Thermal Desktop® enables concurrent engineering for thermal analysts by providing full access to CAD-based geometry as well as data exchange to and from structural codes without compromising traditional thermal modeling practices.

**FEATURES**

- Accurate conduction/capacitance generation, surface insulation, and contact conductance calculations.
- Fast thermal surface-to-surface and environmental thermal radiation analysis using the optional RadCAD® module.
- Fluid flow and convection analysis using the optional FloCAD® module.
- Integrates CAD, FEM, FD, thermal radiation and flow into a single environment.
- Imports many file formats including TRASYS, Nevada™, TSS, STEP-TAS, IDEAS/FEA™, IDEAS/TMG™, NASTRAN™, FEMAP™, IGES, STEP, ANSYS™.
- External Interfaces: temperature mapping to structural FEM models • Excel-Based launcher • Advanced Programmer’s Interface (API) for custom interface to any COM based application.
- Fast and easy "snap-on" methods simplify thermal model building using imported CAD or FEM models as scaffolding as an alternative to using the imported models directly.
- Stretch and reshape surfaces directly on the screen in addition to traditional form-based inputs.
- Model checking tools facilitate model verification.
- Enables impressive presentations using animation, X-Y plotting and extensive pre- and post-processing tools.
- Automated application of user defined interface conductances along surface edges and/or faces.
- Automatic and easy to use insulation features
- Ability to create stacks of differing materials
• Manipulate models easily with the extensive model browser feature.
• Handles temperature and pressure-dependent material properties.
• Supports anisotropic material properties.
• Powerful incorporation of variable model geometry and rotating parts.
• Easy-to-use tool bars for quick access.
• Provides arbitrary nodes and conductors for abstract networks.
• Performs rapid model changes and what-if scenarios using material property aliases.
• Apply heaters, loads, or fluxes to nodes, elements, and conic surfaces.
• Supports advection on FD solids and pipes.
• Automatic through-thickness conduction extends the usefulness of simple surfaces.
• Provides graphical construction of procedural thermal entities such as thermoelectric coolers, Peltier devices, heaters, and thermostats.
• Extensive CAD functions make model building fast and effective: • Boolean, revolved, extruded surfaces • superimposable drawing layers • multiple port views with store/recall • snap-on model building • drag and drop model editing • user-defined light sources • wireframe, hidden, rendered views.
• Built-in FE mesher allows meshing of CAD geometry.
• Import of heat fluxes from CFD mesh.
• Convenient user comment fields provide model documentation.
• User-defined symbols and expressions add spreadsheet-like parametric modeling.
• Case Set Manager: provides multi-case data management • directly launches SINDA/FLUINT • post-processing • provides access to SINDA/FLUINT logic blocks.
• Dynamic SINDA/FLUINT link for parametrics, optimization, and statistical design.