



SunSmart Laminate

Thermochromic Solar Control Film

☀️ 11 °C
🏠 22 °C



☀️ 30 °C
🏠 22 °C



Brightlands
Materials Center

TNO innovation
for life

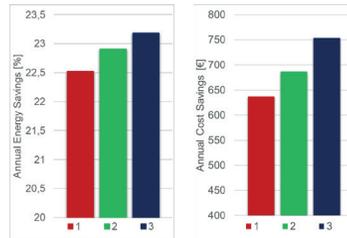
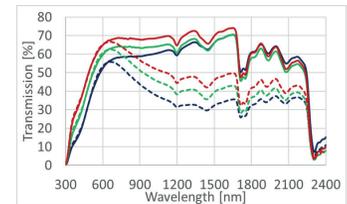
provincie limburg 

SunSmart Laminate is BMCs thermochromic solar control film for laminated architectural glazing. The film can change its properties from infrared transparent to IR blocking depending on the glass temperature.

- 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 color neutral with a high visible transmission of up to 75%. The switch in optical properties occurs solely in the IR region without being visible. Upon switch, the light transmittance of the window is reduced by up to 15%. The visible transmission and solar modulation can be tuned for increased switching performance and lower total energy transmission.
- The switching temperature of the SunSmart pigment within the laminate can be adjusted during production and is infinitely variable between 0 - 68°C.
- The SunSmart pigment is produced in a top down process via calcination and subsequent bead milling to <100 nm. It is integrated into PVB films via masterbatch and extrusion. The dispersion of the pigments in the film is optimized to realize high transparency and low haze values.
- The SunSmart films are used for glass lamination, where the functional SunSmart pigments are protected against degradation, which leads to an increased lifetime.
- A smart window combining our SunSmart Laminate with a conventional low-e coated glass can have cold state G values 0.59 and 0.46, with hot state G values between 0.54 and 0.41. Furthermore, U values of 1.0 W/m²K are reached.
- Smart windows with our SunSmart Laminate are perfectly optimized for moderate climates with hot summers and cold winters. Here energy savings of over 23% and cost savings of up to 750 € per year for a single household are possible.



SunSmart



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