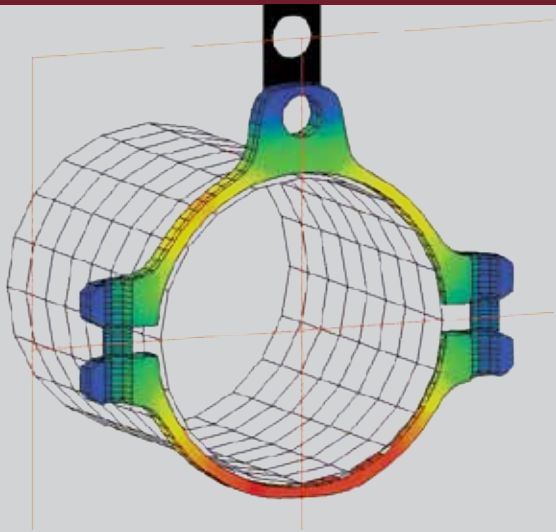


WinTherm[®] 10.0

Thermal Analysis Software



Principal Features

Complete Thermal Analysis

Multi-mode Heat Transfer: Radiation,
Conduction, Convection
Volume & Shell Mesh Solid Parts
Planar, Cylindrical and Spherical Multi-layer
Parts
Integrated 1D Fluid Networks
Co-simulation with 1D Tools
Export to FEA for Stress Analysis
CFD Data Exchange
Natural Environments with Solar & Sky
Rapid Analysis, Unlimited Model Resolution
Engineer-designed graphical user interface

Benefits

Faster Product Development
Reduced Reliance on Testing
Improved Product Quality
Advanced Energy Management

Common Applications

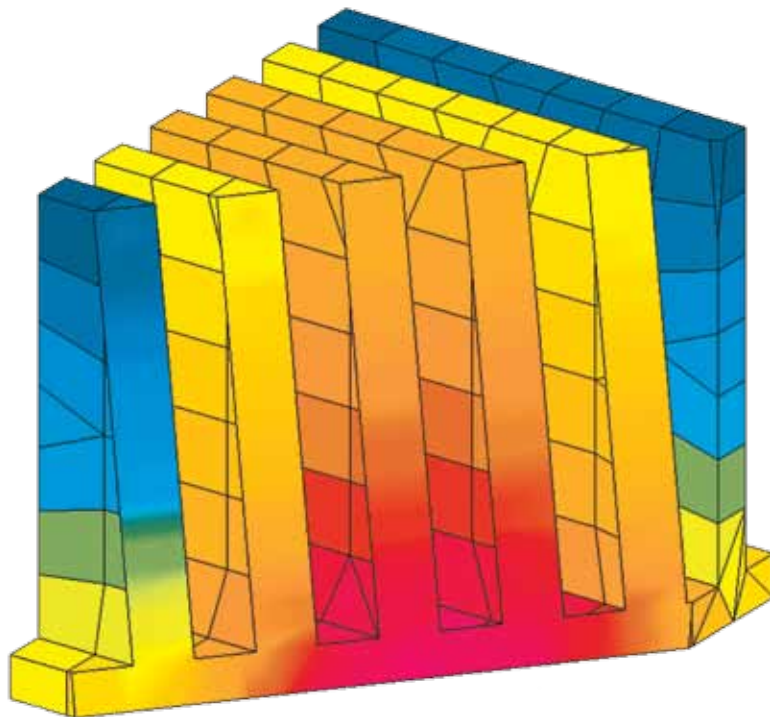
Architecture
Electronics & enclosures
HVAC design
Passive cooling/heating
Lighting

