Low-cost anti-heat coating for buildings with zero electricity consumption

Professor Dai Jian-Guo, Associate Head (Academic Development), Department of Civil and Environmental Engineering of PolyU, together with his research team, have invented a method to make advanced coating materials for "smart" sub-ambient radiative cooling (SSRC) to cool buildings off while consuming zero electricity.

PolyU's SSRC coating, called "UmiCool", is a multifunctional aqueous polymer coating that can be painted on the exterior surface of buildings and infrastructure. It works by scattering sunlight, converting absorbed UV light to fluorescence emissions and re-emitting infrared radiation to outer space.

The PolyU invention is able to reduce the temperature of buildings by 6°C as compared to the ambient temperature in the daytime under direct sunlight and by 4°C at night without electricity consumption. The team

Smart Anti-Heat Coating for Buildings

Thailand, Hongkong

Professor Dai Jian-Guo, at PolyU and his research team, invented a method to make advanced coating materials for smart sub-ambient radiative cooling (ssrc) to cool buildings off while consuming zero electricity.

Innovating aqueous p

Radiative and evapor

Energy efficiency

Clima neutralisation

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