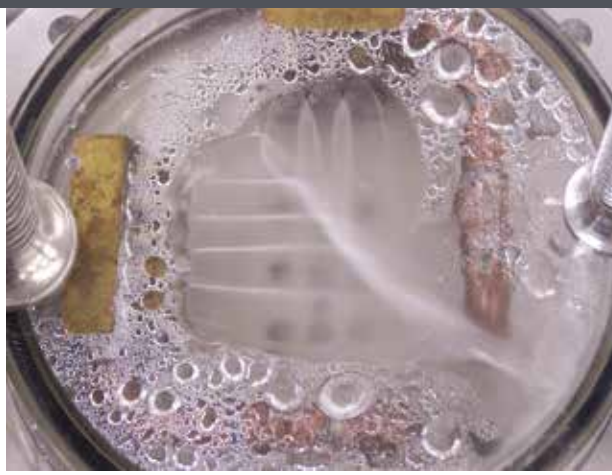
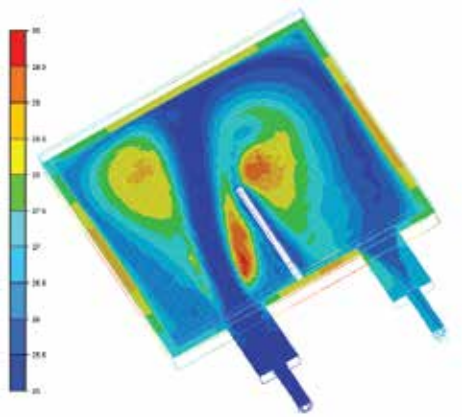
CAPABILITIES: TECHNICAL AND MANUFACTURING SERVICES

Overview

ACT offers a complete range of thermal engineering services – everything from initial concept generation to product design to high volume production of a fully integrated thermal management solution – and everything in-between. Our experienced engineering team and leading edge technology developers enable us to offer a broad range of services at a consistently high quality level. Further, because we operate under an efficient, disciplined program management structure, we can offer these services at very competitive prices. In all cases, we maintain strict confidentiality to protect our customer's valuable information.



Spray impingement cooling test for prototype high volume optical device development



Computational fluid design analysis for flow through a manifold

MODELING SOFTWARE

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

Technical Services Include:

- **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 when multiple options exist.
- **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 project 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.
- **Fixed Price Assessments**. For projects on limited budget or a tight time line, these fixed price options provide the critical information necessary to address thermal issues in your project development plan.

ACT's facility in Lancaster, Pennsylvania has been growing in size and capability ever since the company's inception in 2003. It currently measures more than 50,000 square feet, consisting of manufacturing, laboratory and office spaces.

ACT's manufacturing operation is configured for quick prototyping and production of diverse and custom designed thermal products including heat pipes, heat exchangers and cold plates. ACT's heat pipe products have been designed and manufactured to demanding quality requirements for Aerospace, Military, Medical, and High Power Electronics applications. Custom procedures and workmanship standards can be produced if required.

The production and engineering personnel in our manufacturing operation are highly skilled and quality focused, capable of quickly building one-of-a-kind prototype hardware, seamlessly transitioning to production, and efficiently executing the production. State of the art quality assurance and testing facilities are in place to support the manufacturing operation.

PRODUCT TESTING FACILITIES

- Steady State and Transient Performance
- Thermal Cycling
- Conductance
- Freeze-Thaw
- Proof & Bust Pressure
- Environmental/Mechanical

Manufacturing Highlights Include:

- ISO9001:2008 and AS 9100 C certified
- ITAR registered
- U.S. DOT/FAA certified personnel and procedures for shipping products containing special materials
- U.S. DOS registered procedures for controlling ITAR related manufacturing articles
- U.S. DCAA audited accounting system for recording and controlling manufacturing costs
- ACT Welders are qualified in accordance with AWS D17.1 standards, and have also been certified to perform visual examinations of welds according to MIL-STD-2219A, AWS D17.1 and AWS B2.1 standards
- ACT can perform in-house Dye Penetrant Inspection per NAS 410, Level II, as well as radiography per NAS410 Level II
- Proven quality procedures for soldered and epoxied assemblies that routinely pass Mil-Std-810g mechanical requirements

Our manufacturing facility has successfully passed numerous quality and safety surveys and audits by commercial and government customers and independent agencies including Lockheed Martin, ITT, Orbital, Northrop Grumman, L-3, and NASA.

Advanced Cooling Technologies, Inc. | 1046 New Holland Avenue, Lancaster, PA 17601, USA
Phone: 717.295.6061 | Fax: 717.295.6064 | ISO 9001 & AS9100 Certified | ITAR Registered