

عنوان مقاله:

Photocatalytic self-cleaning function of Nano TiO₂/PVDF coatings

محل انتشار:

دوازدهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1395)

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خلاصه مقاله:

In this study, considering the fact that Nano Titania has photocatalytic function, formulation of a self-cleaning coating with application in coil coating is targeted. In this regard, a standard clear coat based on PVDF/Acrylic resin was firstly formulated and its properties were evaluated base on relevant standards for such coating. After achieving acceptable results, Nano composite which contains 1.5, 2.5 & 3.5 percent of Nano Titania in the same clear coat were formulated. Optical microscope and DLS measurement showed capable dispersion of the sample containing 2.5% of Nano Titana, therefore, self-cleaning function of such coating was characterized according to two different tests, measurement of water droplet contact angle and degradation of methylene blue solution. Also the morphology of the surface was evaluated by AFM. Obtained results showed that presence on Nano Titania in such coating decreases .32.8% absorbance of methylene blue solution which confirms the selfcleaning function of the coating

کلمات کلیدی:

photocatalytic coating, Nano Titanium Dioxide, Nanocomposite, PVDF, self-cleaning paint

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