

عنوان مقاله:

Effect of Fiber / Matrix Adhesion and Fiber Rate in the Processing of Thermoplastic Composites

محل انتشار:

اولین کنفرانس بین المللی و هفتمین کنفرانس ملی مهندسی ساخت و تولید (سال: 1384)

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خلاصه مقاله:

The adhesion of glass fibers embedded in a thermoplastic blend matrix of Polycarbonate /Acrylonitrile-Butadiene-Styrene is being investigated. Cracking in mode I (opening) under static monotonic loading is carried out with typical methodology developed for thermoplastic composites. The compliance of the Double Cantilever Beam is first determined, then with theories of Irwin and Berry applied to different composites formulations, the strain energy release rate based on the Linear Elastic Fracture Mechanics is evaluated. Glass fibers / matrix interfaces are observed by Scanning Electron Microscopy and the results are discussed. The comparison and the analysis of the results allow us to highlight the influence of the nature and the ratio of the fibers on the properties of composite blends.

کلمات کلیدی:

Thermoplastic Composites, Interface adhesion, Strain energy

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