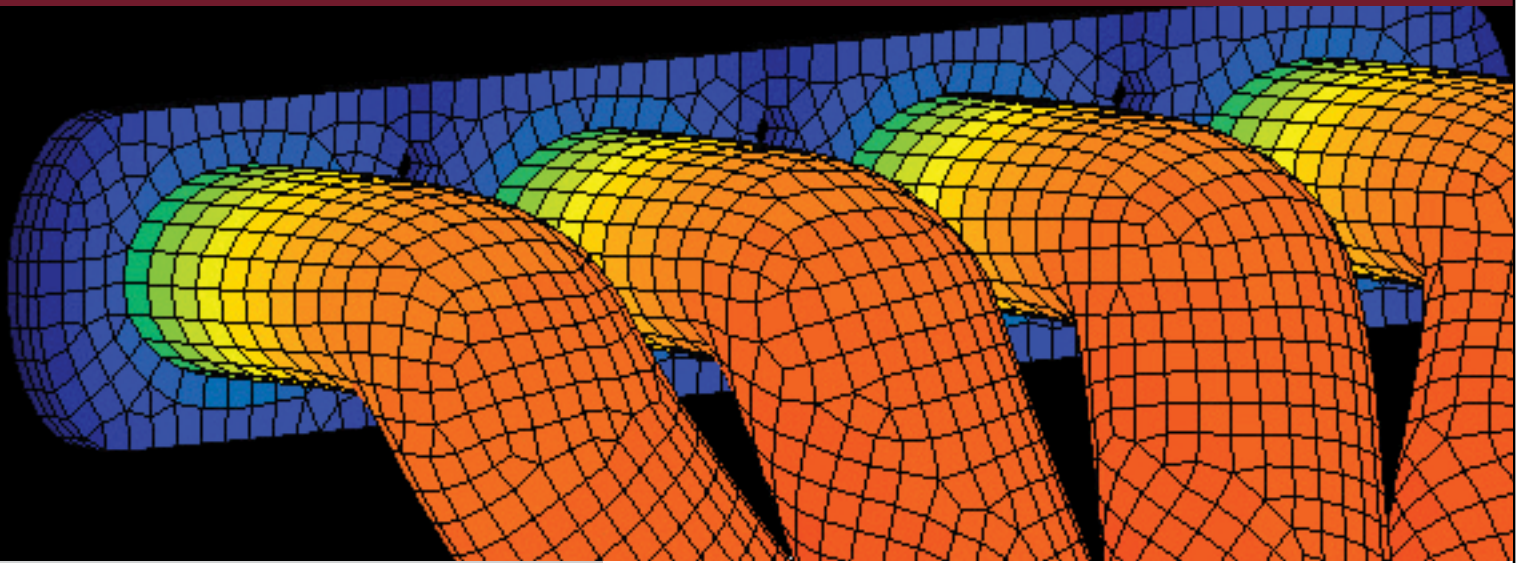
Component-Level Analysis

WinTherm is a component-level thermal modeling tool for Windows-based heat transfer analysis. WinTherm allows users from any engineering background (thermal or other) to simulate heat transfer quickly and accurately through the user interface. The intuitive arrangement of the user interface permits both novice and expert users to set up and analyze thermal systems with minimum user input and no programming.

Highly Intuitive Workflow

WinTherm is divided into four distinct segments to guide the user through the solution procedure: Geometry, Editor, Analysis, and Post Processor. Several tutorials included with the software will familiarize users with the simple but elegant modeling procedure. WinTherm begins by importing a surface mesh of the components, editing their dimensions, and defining materials and surface conditions. Appropriate boundary conditions are chosen, and the modeling procedure is complete and ready to run. Users can perform full sweeps of their component level design much faster than with any other software. Improve your bottom line and your product's thermal performance with WinTherm.





Version 10.0 Features

Transient Solid Conduction

Support for solid and shell 3D conduction
Solid solution coupled with full conjugate heat transfer analysis
Internal Imposed Heat Rates
Clipping plane display of internal temperatures

Face to Face Conduction

Simulates part to part contact
Reduces meshing time
Support for contact resistance

Complex Multi-layer Parts

Planar, cylindrical and spherical with up to 25 layers
Mixed solid, air, transparent, or vacuum layers
Multi-layer conduction rules and thermal links

Fluid Stream

1D advective fluid flow in ducts automated setup
Multiple fluid nodes in a single part
Automated connection to geometry
Node placement can be visualized

Boundary Condition Mapping

Thermographic boundary condition
Automatic text file BC mapping to elements

Transient Time Step Control

Variable time steps
Variable write frequency for results

Total Thermal Solutions

Deliver Solutions – to component-level heat management problems. WinTherm predicts the full temperature distribution of your product. From these results, you can modify your design and test the thermal response to the change. For example, a heat shield design can be optimized by varying material, thickness, and proximity to the heat source.

Deliver Speed – WinTherm's state-of-the-art algorithms yield more results in less time. Streamlined model setup gives you more time to focus on optimization, customer needs, and reducing time-to-market.

Deliver Flexibility – Import your surface geometry and change designs with ease; manipulate the geometry within WinTherm to improve your heat management. WinTherm typically has a full return on investment after only one or two projects—based on product improvement, reduced testing, and shorter product development cycle.

