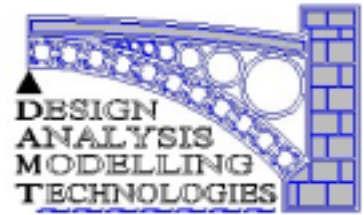


DAMT Ltd



ROSHAZ Training course: “Cost-Effective Finite Element Analysis”

Introduction:

DAMT Ltd currently present two NAFEMS courses entitled the “Basics of Stress Analysis” and the “Practical Introduction to FEA”. Both these courses are highly practical and examples-driven in order to provide guidance on reliable stressing methods. DAMT Ltd believes that a substantial amount of engineering can be completed with hand calculations and simple FE analyses that address the problem proper. In keeping with this philosophy, DAMT Limited is proud to announce their association with the “ROSHAZ” FEA program. The engineering bias



of this program is such that excellent linear elastic predictive engineering can be carried out in a very cost effective manner. The following one-day course provides an extensive introduction to ROSHAZ/Finite Element Analysis and includes a 2-month trial licence for an all-inclusive fee of £350 exclusive of VAT.

The ROSHAZ program:

DAMT Ltd has been following the progress of the ROSHAZ program for a number of years. Extensive verification and testing has shown the code to be of excellent quality and robustness. Importantly, ROSHAZ has been developed by practicing engineers to provide *Realistic Analysis* with *Natural Loading* methods. The program can run on any of the Windows-based workstations. The program is very well laid out with easy-to-use pull-down menus. Engineers and designers will find the program layout very intuitive and users can expect to make progress very quickly. In spite of being easy to use there is a host of advanced features and these are covered in the sections that follow.

ROSHAZ functionality:

The ROSHAZ program is a standalone Finite Element Analysis program that includes pre-processor (CAD-reception/cleaning and mesh generation from scratch using a sketcher), linear solution, and post-processing (results display and load factoring) functionality. The linear elastic solution phase includes plane stress, plane strain, axis-symmetric and solid solution sequences. The solver is designed to cater for the majority of “solid-looking” components such as forgings, castings, mouldings and the like. The program specialises in the application/verification of balanced loading so that minimum constraints can be applied in such a way that the structure works as hard as possible. This method is an excellent training method as constraints are minimised and the calculated stresses are therefore conservative. The pre-processor functionality is first-rate with advanced (and very robust) features for general TET-meshing of highly complex components and brick meshing by linear and rotational extrusion techniques. The post-processor includes all the usual contour plots along with contours and load/moment resultants on user-defined cross-sections. Interfaces to ABAQUS, LUSAS and NASTRAN are provided visit www.damt.co.uk for more information and links.

Who should attend:

The course and ROSHAZ software licence will be of direct interest to a host of small companies concerned with the stressing and life prediction of solid components such as castings, forgings, mouldings etc. The ROSHAZ program is flexible and very powerful and design engineers, test engineers and the like will soon be making reliable stress assessments in a very short time.

Cost:

Cost per attendee (one day course) will be £350 excl VAT per person. This will include ROSHAZ licence (3 months use) all printed notes, tea, coffee and buffet lunch. DAMT Limited will require full payment up front or an official purchase order in order to secure a place on the course. No refund will be given should the attendee fail to turn up or decide to cancel within 5 working days. The annual w/s licence of the ROSHAZ program (with support) is £1500

excl VAT, the perpetual w/s licence is £3000 excl VAT with £750 excl VAT pa for updates and support per w/s from year two onwards.

Venue:

The course will be held at the Johnson’s Coaches Limited training centre just outside Henley-in-Arden in rural Warwickshire. The training centre is in easy reach of the M40/M42/M6 motorways and a location map will be enclosed with the final course instructions.

Course Content:

Attendees should bring a laptop or desktop computer (laptop preferred) so that ROSHAZ can be installed and all the subsequent problems (as defined below) solved. A CD will be provided to all attendees with the required executables and any starting geometry (such as IGES) where appropriate.

