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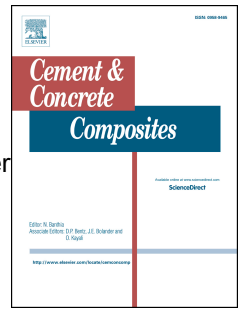


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PII: S0958-9465(17)30464-X

DOI: 10.1016/j.cemconcomp.2018.07.003

Reference: CECO 3094

To appear in: *Cement and Concrete Composites*

Received Date: 19 May 2017

Revised Date: 1 May 2018

Accepted Date: 7 July 2018

Please cite this article as: K. Ha, H. Choi, M. Shin, K. Park, On the size effect of interfacial fracture between concrete and fiber reinforced polymer, *Cement and Concrete Composites* (2018), doi: 10.1016/j.cemconcomp.2018.07.003.

*Submitted for publication in Cement & Concrete Composites*

# On the Size Effect of Interfacial Fracture between Concrete and Fiber Reinforced Polymer

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**Abstract**

In this study, the size effect of the nominal interfacial strength between concrete and fiber reinforced polymer (FRP) is investigated by integrating fracture tests and computational simulations. Three-point bending fracture tests are performed with geometrically similar specimens to demonstrate the size effect, and to measure fracture parameters for mode-I. Based on the measured fracture parameters, the crack-growth behavior is predicted using the finite-element-based cohesive zone model. Computational results predict accurately the experimental results of the load versus crack mouth opening displacement (CMOD) curves. Furthermore, both the computational and experimental results illustrate that the nominal interfacial strength decreases with increases in the specimen size, i.e., the size effect of the

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