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Publication date: 2018

Document Version Peer reviewed version

Link back to DTU Orbit

Citation (APA):

Jørgensen, J. K., Grytten, F., Sørensen, B. F., Goutianos, S., & Joki, R. K. (2018). A micromechanical model of fiber bridging including effects of large deflections and fracture in the bridging fibers. Abstract from 39th Risø International Symposium on Materials Science, Roskilde, Denmark.

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A micromechanical model of fiber bridging including effects of large deflections and fracture in the bridging fibers

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Abstract

A micromechanical model of crossover fiber bridging is developed for the prediction of macroscopic mixed mode bridging laws (traction-separation laws). The model is based on moderately large deflection beam theory and takes fracture of the bridging ligament into account through a Weibull distributed failure strain.