عنوان مقاله:

Thermal Properties of Nanoencapsulated Nanosilica Particles with Acrylic Copolymer

محل انتشار:

سومین کنگره بین المللی رنگ و پوشش (سال: 1388)

تعداد صفحات اصل مقاله: 7

نویسندگان:

T Afghan - *Iranian R&D Center for Chemical Industries (ACECR*),

E Motamedi

خلاصه مقاله:

In this work, after preparation nanocomposite by nanoencapsulation of silica nanoparticles with acrylic copolymer, thermal properties were investigated. The key technique of this work which is the usage of non-ionic surfactant above its cloud point to nanoencapsulation silica surface. Thermal properties of nanocomposite nanoparticles such as TGA, DMTA, and Flame Resistance characterized and compared to commercial copolymer without nanosilica. Results show that thermal stability of hybrid film is better than pure copolymer. Then the hybrid nanocomposite have potential applications as a high temperature coating layer. Always in a given temperature, modulus of nanocomposite sample is more than pure copolymer, namely stiffness is greater than sample without silica. Vice versa, damping value of nanocomposite is lower. Nanoencapsulated nanoSilica particles have better flame resistance than copolymer without silica

کلمات کلیدی:

Nanoencapsulated nanosilica particles, Nonionic emulsifier, TGA, DMTA, Flame resistance

لینک ثابت مقاله در پایگاه سیویلیکا: