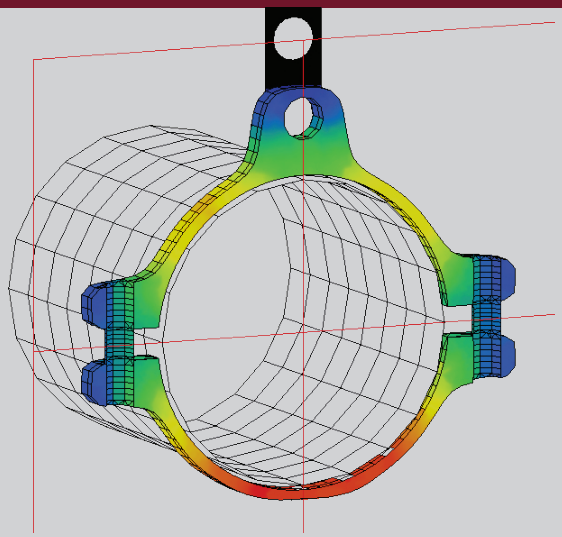
WinTherm®
Thermal Analysis Software



Principal Features

Complete Thermal Analysis

Multi-mode Heat Transfer:
Radiation, Conduction, Convection
Volume & Shell Mesh Solid Parts
Planar, Cylindrical & Spherical Multi-layer Parts
Import CFD Results or Coupled Simulation
Integrated 1D Fluid Streams & Networks
Co-simulation with 1D Tools
Export to FEA for Stress Analysis
Natural Environments with Solar & Sky Models
Engineer-designed Graphical User Interface

Benefits

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

Common Applications

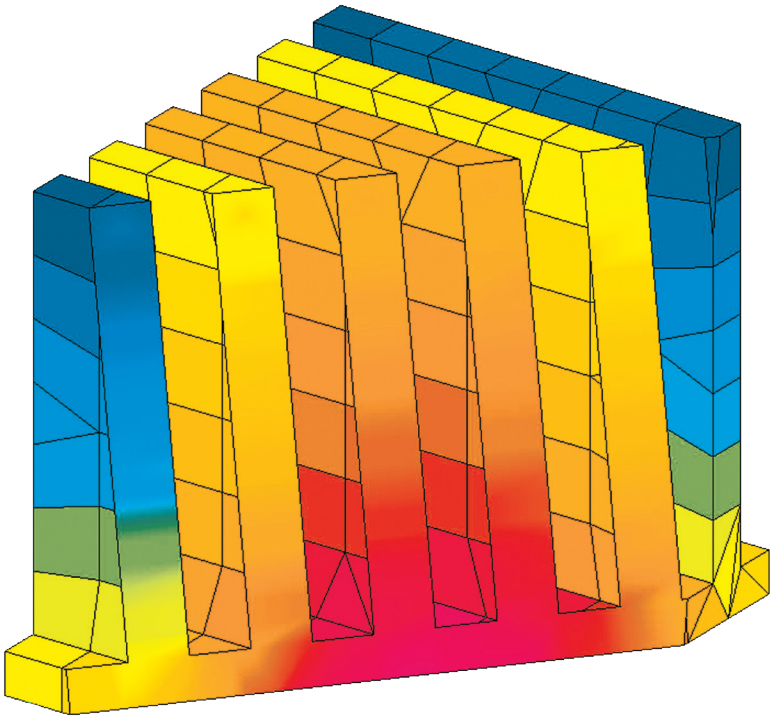
Architecture
Electronics & enclosures
HVAC design
Passive cooling/heating
Lighting

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.



