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Fabrication of self-cleaning coating on glass substrate

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In this paper, the mechanical and the optical characteristics of a novel hydrophilic coating material are introduced according to the film thickness. Because water based SiO₂-abundant material has perfect transparency, as does glass, and a hydrophilic property, it can be used as a protection glass for a solar cell module. The film thickness was controlled by spray coating process. After the coating process, the material was cured at around 200°C for 30 minutes. The hardness of the film was measured using the ASTM D3363 test method, and the adhesion of the film was tested using the ASTM D3359 method. The surface conditions of the film were analyzed via scanning electron microscopy (SEM), atomic force microscopy (AFM), and contact-angle measurements. A UV-visible spectrometer was used to measure the optical transmittance of the film.

Biography

Yeun-Ho Joung received his PhD degree from Georgia Institute of Technology, Atlanta, USA, in 2003. His research interests include material development for medical device with MEMS technology. Currently, he is an associate professor at Hanbat National University, Daejeon, Korea.

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