
# EFFECT OF BARLEY RESIDUE ON THE MIXED-MODE FRACTURE PROPERTIES OF POLYMER MORTARS

J.M.L. Reis

Theoretical and Applied Mechanics Laboratory – LMTA, Graduate Program in Mechanical Engineering - PGMEC, Universidade Federal Fluminense – UFF

**Abstract**: The present paper is concerned with the failure analysis of cracked polymer mortar reinforced with particles from waste barley residue from the brewing in combined mode I and II. The Brazilian disk, a classic mixed mode fracture test specimen, was adopted for the experimental characterization of the crack initiation. A slight increase in critical stress intensity factors was observed with the addition of barley residue in the fracture properties promoting high fracture resistance to crack propagation.

**Keywords**: Composites, Polymer Mortar, Recycling, Mixed-mode Fracture