

عنوان مقاله:

PREPARATION AND CHARACTERIZATION OF NANO-COMPOSITE ELECTROLESS NI/AG COATING AS SOLAR ABSORBER PANELS

محل انتشار:

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خلاصه مقاله:

The purpose of this paper is an investigation on nano-silver effect on the optical properties of nickel-phosphorus electroless coatings. Nano-composite Ni/Ag electroless coatings were deposited on aluminum (Al -1100) substrate. The phase analysis carried out by X-ray diffraction (XRD). Dispersion of nano-silver particles and chemical composition of the coatings investigated by field emission scanning electron microscopy (FESEM) and EDS, respectively. The results show that the composite coatings were high phosphorus and their microstructures were amorphous. Optical properties of the samples were obtained by using UV-Visible spectrophotometry (UV-VIS). The optical properties analysis of the obtained coatings revealed an absorption coefficient higher than ~99% in the ultraviolet and visible regions while emission coefficient decreased about 3% in the infrared region by adding nano-silver particles to the coatings. Therefore, nano-composite Ni/Ag electroless coating is a good candidate for using in solar absorber systems.

کلمات کلیدی:

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