



K_{IC} Fracture Toughness Testing Software

For Use With FastTrack™ 8800 Servohydraulic Testing Systems



INSTRON

*The difference
is measurable*

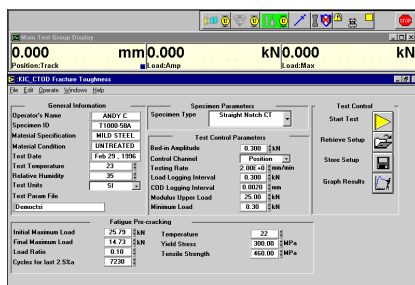
Fast and Efficient K_{IC} Testing to Accepted Standards

The FastTrack™ 2 fracture toughness testing software is a complete package for K_{IC} testing on pre-cracked brittle specimens, increasing laboratory efficiency and improving accuracy of test results. Operating within Windows® 95, 98, 2000, XP Professional and NT environments, the user interface is consistent with the other packages in the FastTrack 2 applications suite.

The K_{IC} program features:

- Test control and results to:
 - ASTM E399 for K_{IC} and E1290 for CTOD
 - BS7448-1991 for K_{IC} , CTOD and J
- Interactive results manipulation
- Report of test results and any invalidity parameters
- Universal ASCII format raw data

realtime graphics keeping the operator informed of the status of the test until it finishes. On completion, a printed and graphical report of the K_{IC} value is produced. The program indicates if the test meets the ASTM/BS standard and if not, cites the invalidity messages from the relevant standards.



Ready for Testing in Minutes

Once the test parameters have been entered, the program automatically balances the transducers and sets up the initial test conditions. The K_{IC} test is then run, with

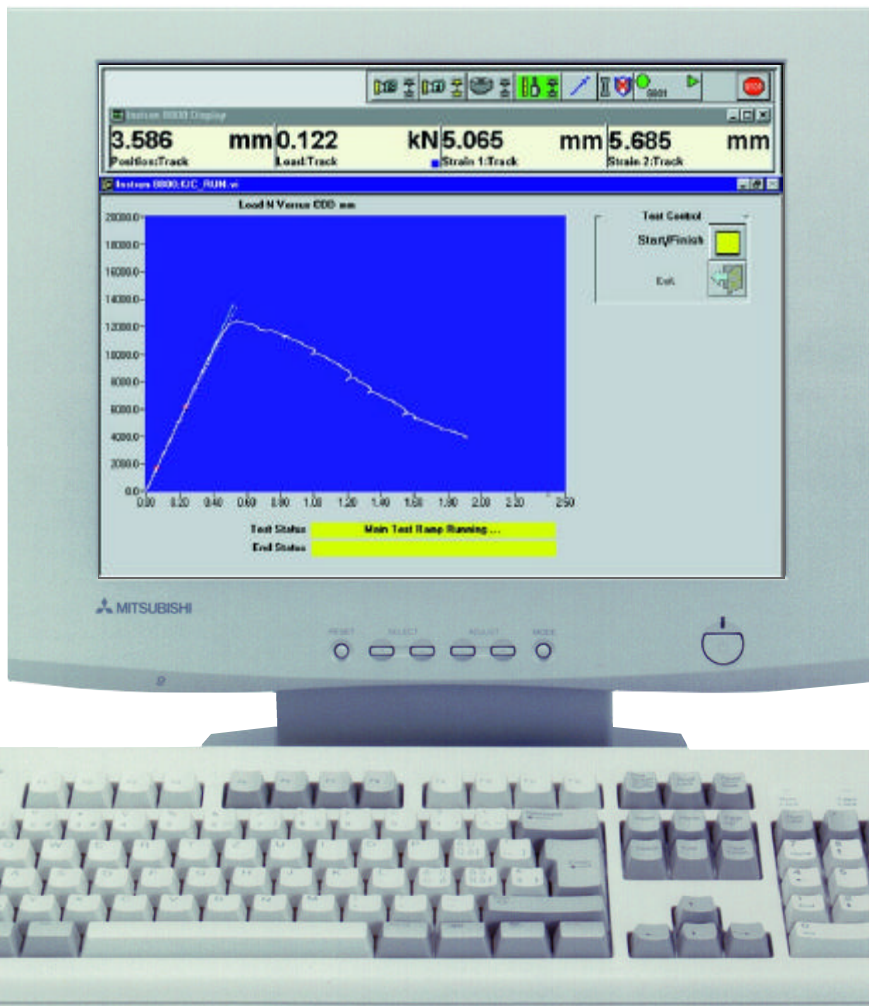
Running a Test

The program conducts the K_{IC} test in a sequence of selected steps, each with its own set of realtime controls and graphics:

- Test parameter set-up - the system is driven to zero load and the COD (crack opening displacement) gauge is rebalanced

▲ Testing data is specified in a straightforward manner on a single page, or recalled from a file stored on disk.

During the test a realtime graphics display shows a plot of load versus COD gauge output to allow monitoring of the test status and progress.



KIC Report

Standard	
Test date	F
Specimen I.D.	
KIC value	
Pq	
Pmax/Pq	
a0	
Rsx	
dK / dt	
Humidity	
Test Temperature	
Type	St
Width	
Thickness	
Net thickness	
Yield Stress	
Knife Edge Thickness	
Material Specification	M
Condition	U
Result File	

▲ A summary report information is available depends on the sta

KIC Report
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Specifications

Control

- n Test procedure - in accordance with ASTM E399 K_{IC} , ASTM E1290 CTOD, BS7448K, BS7448 CTOD and BS7448J
- n Control mode - position or load
- n Pre-test functions
 - User defined pre-loading cycle ensures correct specimen "bedding in"
 - Load or position controlled test to failure at a user defined rate
 - Variable logging rate on all data channels
- n Test termination - automatic on specimen break or pre-selected limit in load or extension
- n Realtime graph - load versus crack opening displacement

Results and Data Handling

- n Results reporting - in accordance with ASTM E399 K_{IC} , ASTM E1290 CTOD, BS7448K, BS7448 CTOD and BS7448J
- n Post-test results
 - User selectable upper and lower load points
 - Unlimited recalculation capability using new results and specimen parameters
 - Storage of measured crack lengths
 - Invalidity messages
 - Recalculation using new standards
- n Data storage format - ASCII
- n Max. data sample rate - 1KHz
- n Graphs - Load versus COD

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