

## Intelligent glass – smart windows

Passive warmth regulation, thermochromic glass coating, switching windows

### DESCRIPTION OF TECHNOLOGY

With this development, it is possible to control the heating of interiors by the sun easily. The energy-efficient window glass coating transmits the warmth from the sun at low temperatures and reflects it at high temperatures.

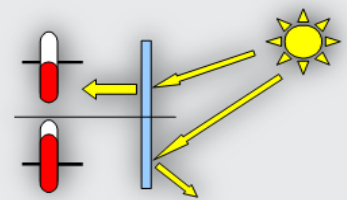


The use of such intelligent windows has the special advantage that interiors are not heated by the sun in the summer, while in winter the sun rays can contribute to heating of the interior. The switching between transmittance and reflection of warmth is achieved without external control, so that no further adjustments and costs are necessary. The coating has a color neutral high transmittance, which does not obstruct the view and in contrast to the prior art, where the coating leads to a yellow streak, this innovation does not disturb visible perception, as it is color neutral transparent. Also the switching process is not visible or rather cannot be perceived.

### SCOPE OF APPLICATION

This development makes it possible to coat window glass energy-efficiently, which provides a regulation of the warmth in interiors without external control- for buildings as well as for vehicles.

### AT A GLANCE ...



### Industry

- Glass finisher
- Glass manufacturers
- Window industry
- Car glass manufacturers
- Architecture
- Building industry

### USP

- Energy-efficient
- High transmittance
- Passive coating without external regulation

### Development Status

- Next steps: upscaling

### Patent Status

Patent granted in DE, CN, JP, KR, US, GB, BE, FR.

## ADVANTAGES OVER THE PRIOR ART

- Energy-efficient glass coating with temperature-dependent-transparency for warmth
- High color neutral transmittance
- Passive coating without external regulations, which is why no extra costs are necessary

## STATE OF PRODUCT DEVELOPMENT

Ongoing coopartion with Fraunhofer Institute focuses on upscaling.

## COOPERATION OPPORTUNITIES

On behalf of Justus-Liebig-University Giessen, TransMIT GmbH is looking for cooperation partners or licensees worldwide.

## A TECHNOLOGY OF



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