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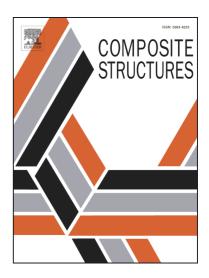
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A numerical homogenization of E-Glass/Acrylic woven composite laminates: application to low velocity impact

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Abstract

For recyclability purposes, an acrylic resin (Elium 150) has been recently developed for the elaboration of laminated composites at room temperature. This new resin is endowed with interesting mechanical properties that allow some replace some epoxies in some industrials applications where a high strength is required. In this paper, the mechanics of genome structure (MSG) and а finite element based micromechanics approaches were conducted to evaluate the effective thermomechanical properties of a plane woven glass fiber/acrylic resin composite laminate. Through a two-step and the asymptotic homogenization approach, present the investigation aims to predict the elastic properties of the fiber/Acrylic resin laminated composites. numerical simulations, some experimental observations been performed on the laminate samples in order to accurately

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