



GALAXY ADVANCED ENGINEERING, INC.
P.O. BOX 614
BURLINGAME, CALIFORNIA 94011
Tel: (650) 740-3244
Fax: (650) 347-4234
E-mail: bahmanz@aol.com

TOPAZ3D/PC

A Three - Dimensional Finite Element Heat Transfer Code for PC

TOPAZ3D/PC is a three-dimensional implicit finite element computer code for heat transfer analysis. **TOPAZ3D/PC** can be used to solve for the steady state or transient temperature field on three-dimensional geometries. Material properties may be temperature dependent and either isotropic or orthotropic. A variety of time and temperature dependent boundary conditions can be specified including temperature, flux, convection and radiation. By implementing the user subroutine feature, users can model chemical reaction kinetics and allow for any type of functional representation of boundary conditions and internal heat generation.

TOPAZ3D/PC can solve problems of diffuse and specular band radiation in an enclosure coupled with conduction in the material surrounding the enclosure. Additional features include thermal contact resistance across an interface, bulk fluids, phase change and energy balances. Thermal stresses can be calculated using the solid mechanics code **NIKE3D** (available on PC from GAE also), which reads the temperature state data calculated by **TOPAZ3D**.

TOPAZ3D/PC has general mesh generation capability. Rows of evenly spaced nodes and rows of sequential elements may be generated. For complex zoning, the mesh generation code and preprocessor **INGRID/PC** (available on PC from GAE) should be used. The **TAURUS/PC** from **GAE** interactive post-processor can be used to provide temperature contour, temperature-time history and various geometry plots. **TOPAZ3D/PC** is an extension of two dimensional heat transfer code of **TOPAZ2D** to three dimensions.

The **TOPAZ3D/PC** is available from our company. To order this product for your PC/Windows95/98 or NT as well DOS, please, contact our company at (650) 740-3244