

عنوان مقاله:

Morphological Study of Acrylonitrile–Butadiene–Styrene/Carbon Black Composites and its effect on Mode of Fracture

محل انتشار:

دومین کنگره بین المللی علوم و فناوری نانو (سال: 1387)

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خلاصه مقاله:

Acrylonitrile–butadiene–styrene (ABS) terpolymers are engineering plastic and susceptible to degradation. One way to protect ABS against degradation is the addition of Carbon Black (CB) that can act as a stabilizer [1,2]. The effects of light and heat on the mechanical properties of ABS/CB composites have been studied [1]. In our previous work [2], the morphology, thermal and mechanical properties ABS/CB composites were investigated. In the present work, morphology of ABS/CB composites and its effect on impact energy were studied. The CB was dispersed in ABS through melt-compounding. Electron microscopy was used to study the morphology of the filled- and unfilled-ABS, and revealed that the CB particles/aggregates, were distributed within the styrene–acrylonitrile (SAN) phase and around the PB phase. With adding of CB impact strength was reduced and the semi brittle fracture surface appeared.

When the CB content was increased the brittleness of fracture surface has been greatly increased

کلمات کلیدی:

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