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## The notch effect on fracture of polyurethane materials (Article)

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Abstract

This paper investigates the fracture properties and notch effect of PUR materials with four different densities. The asymmetric semi-circular bend specimen was adapted to perform mixed mode fracture toughness tests. This semi-circular specimen with radius R, which contains an edge crack of length a oriented normal to the specimen edge, loaded with a three point bending fixture, was proved to give wide range of mixed modes from pure mode I to pure mode II, only by changing the position of one support. Different types of notched specimens were considered for notch effect investigations and the Theory of Critical Distances was applied. It could be seen that the critical distances are influenced by the cellular structure of investigated materials. © 2014, Gruppo Italiano Frattura. All rights reserved.

Author keywords

Fracture toughness; Notch effect; Polyurethane materials; Theory of critical distances

Indexed keywords

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