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Title: An engineering approach to predict mixed mode fracture of PUR foams based on ASED and micromechanical modelling**Author(s):** Marsavina, L (Marsavina, Liviu); Berto, F (Berto, Filippo); Negru, R (Negru, Radu); Serban, DA (Serban, Dan Andrei); Linul, E (Linul, Emanoil)**Source:** THEORETICAL AND APPLIED FRACTURE MECHANICS **Volume:** 91 **Special Issue:** SI **Pages:** 148-154 **DOI:** 10.1016/j.tafmec.2017.06.008 **Published:** OCT 2017**Times Cited in Web of Science Core Collection:** 8**Total Times Cited:** 9**Usage Count (Last 180 days):** 0**Usage Count (Since 2013):** 3**Cited Reference Count:** 48

Abstract: The Averaged Strain Energy Density (ASED) criteria is applied herein to reinterpret the fracture data of PUR foams. Four type of specimens were used in fracture tests. The ASED parameters were determined based on micromechanical models. The volume control for cracked components is represented by a circle with the centre at the crack tip for all type of fracture modes. It was also demonstrated that the SED parameters obtained from pure mode I could be applied successfully for mixed modes and mode II. This approach represents an useful engineering tool for the assessment of brittle fracture of components made of cellular materials. (C) 2017 Elsevier Ltd. All rights reserved.

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