



Sheffield Fracture Mechanics

FRACTURE TRAINING ASSOCIATES

a six day course in two parts

at the Old Hall Hotel, Buxton

.....
30 March - 1 April 2004
and 20 - 22 April 2004

Sheffield Fracture Mechanics

Our case-study based introduction to fracture mechanics for engineers and managers has been fulfilling industries' training needs for more than twenty years. Delegates have come from all the major industrial sectors that need fracture mechanics expertise or an appreciation of fracture mechanics issues.

Continual improvement of the course material addresses key technical developments in Structural Integrity, Codes of Practice, Design, Defect Tolerance and Failure Assessment procedures.

The course is presented in two parts by a team with international reputations in teaching, consultancy and research.

Who Should Attend

The Sheffield Fracture Mechanics course has provided training for project managers, consultants, design and mechanical engineers, metallurgists, risk assessors and inspectors from a wide range of industries.

Engineering professionals from major international companies and their suppliers in the aerospace, pressure vessel, power generating, automotive, offshore, chemical processing, insurance industries and their regulatory bodies have benefited from our course.

Our customers include: AEA Technology, Advantica, BP, Lloyds Register, Rolls Royce, BAe Systems, Rover, Nissan, Black & Decker, Dow Corning, Zeneca, Kvaerner, Corus, Exxon, Tecnatom SA (Madrid), Shell, Alcan, GKN, GEC, Westland Helicopters, Dowty, Jetstream, Short Bros. (Belfast), ICI, BNFL Magnox, British Energy, Nortel, Airbus, CMB, Health & Safety Executive.

Course Content

The principles of engineering fracture mechanics from brittle failure to ductile tearing are presented in an accessible way. Video animation is used to portray the physical process that takes place at a crack tip. Structured tutorial sessions reinforce lectures by offering the opportunity for practice and discussion.

The principles learnt are applied in the use of case studies that demonstrate the application of design, failure analysis, damage tolerance and assessment techniques. Case studies are drawn from power, pipeline, processing and aerospace to provide valuable experience in the use of fracture mechanics.

Working in groups with representatives from different industries promotes lively discussion and useful insights.

International standards and codes of practice are used and critically reviewed.

Course Structure

The course is presented in two parts of three days each separated by a few weeks during which participants can consolidate their learning by completing the tutorial exercises and by further study of the Case Studies.

Guidance and advice are available from the course team by telephone, fax, email or letter.

Feedback is very positive about the two part structure of our course and the way in which the case studies allow consolidation of principles, practice and techniques.

Course Team

Adrian Demaid

Ian Howard

Martin Goldthorpe

John Yates

The course team has been active in high quality research, training and consultancy for more than 20 years.

Copyright and all other intellectual property rights deriving from our work remain with us unless otherwise agreed by us in writing.

The course notes are for the personal use of those attending the course. They should not be circulated, reproduced or published in whole or in part without the permission of Fracture Training Associates in writing.

We shall be entitled to suspend or cancel the course with only the obligation to return payments made.

VAT Registered No: GB 755 9153 03

Venue

The 2004 course will be held at the Old Hall Hotel, Buxton, a 3 star hotel in the centre of this attractive town. The hotel is reputed to be the oldest in England, and it housed Mary Queen of Scots for several summers. It combines an old world atmosphere with modern comfort and facilities.

The Old Hall Hotel, The Square,
Buxton, Derbyshire, SK17 6BD
www.oldhallhotelbuxton.co.uk

The course fee includes lunch, morning coffee and afternoon tea each day, and six nights bed and breakfast accommodation. Evening meals are not included, but the fee covers the course dinner in Part 2 on the evening of 21 April.

For delegates living locally, or who wish to arrange their own accommodation, FTA can invoice for the course fee alone of £1130 plus VAT. A list of alternative Buxton hotels and guest houses is also available from the FTA office and website.

Bookings

The course fee, including 6 nights hotel bed and breakfast accommodation is £1450 +VAT.

Payment may be made by BACS or cheques payable to 'Fracture Training Associates'. Bookings should be made using the attached form and sent to the address printed on the reverse side. Please supply invoicing details if appropriate.

This form is available for download or electronic return from www.fracturetraining.co.uk

Booking Form

Course fee £1450.00

plus VAT £253.75

Total: £1703.75

Name:

Address:

Post code:

Tel:

e-mail:

Invoice Name:

Invoice Address:

Postcode:

Tel:

Order No:

Sheffield Fracture Mechanics

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Course Administration

Adrian Demaid
FTA Office
42 Horsefair Green
Stoney Stratford
Milton Keynes MK11 1JP
contact: info@fracturereading.co.uk

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Timetable of the Course

	MORNING	AFTERNOON	
PART I	Tuesday 30 March	Why Fracture Mechanics? <i>(case-study Introduction)</i> Crack tip mechanics <i>(lecture & video)</i> Engineering with K <i>(lecture and tutorial)</i>	Fracture toughness testing <i>(lecture, video, validation exercise and specimen examination)</i> Why Fracture Mechanics? <i>(Group case-study)</i>
	Wednesday 31 March	Dinorwig Case Study (Part I) <i>(Group Work)</i> Plasticity <i>(lecture and tutorial)</i>	Failure assessment diagrams <i>(lecture and tutorial)</i> Dinorwig Case Study (Part II) <i>(Group Work)</i> Environmental Influences <i>(lecture and tutorial)</i>
	Thursday 1 April	Deaerator failures <i>(group case-study)</i> Fatigue <i>(lecture and tutorial)</i>	Dinorwig Case Study (Part III) <i>(Group Work)</i>
INTERMISSION: Consolidate Part 1 Material			
PART II	Tuesday 20 April	Project de-briefing Aircraft stabiliser failure <i>(group case-study)</i>	J & COD <i>(lecture and tutorial)</i> Resistance curves <i>(lecture and tutorial)</i>
	Wednesday 21 April*	Aircraft wing design <i>(group case-study)</i> R6 failure assessment <i>(lecture)</i>	R6 failure assessment <i>(tutorial)</i> Fracture mechanics testing <i>(lecture)</i> Numerical methods <i>(lecture)</i>
	Thursday 22 April	Design assessment codes; BS 7910 <i>(lecture)</i> Cement ball mill:- Structural integrity assessment <i>(group case-study)</i>	*Course dinner during the evening

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