

عنوان مقاله:

INVESTIGATION OF THE EFFECT OF SiO₂ NANOSTRUCTURE FILM ON THE OPTICAL PROPERTIES OF AUTOMOTIVE GLASS

محل انتشار:

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خلاصه مقاله:

SiO₂ nanostructure films are used as diffusion barrier coating. Due to low cost and easy to use, sol-gel method is frequently used to apply SiO₂ films. SiO₂ nanostructure film was prepared on automotive glass by sol-gel method applying dip-coating technique in this study. Tetraethyl orthosilicate (TEOS) was used as the precursor material, concentrated HCl as catalyst and organic material as solvent. The coating was applied by dipping the automotive glass substrate on SiO₂ sol and withdrawing at speed of 60 mm/min. Optical properties were investigated by UV-Vis spectrophotometer. Field-Emission Scanning Electron Microscopy (FE-SEM) observations were performed to characterize the microstructure of the coating. The results show that applying SiO₂ nanostructure film on automotive glass substrate increases light transmittance more than 2%. SEM results show that surface morphology of SiO₂ nanostructure film have condensed, uniform and without porous structure.

کلمات کلیدی:

Antireflection; Optical properties; SiO₂; Sol-gel

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