

عنوان مقاله:

Undesirable Sudden Curing of Epoxy/Clay Nano-composites in VARTM Manufacturing Process

محل انتشار:

دومین کنفرانس بین المللی کامپوزیت (سال: 1389)

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خلاصه مقاله:

In this study, dependence of undesirable sudden curing of epoxy/organoclay nano-composites on mixing duration and moreover the effect of nanoclay on molding process in VARTM manufacturing process are investigated. Nanoclay was dispersed into resin in a 1%, 3% and 5% wt with ultrasonic. The final mixing duration of all suspensions was 5 and 15 minutes with speed of 1000 RPM. X-ray diffraction (XRD) tests indicate that these nanostructures are mostly in intercalated form. By increasing the nanoclay percentage, the rate of increase of viscosity increased and this caused the increase in molding time. The pressure drop at the inlet of vacuum pipe along with the increase of d-spacing of nanoclay in VARTM process (caused by the increase of mixing duration) lead to this phenomenon. In this paper this phenomenon is discussed.

کلمات کلیدی:

Nanoclay, epoxy, VARTM, sudden curing

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