Introductions (Registration from 9.00am – lectures start at 9.40am)

Introduction to the ROSHAZ program – installation and verification
Graphical User Interface – summary of all “button” type features
Introduction to plane stress 2D modelling – example problem: definition and verification with theory

Break (11.00am – 11.20am)

Mesh generation from scratch – using the sketcher to make 2D models and control mesh
Mesh generation from scratch – conversion/extension of 2D models into 3D models
Axi-symmetric modelling and 3D modelling – example problem: definition and comparison with theory

Lunch Break (12.40noon – 1.30pm)

Introduction to CAD data reception – example 2D CAD data with cleaning/preparation required
Use of 2D CAD data for FEA modelling – progress through to analysis and results post-processing
Use of 3D CAD data for FEA modelling – simple 3D CAD model cleaned ready for analysis

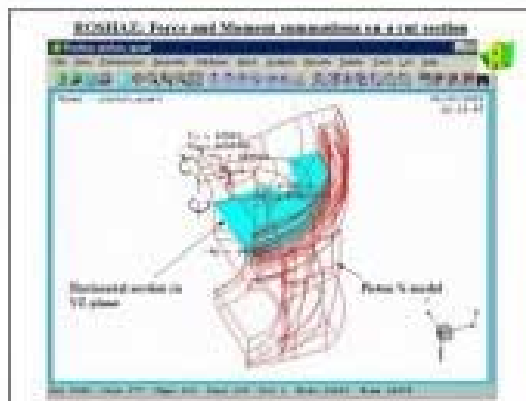
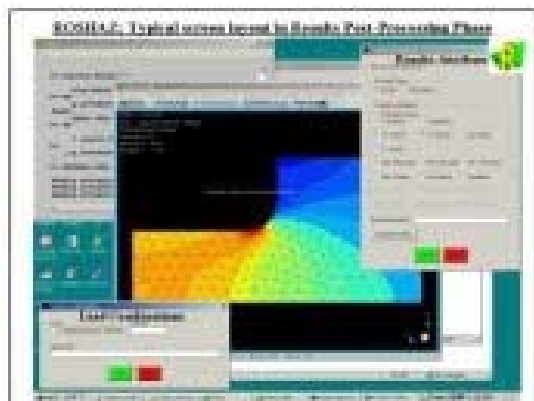
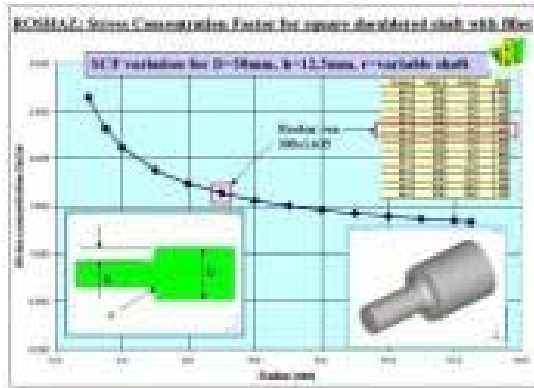
Break (2.50pm-3.10pm)

Use of 3D CAD data for FEA modelling – troublesome CAD data and advanced cleaning techniques
Use of 3D CAD data for FEA modelling – sample analysis from start to finish
Final lecture covering natural loading techniques, load summation on sections and so on

Close/Final Questions (4.30pm)

Typical Slides:

Formal notes will be made available to all attendees (also copied to CD). Typical slides are shown below:



Further Information and booking:

To reserve a place on the above training course, or receive information on the DAMT Limited training services, consultancy services, ROSHAZ sales/support services or testing services please:

visit: www.damt.co.uk

email: info@damt.co.uk

or contact directly:

Bob Johnson, tel: +44 (0) 1908 217 930, fax: +44 (0) 1908 217 930

Tony Ing, tel: +44 (0) 1954 789 885, fax: +44 (0) 1954 789 886