

# Highly dispersed screen-printable nanocomposite paste for self-cleaning curtain walls

August 19 2015

---

Traditional technologies to fabricate self-cleaning coatings on curtain walls usually involve high initial equipment investment and complex fabrication process, which leads to high production cost, e.g. 10-20 USD per square meter.

In the present work, researchers have developed a novel highly dispersed nanocomposite paste which is suitable for the low-cost facile screen-printing process to fabricate highly transparent multifunctional coatings on glass. The developed [coating](#) has extremely high dispersion of the internal semiconductor nanoparticles (average particle size=5nm), so that it could inhibit the Rayleigh scattering effect and hence has high transparency (over 98% in visible region).

Meanwhile, the surface of the coating via sunlight activated has the property of photocatalysis and super-hydrophilicity (contact angle less than  $1^\circ$ ), which can not only decompose the organic compounds on surface, but also brush away the inorganic dust easily by rainwater. Moreover, the coating after tempering process is robust (hardness=8H; life time greater than 20 years) and it can prevent the glass from the corrosion of sandstorm and acid rain. The paste itself is waterbased with lower volatile organic compound (VOC

Citation: Highly dispersed screen-printable nanocomposite paste for self-cleaning curtain walls

(2015, August 19) retrieved 28 April 2024 from <https://phys.org/news/2015-08-highly-dispersed-screen-printable-nanocomposite-self-cleaning.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.