

CONTENTS

Preface to the Second Edition

How to Use This Handbook

Table I.	Element Types
Table II.	Material Properties
Table III.	Analysis Capabilities
Table IV.	Other Capabilities
Table V.	Operating Systems
Table VI.	Availability of the Programs

The Use of ADINA in Engineering Practice <i>K-J. Bathe, Massachusetts Institute of Technology & G. Larsson, ADINA Engineering AB</i>	3
ANSYS <i>P.C. Kohnke, Swanson Analysis Systems Inc.</i>	19
APPLE-SAP Structural Analysis System <i>M. Galluzzi, M. Giovagnoni & G.M. Manfredini, Italimpianti S.p.A. Italy</i>	27
ASAS - A Large-Scale, Sophisticated Finite Element Analysis System <i>J.B. Spooner, Atkins Research & Development</i>	47
The ASKA Finite Element System <i>R. Goos, Ikoss GMBH</i>	55
BEASY A Boundary Element Analysis System <i>D.J. Danson, C.A. Brebbia & R.A. Adey, CM Consultants, Southampton</i>	81
A Description of the BERSAFE System <i>T.K. Hellen, Central Electricity Generating Board</i>	99
The CASTEM Finite Element System <i>A. Combescure & A. Hoffmann, CEA-DEMT & P. Pasquet, CISI</i>	115
CA.ST.OR <i>A. Chaudouet & P. Devalan, CETIM, France</i>	127
COMET-PR: The First Computer Implementation of the P-Version of the Finite Element Method <i>B. Szabo, Washington University & A. Peano, ISMES, Italy</i>	147

DIAL Finite Element System <i>N.A. Cyr & G.H. Ferguson, Lockheed Missiles & Space Company</i>	159
FASOR - A Program for Stress, Buckling and Vibration of Shells of Revolution <i>G.A. Cohen, Structures Research Associates</i>	175
The FEGS Limited Pre- and Post-Processing Programs <i>G.A. Butlin, Fegs Limited, Cambridge</i>	199
The Finite Element Programs FLASH 2 and STATIK <i>U. Walder, Walder & Partners, Bern, & D. Green, Glasgow University, Scotland</i>	205
GIFTS-1100: Graphics Orientated Interactive Finite Element Time-Sharing System <i>C.V. Clarke, Sperry Univac, England & R. Muller, Sperry Univac, West Germany</i>	225
RAFTS and LAWPILE - The Development of a Foundation Analysis and Design Suite <i>L.A. Wood, Queen Mary College, London</i>	241
An Overview of the MARC General Purpose Finite Element Program <i>E. Hulst, MARC Analysis Research Corporation</i>	263
A Finite Element Elastic Buckling Analysis for Slender Frames <i>C. Tahiani & H. Hearty, Royal Military College of Canada</i>	273
MSC / NASTRAN <i>S. Horne, MacNeal-Schwendler GmbH</i>	287
PAFEC <i>A. Austin, PAFEC Ltd., Nottingham</i>	295
PDA / PATRAN-G: A System for the Creation and Display of General Three-Dimensional Models <i>H. Hamilton, L.M. Crain & E.L. Stanton, PDA Engineering, California</i>	307
A Three-Dimensional B.I.E.M. Program <i>M. Doblare & E. Alarcon, Polytechnic University, Madrid</i>	325
PREFEM and SERFEM - Special Purpose Programs for Elastic Plate Bending and In-Plane Analysis of Plates <i>L. Bolteus, Gothenburg Universities Computing Centre</i>	347

SAP7 - A Nonlinear Finite Element Program <i>M. Lashkari, V.I. Weingarten & F. Ghassemi, University of Southern California</i>	357
SCIA's Finite Element System on Desktop Computers <i>J.P. Rammant, SCIA S.V.</i>	373
Application of Finite Element Systems for Calculation of Fatigue Growth of Surface and Internal Cracks <i>I. Lotsberg, Det Norske Veritas</i>	393
The STAN Pre & Post Processor System <i>D.G. Vesey, Ove Arup Partnership</i>	413
The Place of a Special-Purpose Program System in a Multi-Purpose System World <i>V. Svalbonas, Koppers Company Inc.</i>	427
New Implementations in Structural Code STDYNL <i>B.A. Ovunc, University of Southwestern Louisiana</i>	443
The SUSAN Finite Element System <i>C.J. West, Genesys Limited</i>	451
TITUS: A General Finite Element System <i>P. Bougrelle, Framatome, Saint Marcel</i>	457
United Computing's Guide to the F.E. Jungle! <i>D. Churchill, United Computing Systems, Swindon</i>	475
The FEMALE Modelling Language <i>P.A. Newton, SIA Ltd.</i>	479