

عنوان مقاله:

Experimental investigation on flexural properties of self-healing composites fabricated by short hollow fibers

محل انتشار:

کنفرانس دو سالانه بین المللی مکانیک جامدات تجربی (سال: 1394)

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خلاصه مقاله:

Self-healing materials with the ability to sense the damage and repair it automatically are a new and attractive class of engineering material. This type of materials has the ability to heal and restore material to its original set of properties when they are damaged. In this research, the flexural properties of self-healing laminated composites are investigated experimentally using mechanical flexural tests. The short hollow glass fibers, which contain the resin and hardener, were randomly distributed in the epoxy resin and the glass/epoxy specimens were fabricated using hand layup method. The length and diameter of the hollow glass fibers were 10 mm and 400 μm , respectively. In order to determine the healing efficiency of the composites, the specimens were damaged initially and subjected to flexural tests after a period of time. The influence of some effective parameters including the volume fraction of hollow fibers and healing time on the healing efficiency of the composite was investigated. The results of this work show .improvement in mechanical properties of damage specimens due to self healing effect in the composites

کلمات کلیدی:

Self healing, hollow glass fiber, flexural properties

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<https://civilica.com/doc/510127>

