhesion and durability in accordance with EN ISO 12443-4. It withstands exposure to solar radiation according to EN 1096-3 and shows no switching fatigue after more than 4000 cycles (>10 years lifetime).
- Optimal compatibility with commercial low-e coatings has been investigated, realizing windows with G value changes up to 10% at U values of 1.1 W/m²K.
- The SunSmart window is perfectly optimized for continental and oceanic climates. Energy cost savings of 500 € per year are reached, enabling an attractive return on invest within 7 years.
- Heat stress is reduced by up to 50%, increasing comfort and reducing the need for air conditioning.



**Contact BMC –
Sustainable Buildings**

Eugène Veerkamp
Business Developer

Eugene.Veerkamp@tno.nl
Tel: +31 (0)6 53 48 55 49