

Determination of the effective mode-I toughness of a sinusoidal interface between two elastic solids

Pablo D. Zavattieri · Louis G. Hector Jr. ·
Allan F. Bower

Published online: 30 October 2007
© Springer Science+Business Media B.V. 2007

Erratum to: Int J Fract 145:3, pp. 167–180 (2007)
DOI 10.1007/s10704-007-9109-y

Due to an unfortunate turn of events this article has been published with an erroneous version of Figure 3, an erroneous version of Equation 6 and also two errors in the text of the second paragraph of Section 3.1 “Influence of cohesive interface properties”. Please find below the correct Figure 3, Equation 6 and text part of the second paragraph of Section 3.1 that should be regarded by the reader as the final versions.

$$\frac{K_{Ic}}{K_0} = \Gamma \left(\frac{\sigma_{\max}}{E}, \frac{\delta_n}{\lambda}, \frac{\tau_{\max}}{\sigma_{\max}}, q, \nu, \frac{A}{\lambda} \right) \quad (6)$$

(3.1 Influence of cohesive interface properties)

Perhaps the most intriguing observation results when the same analysis is plotted in terms of l_{cz}/λ as in Fig. 6. When σ_{\max} and δ_n are varied, l_{cz} varies according to Eq. 8. The role of σ_{\max} and δ_n in controlling the conditions necessary to initiate crack propagation and cause failure can be illustrated more clearly by plotting the variation of K_{init}/K_0 (solid curve with open circles) and K_{Ic}/K_0 (dashed line with solid circles) with the normalized cohesive zone length l_{cz}/λ .

The online version of the original article can be found under
doi:10.1007/s10704-007-9109-y.

P. D. Zavattieri (✉) · L. G. Hector Jr.
GM Research and Development Center, Warren,
MI 48090, USA
e-mail: Pablo.Zavattieri@gm.com

A. F. Bower
Division of Engineering,
Brown University, Providence,
RI 02912, USA

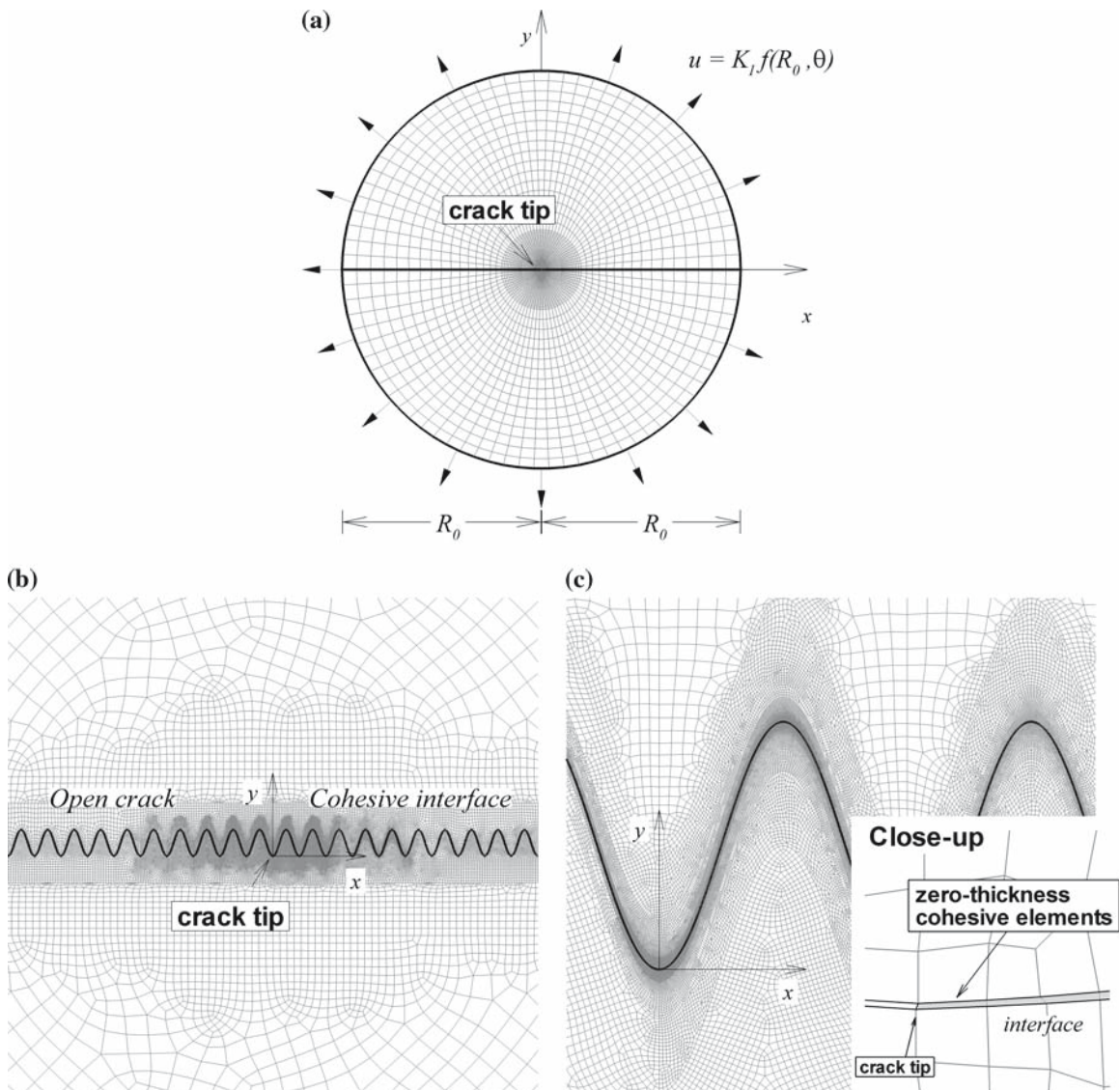


Fig. 3 (a) Sample mesh with $R_0 \gg A$. The sinusoidal interface is center of the mesh along the x -axis and hence is not visible. (b) Zoom showing the sinusoidal interface and the crack tip. (c) Region near the crack tip and exploded view showing the cohesive elements