

# Plane Strain Crack Toughness Testing of High Strength Metallic Materials



AMERICAN SOCIETY FOR TESTING AND MATERIALS  
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# PLANE STRAIN CRACK TOUGHNESS TESTING OF HIGH STRENGTH METALLIC MATERIALS

by William F. Brown, Jr., and John E. Srawley

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## Foreword

The objective of this report is to present a state-of-the-art survey of the analytical and experimental basis for determination of the plane strain crack toughness of metallic materials. It is anticipated that the information presented will serve as a basis for formulating recommended practices for  $K_{Ic}$  testing.

This publication is a cooperative effort of ASTM and NASA. Most of the data contained here were obtained at the NASA-Lewis Research Center as part of a NASA-NRL Cooperative Program for Plane Strain Fracture Toughness Testing. By cooperating with ASTM in publication of this information, NASA is helping to fulfill its obligation to provide the widest practicable and appropriate dissemination of the results from its research activities.

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**Flow and Fracture of Metals and Alloys in Nuclear  
Environments, STP 380 (1965), \$24.00**

**Fracture Toughness Testing and Its Applications, STP  
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