

عنوان مقاله:

Composite Coatings Self-cleaning TiO₂- SiO₂- Ag

محل انتشار:

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تعداد صفحات اصل مقاله: 3

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خلاصه مقاله:

In this study we have successfully deposited TiO₂- SiO₂- Ag thin films on glass substrates by the sol gel method. After being coated by a dip coating method, the film was transparent, smooth and had strong adhesion on the glass surface. Tetra-n-butyl ortho titanat(TBT), Tetra Ethyl Ortho Silicate(Teos) and Silver nitrate were used as precursors. TBT was dissolved in absolute ethanol with various Si content. The physical properties of as-prepared films were characterized by X-ray diffraction (XRD) and optical properties were investigated from its optical absorption measured by UV-VIS Spectrophotometer (UV-VIS). XRD and FESEM results disclose the existence of TiO₂ and Ag nanoparticles in the as-prepared films. It can be observed that the improvement in optical absorption in both UV and FTIR can be efficiently accomplished by the incorporation of TiO₂- SiO₂- Ag thin films, and The self-cleaning properties, along with the formation of Ti-O-Si groups IN THE nano-composite thin films. The obtained results show .that deposited TiO₂- SiO₂- Ag thin films has potential applications for self cleaning and anti-bacterial Glass

کلمات کلیدی:

thin film, sol-gel technique, self-cleaning, nanocomposites, TiO₂- SiO₂- Ag

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