

## Technical Services

**Experience. Thermal. Experts.** Advanced Cooling Technologies, Inc. (ACT) has the personnel, equipment and flexible offerings that enable us to provide quality, cost effective thermal technical services. We are acknowledged experts in heat pipes, loop heat pipes, heat sinks and other thermal technologies. We have developed advanced heat transfer technologies and custom thermal management solutions for a variety of applications in both private and government markets. Solutions including pumped two phase cooling systems, advanced thermal storage using phase change materials and nanotechnology.

ACT has experienced thermal engineers ready to help you solve your thermal challenges. Our industry recognized technical team are authors on more than 350 publications and inventors on 65 patents. Our engineers have degrees in: Mechanical, Electrical, Chemical, Manufacturing, Aerospace, Physics, and Nuclear engineering. Many are advanced degrees. Our leading edge technology development initiatives are at the forefront of emerging thermal trends.

*"This project represented a very non-traditional application of ACT's area of technical expertise. ACT demonstrated interest in fully understanding the client's industry and product objectives resulting in the synergies required for a successful outcome."*

Sr. Group Manager, Innovations

*This unique combination of extensive practical heat transfer experience with advanced thermal technology development assures our customers are getting the very best thermal solutions.*

### Service Offerings:

ACT offers the following thermal Technical Services:

**Feasibility Studies** — Early stage Exploration of proposed thermal technology's capability to meet a project's thermal requirements. Performance, cost, manufacturability and reliability are considered.

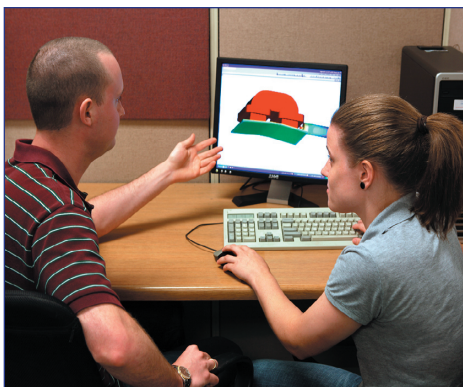
**Trade Studies** — Early stage Assessment of the best thermal technology for a project.

**Design and Analysis** — Practical, cost-effective thermal Designs are generated and thoroughly Analyzed to ensure top performance. Industry standard modeling software is used for easy file transfer.

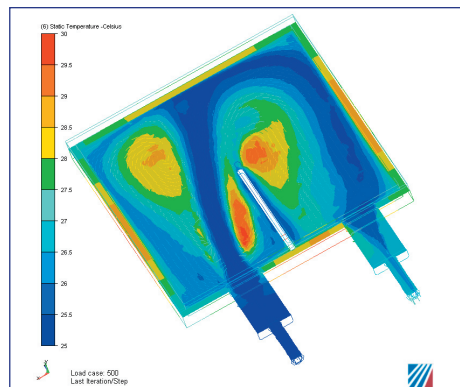
**Product Testing** — Test and benchmark thermal products vs. performance targets applicable standards or competitor products. Be confident your product will function in the field as planned.

**Advanced Thermal Simulations** — Ab initio, Molecular Dynamics and Boltzmann Transport Equation simulations are available to provide fundamental understanding of material interactions from molecular to macro levels.

**New: Fixed Price Assessments** — For projects on limited budget/tight time line, these fixed price options provide the critical information necessary to address thermal issues in your product development plan.



Engineers reviewing thermal design



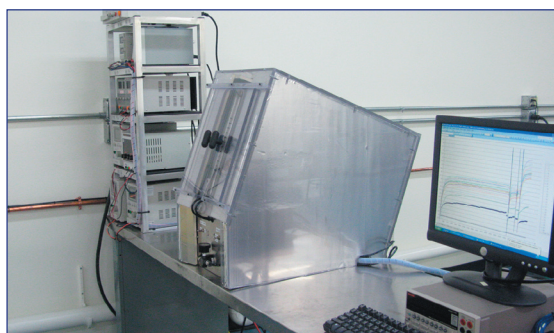
Computational Fluid Design analysis for flow through a manifold

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**1046 New Holland Avenue, Lancaster, PA 17601, USA**  
**717-295-6061 (Phone), 717-295-6064 (Fax)**  
**www.1-ACT.com**

### Modeling Software:

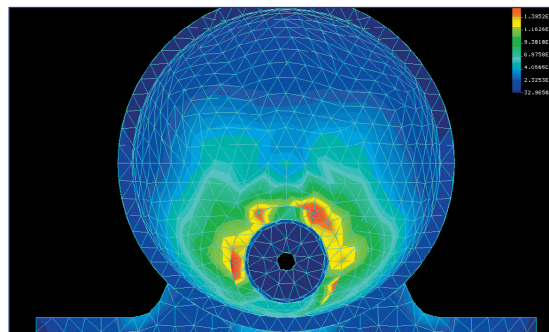
- 3-D solid modeling/design (SolidWorks, Pro-E)
- Finite element analysis (CosmosWorks)
- Computational fluid dynamics (CFDesign)
- In house CFD codes for single and two-phase flow analysis
- Proprietary heat pipe and loop heat pipe design codes



Automated programmable thermal cycling test system



Spray Impingement cooling test for prototype high volume optical device development



Stress Analysis of cantilevered flow balance for dual condenser Loop Heat Pipe for space application

### Multifunctional Test Equipment:

- Thermal Test Lab
- Environmental Test Chambers
- Thermal-Vacuum Chambers
- Bench Top Wind Tunnel
- Helium mass spectrometer leak checker ( $10^{-10}$  torr)

*"Response has been excellent to our requests for information on heat pipes and loop heat pipes. Personnel are easy to access and have shown great interest in our business."*  
Thermal Engineer

### Facilities:

Within our 30,000 ft<sup>2</sup> facility, we have multiple workstations and a dedicated test laboratory all under one roof to efficiently and effectively serve your thermal needs.

Don't see what you're looking for? Contact us today, we're flexible and totally committed to meeting your needs. Customer satisfaction is our top priority!

<http://www.1-ACT.com/technical-services/index.php>

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