

عنوان مقاله:

The effect of silica nanoparticles on the stability of waterborne epoxy emulsions and corrosion resistance of the coatings

محل انتشار:

هفتمین کنفرانس بین المللی شیمی و مهندسی شیمی (سال: 1399)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

The aim of this study was to investigate the effect of various amounts of silica nanoparticles addition on the stability of waterborne epoxy emulsions containing 6 wt.% of an acrylate terpolymer latex (poly(methyl methacrylate-co-butyl acrylate-co-acrylic acid)) and 5 wt.% of a non-ionic emulsifier (nonylphenol ethoxylates 20 emulsifier (known as Kenon 20)) (EKA sample). In addition, the emulsions were coated on steel substrates to examine the corrosion resistance of them. The results of the accelerated stability test indicated that addition of 3 wt.% of the nanoparticles could enhance the stability of EKA emulsion from 20 to 27 days. Furthermore, the salt spray test revealed that the corrosion resistance was improved for the coatings with 3 wt.% of the nanoparticles.

کلمات کلیدی:

Waterborne epoxy coating, Oil-water emulsion, Storage stability, Corrosion resistance

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