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Autore	Banks-Sills Leslie
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Sommario/riassunto

Part I of this SpringerBrief presents the problem of a crack between two dissimilar isotropic materials and describes the mathematical background. A fracture criterion is discussed and Methods for calculating fracture parameters such as stress intensity factors using the finite element method and three post-processors are considered. Actual test data and both deterministic and statistical failure curves are presented. In Part II of the book, similar descriptions are given for delaminations in composite laminates. The mathematical treatment of this type of damage including the first term of the asymptotic expansion of the stress and displacement fields is considered. Numerical post-processors for determining stress intensity factors for these cases are reviewed. Two examples of specific laminates are presented: one with a failure curve and the other with a failure surface. Finally, beam specimens used for testing such failures are discussed. iv>.