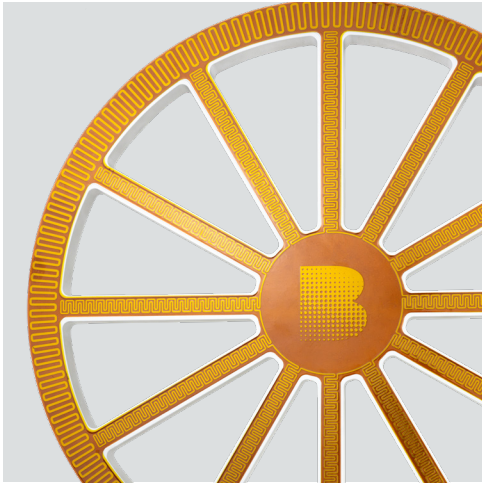
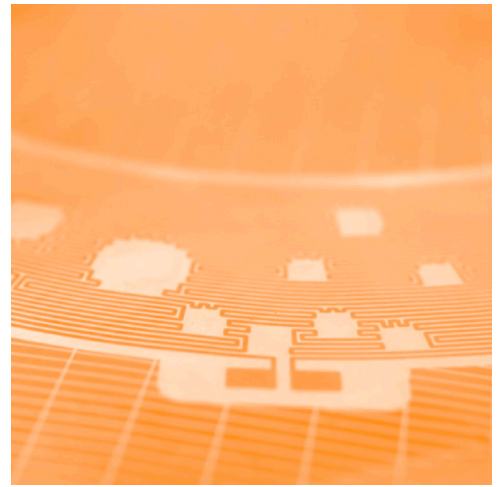


Birk Manufacturing, Inc.

Semiconductor Applications Guide

Thermal Solutions for Wafer Fabrication, Burn-In Testing and Packaging Applications



AS9100 | ISO 9001 | ISO 13485 | ITAR, UL and CSA Certified



BIRK

Engineering Thermal Solutions

Engineered for Optimal Performance

Whether you are increasing production capacity, aiming for precise thermal control, or seeking rapid prototyping for innovative designs, Birk Manufacturing is the preferred choice for industry-leading semiconductor companies.

Key Features & Benefits

Uniform Heat Distribution

Achieve consistent heating across surfaces with our advanced flexible heaters, designed to eliminate hot-spots and enhance process reliability.

High Watt Density for Rapid Heat-Up

Our heaters are designed to operate at higher power levels within a compact design, making them ideal for applications where space and efficiency are critical. This capability enables quick temperature ramp-up, facilitating faster processing and throughput in manufacturing operations.

Vulcanizing and Lamination

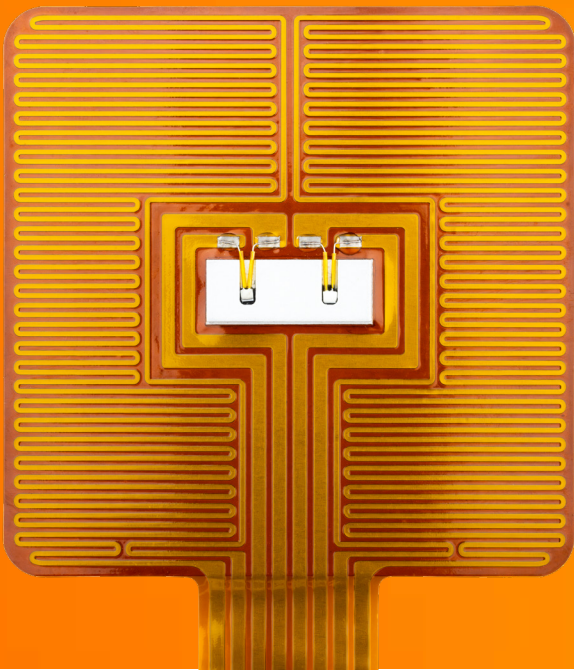
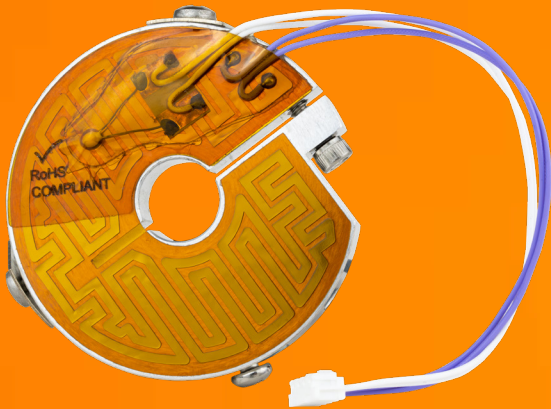
Our heaters can be seamlessly integrated into machined and cast parts, ensuring fast thermal response and optimal heat transfer.

