

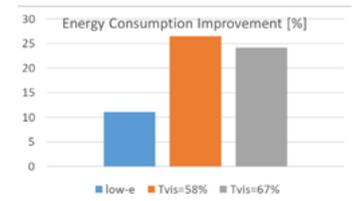
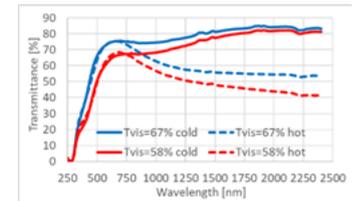
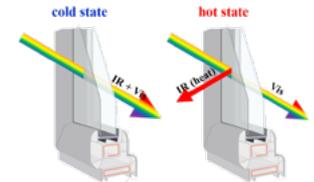
# ENERGY EFFICIENT WINDOW

Thermochromic Solar  
Control Coating



# BMCs thermochromic solar control coating for architectural glazing. The coating can change its properties from infrared transparent to IR blocking depending on the glass temperature.

- BMCs thermochromic coating can regulate the solar heat gain of architectural glazing systems. The thermochromic material in the coating can switch between an infrared (IR) transparent and an IR blocking state depending on the glass temperature. This way the solar heat transferred through the window into the building can be regulated, which leads to a reduction in necessary cooling in summer and heating in winter.
- The thermochromic coating is color neutral with a high visible transmission around 70%. The switch in optical properties occurs solely in the IR region and without being visible. Upon switch the light transmittance of the window in the IR region is reduced by 20%. The visible transmission and IR modulation can be tuned for increased switching performance and lower total energy transmission.
- The switching temperature of the coating can be adjusted to the systems needs and is infinitely variable between 0 - 68°C.
- The thermochromic coating is a single layer system prepared by wet-chemical deposition. The coating material and the deposition method are low in costs. The coating is robust with a pencil hardness of 4H and durable according to requirements for low-e coatings.
- A double glazing system with the Tvis 67% thermochromic coating at the inner side of the outer glass pane (side 2), an Argon filled gap and a standard low-e coating at the inner side of the inner glass pane (side 3) has a U-Value of 1.0 and a G-Value of 0.52 in the cold state and 0.50 in the hot state. This leads to a modeled energy consumption improvement of a full glass façade office building in the Netherlands of 24% in comparison to standard double clear glazing.



## Contact BMC – Sustainable Buildings

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