

Name.....Student I.D.....

Department of Mining and Materials Engineering
Faculty of Engineering
Prince of Songkla University

Mid-term Examination for Semester: 1

Academic Year: 2007

Date: August 2, 2007

Time: 13.30-16.30

Subject: 237-407 Failure Mechanics and Analysis

Room: A205

Instructions

1. There are 3 problem sets. Please do all of them. Write your answers in the space provided after each problem sets.
2. Dictionary and calculator are allowed.
3. Text books and course notes are not allowed.
4. This mid-term exam is accounted for 25 % of total grade.

Asst. Prof. Dr. Thawatchai Plookphol

Problem no.	Full score	Student's score
1	20	
2	20	
3	10	
Total	50	

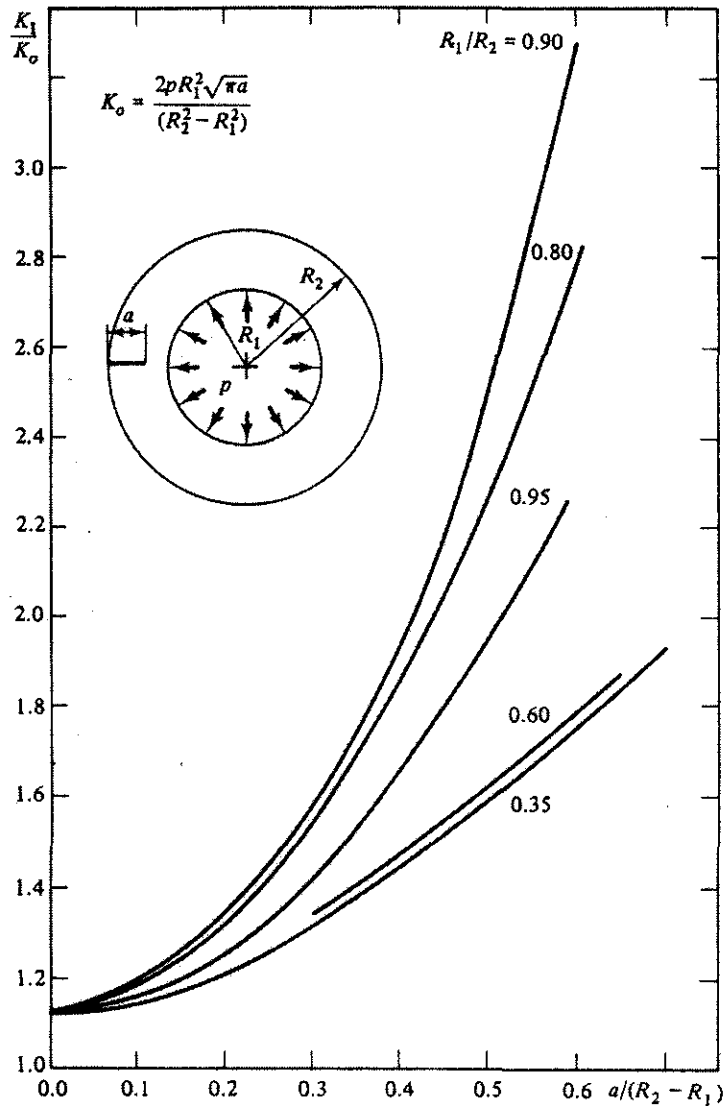
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An external radial edge crack in a tube subjected to a uniform internal pressure:

$$K_I = CK_0$$

where, $K_0 = \frac{2pR_1^2\sqrt{\pi a}}{(R_2^2 - R_1^2)}$.

The value of C or $\frac{K_I}{K_0}$ can be estimated from chart below.



K_I for an external radial edge crack in a tube subjected to a uniform internal pressure.

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