Turn-Key Solutions

Benefit from our deep industry knowledge and responsive service to swiftly get your projects up and running. We understands the unique needs of the semiconductor industry, ensuring minimal project lead times. Our offerings include turnkey solutions such as multi-layer heaters that incorporate sensors, providing enhanced functionality and performance.

Flexible Formability

Our heaters can be formed to any shape ensuring full coverage and precise thermal management. Our heaters can be formed into a curve down to ¼ inch diameter and are available in lengths up to 10 feet, making them perfect for applications such as gas line heaters.



Key Applications

Precious Gas Delivery

Uniform heating of gas lines prevents condensation and reduces contamination, ensuring the delivery of ultra-high purity gases essential for semiconductor processes.

Chemical Etching

Consistent temperature control during critical processes like acid showers enhances the accuracy and efficiency of etching operations.

Heated Paddles

Uniform heat distribution ensures constant dimension stability and controlled heat transfer to wafers, crucial for lithography processes and maintaining quality and reliability.

Burn-In Testing

Rapid heat-up times and uniform heating across the chip surface provide precise temperature control, helping identify defects early and improve the durability and performance of microchips.

Packaging

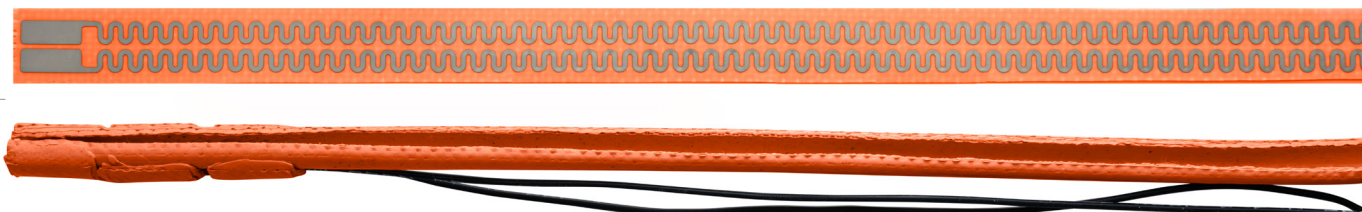
Precise thermal management aids in wire bonding, flip chip bonding, and die attachment, ensuring the integrity and performance of the final product for high-quality packaging.

Equipment Integration

- Microchip, wafer burn-in testing
- Wafer layer inspection systems
- Wafer-level packaging
- Test sockets
- Heated paddles
- Electrostatic chucks
- Electrodes
- Precision fluid control
- Dispensing
- Process instrumentation
- Temperature control
- Lithography
- Volume, Flow, Metering
- Metrology

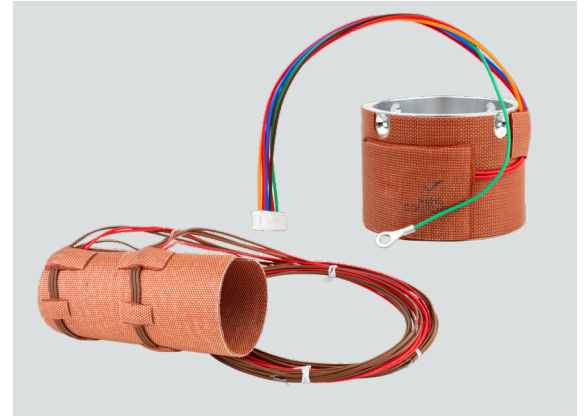
FORMED ETCHED CIRCUIT
GAS LINE HEATERS

10ft. length max.
¼ in. diameter min.



Fast-Track Solutions

Birk Manufacturing's engineering team consists of dedicated professionals with a deep understanding of the semiconductor market, enabling us to address your specific application needs with precision and speed. Our rapid prototyping capabilities ensure a quick time-to-market, allowing you to stay ahead in the competitive semiconductor landscape. Direct collaboration with our engineers ensures that each solution is crafted to optimize performance in your unique applications, providing you with the highest level of efficiency and reliability.



Assured Quality

At Birk Manufacturing, quality is our top priority. We proudly hold **AS9100, ISO 9001, ISO 13485, ITAR, UL, and CSA** certifications, demonstrating our commitment to the highest industry standards. Our employees undergo rigorous training to adhere to **Copy Exact** quality standards, ensuring consistency and precision in semiconductor manufacturing. Continuous yearly training keeps our team current with industry requirements and best practices, allowing us to deliver reliable, high-performance flexible heaters tailored to semiconductor needs, ensuring optimal efficiency in every application.



For more information visit www.birkmfg.com
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