ThermoAnalytics®

v10.1

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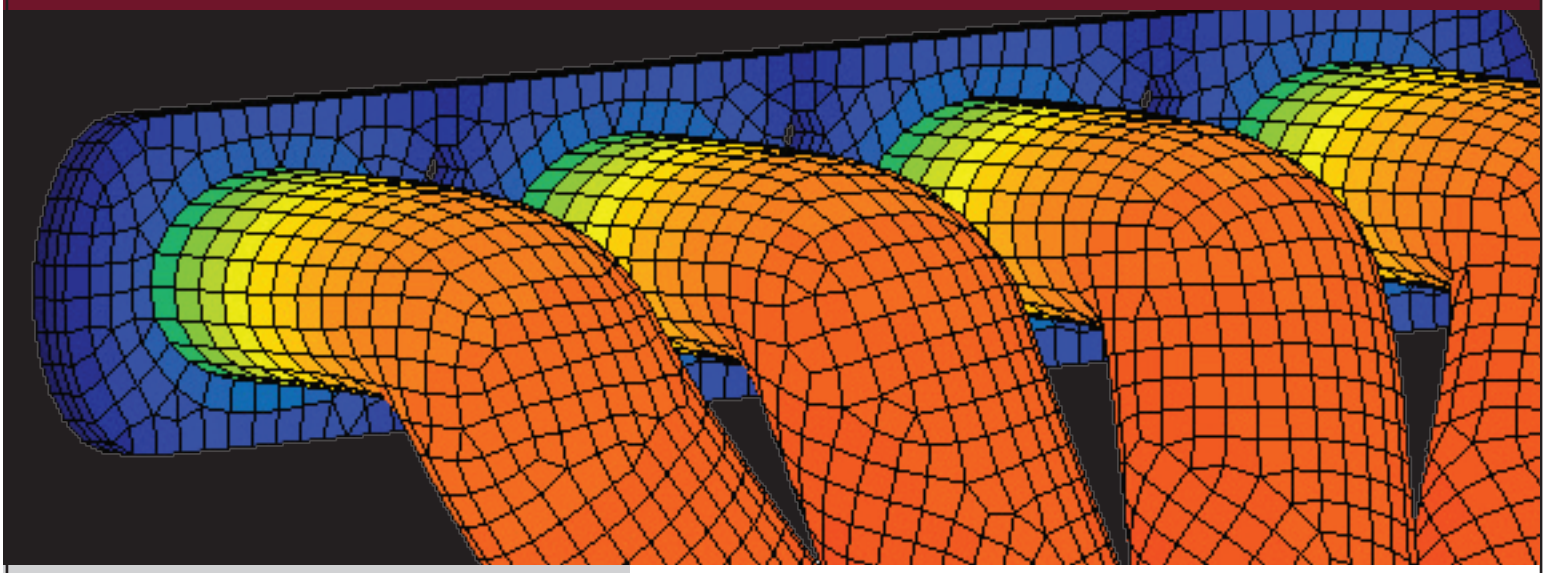


New WinTherm Features

Transient Solid Conduction
Support for 3D solid and shell conduction
Temperature dependent properties
Internal imposed heat rates
Clipping plane display of internal temperatures

Summary Table
Edit boundary conditions and properties directly in spreadsheet like Summary Table
Interactive with main graphics window
Quick filter to search through rows and columns
Import and export boundary conditions

Thermal Link Wizard
Determine candidate thermal links instantly
Graphically visualize and isolate thermal links

Human Thermal Simulation
Accurate human physiological models
Supports complete range of body types
Steady state and transient thermal response
Multi-nodal clothing layers
Berkeley sensation and comfort output

Battery Thermal Module
Perform coupled thermal-electrical analysis
Transient charging and discharging cycles
Analysis of individual cells, battery packs, and vehicle systems

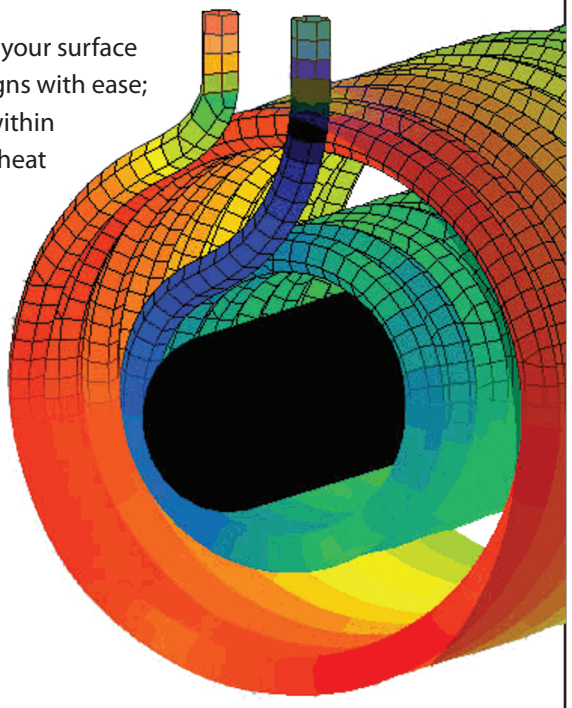
Abaqus Export
Export thermal results and geometry for FEA
Support for shell and volume elements

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. WinThem typically has a full return on investment after only one or two projects— based on product improvement, reduced testing, and shorter product development cycle.



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