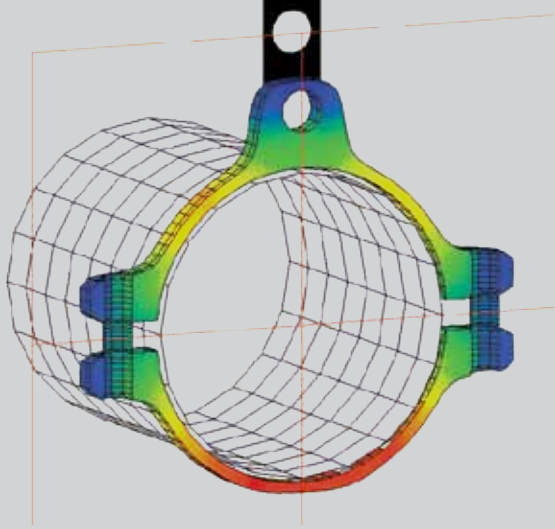




# WinTherm<sup>®</sup> 9.3

## Thermal Analysis Software



### Key Features

#### Complete Thermal Analysis

- Multi-bounce radiation
- Solid conduction (steady state)
- Planar conduction/convection
- 1D advection
- Natural environments
- High speed/high accuracy/fast model setup
- Easy editing of parameters
- Engineer-designed graphical user interface

#### Benefits

- Faster product development
- Reduced reliance on testing
- Increased productivity

#### Radiation

#### Conduction

#### Convection

#### Common Applications

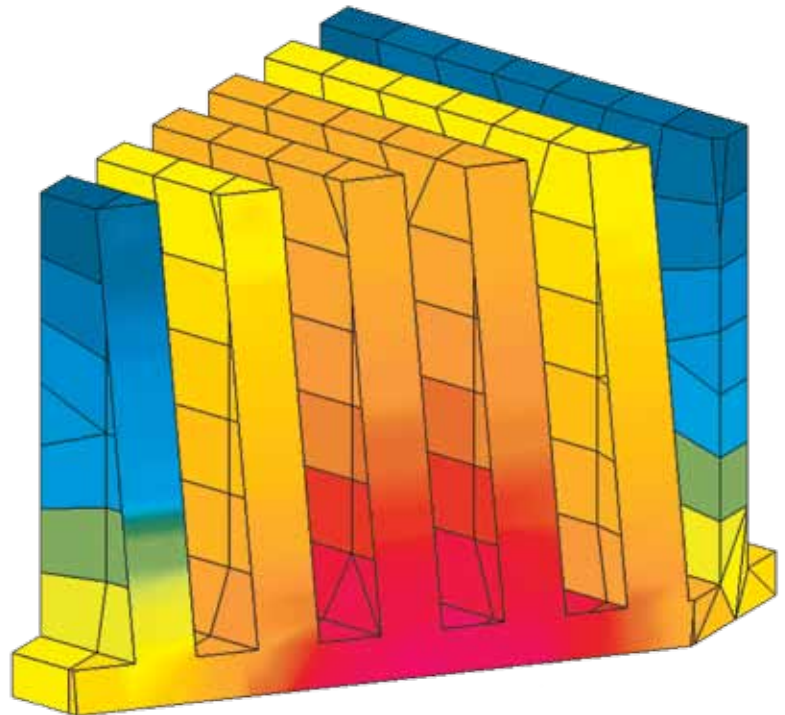
- Electronics & enclosures
- Heat shield analysis
- HVAC design
- Passive cooling/heating
- Brakes & clutches
- Lighting

### Component-Level Analysis

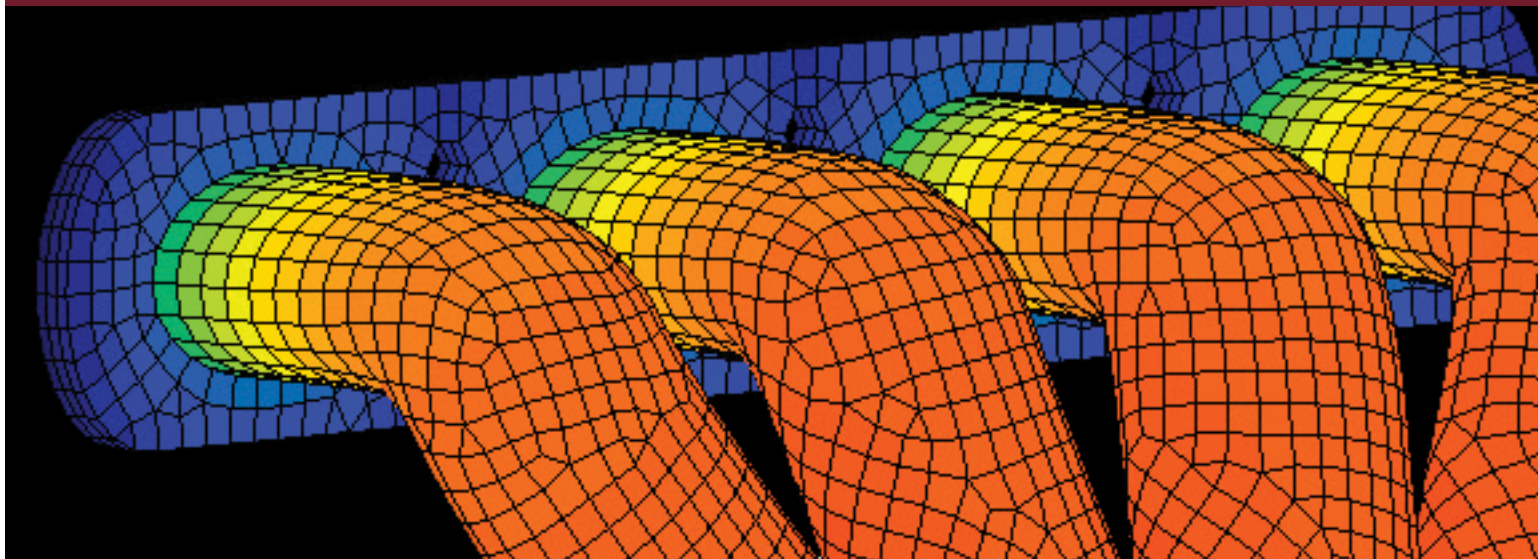
WinTherm is a component-level thermal modeling tool for Windows-based heat transfer analysis. WinTherm allows users from any engineering background (thermal or other) to simulate heat transfer quickly and accurately through the user interface. The intuitive arrangement of the user interface permits both 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<sup>®</sup>



## Version 9.3 Features

### Face to Face Conduction

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

### Solid Conduction (steady state)

Support for solid 3D conduction  
Solid solution coupled with full conjugate heat transfer analysis  
Clipping plane display of internal temp.

### Complex Multi-layer Parts

Multi-layer/multi-pane glass  
Planar mesh objects with up to 20 layers  
Solid, air, or vacuum layers  
Mixed solid/air layers

### 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

### Transient Time Step Control

Variable time steps  
Variable results write frequency

### Boundary Condition Mapping

Thermographic boundary condition  
Automatic text file BC mapping to 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. 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.

