

عنوان مقاله:

MECHANICAL BEHAVIOR OF INTERCALATED EPOXY-NANOCOMPOSITE

محل انتشار:

چهاردهمین کنفرانس سالانه مهندسی مکانیک (سال: 1385)

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خلاصه مقاله:

In recent years, researchers have noticed addition of nano-fillers into the polymers extensively. According to the importance of epoxy resins, the aim of this paper is focused on the investigation of mechanical and fracture properties of epoxy-clay nanocomposites. X-ray patterns show intercalation of organoclay in epoxy matrix. The results of mechanical tests (compression, tensile and fracture toughness) indicate that the addition of nanoclay increases the compressive yield strength, Young's modulus and fracture toughness of epoxy. According to the scanning electron microscopy (SEM) micrographs, the improvement of the toughness can be attributed to step formation and breakage of the clay aggregates.

کلمات کلیدی:

Nanocomposite-Intercalation-Fracture Toughness-Modulus

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