

PACKAGE ID - 000222MLTPL00 MAZE96*

KWIC TITLE - Generates 2D Input for DYNA NIKE & TOPAZ

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 05/01/1996 **PUBLICATION DATE** - 02/24/1992

DESCRIPTION - MAZE is an interactive program that serves as an input and two-dimensional mesh generator for DYNA2D, NIKE2D, TOPAZ2D, and CHEMICAL TOPAZ2D. MAZE also generates a basic template for ISLAND input. MAZE has been applied to the generation of input data to study the response of two-dimensional solids and structures undergoing finite deformations under a wide variety of large deformation transient dynamic and static problems and heat transfer analyses.

PACKAGE CONTENTS - Media Directory; Software Abstract; Installation Guides for SUN, IBM, and SGI; New Features in the MDG Codes; UCRL-MA-124377; Media Includes Source Code, Compilation Instructions, Linking instructions;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 CD Rom

METHOD OF SOLUTION - MAZE constructs the geometry of parts and define the characteristics of the overlaying mesh based upon user-specified geometry. MAZE also provides for the specification of boundary conditions, sideline definitions, merging of parts to eliminate nodes along common interfaces, moving of boundary nodes to permit graded zoning, mesh smoothing, the definition of load curves, and the establishment of material properties and equations of state. Although MAZE is comprehensive in its role as an engineering code input generator, it is incomplete. The LLNL engineering analysis codes are undergoing continual improvements and enhancements. As such, MAZE should be viewed as a firm foundation from which to begin preparation for subsequent analysis.

COMPUTER - MLT-PLTFM

OPERATING SYSTEMS - UNIX, VMS

PROGRAMMING LANGUAGES - FORTRAN

SOURCE CODE AVAILABLE (Y/N) - Y

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UNIQUE FEATURES - Two-dimensional mesh generation

RELATED SOFTWARE - DYNA2D, TOPAZ2D, NIKE2D, CHEMICAL TOPAZ2D, DIGLIB.

OTHER PROG/OPER SYS INFO - The DIGLIB code is included with this package

HARDWARE REQS - The source distribution requires approximately 3.5 MBytes, uncompressed for MAZE and the supporting graphics library DIGLIB (which is included in the package). The executable code (on a 32-bit platform) is approximately 7.5 MBytes. Additional memory requirements during execution are dependent upon the size of the finite element mesh being preprocessed.

TIME REQUIREMENTS - Mesh generation and analysis code input generation are highly dependent upon the size of the finite element mesh being prepared.

REFERENCES - John O. Hallquist, MAZE - An Input Generator for DYNA2D and NIKE2D, UCID-19029, Rev. 2, June 1983\ J.O. Hallquist, User's Manual for DYNA2D--An Explicit Two-Dimensional Hydrodynamic Finite Element Code with Interactive Rezoning and Graphical Display, UCID-18756 Rev. 3, March 1988; John O. Hallquist, NIKE2D--A Vectorized Implicit, Finite Deformation, Finite Element Code for Analyzing the Static and Dynamic Response of 2-D Solids with Interactive Rezoning and Graphics, UCID-19677, Rev. 1, December 1986.

ABSTRACT STATUS - Abstract first distributed October 1983. Submitted July 1996. Released screened 8/7/96.

SUBJECT CLASS CODE - LP

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
M CODES
TWO-DIMENSIONAL CALCULATIONS
INTERACTIVE DISPLAY DEVICES
COMPUTER GRAPHICS
MESH GENERATION
FINITE ELEMENT METHOD

EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE/DP

PACKAGE TYPE - SCREENED