



Pioneering Nanotube
Interfaces Together

Carbice[®] SW-90 and Carbice[®] SA-90

In the world of electronics and high-performance computing, managing heat efficiently is crucial. The thermal interface material (TIM) plays a pivotal role in ensuring that heat generated by components is effectively transferred to heat sinks or other cooling solutions.

Thermal Applications

- Power electronics
- Advanced Driver Assistance Systems
- Lighting
- Data Center and Compute Devices

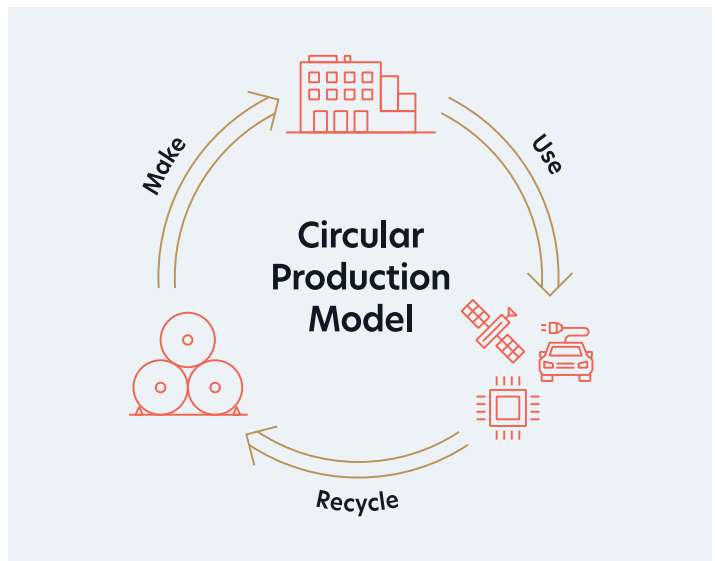
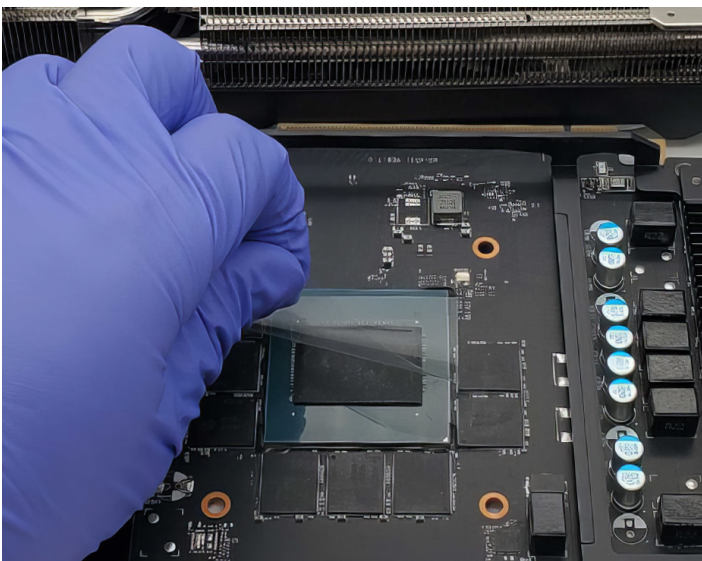
Reliability

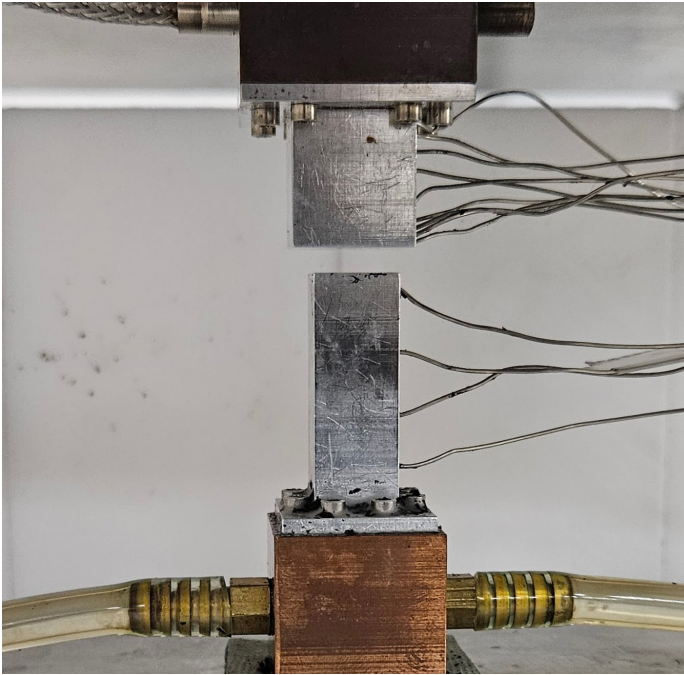
- Prefabricated pad is not subject to pump-out like traditional greases or phase change materials
- The combined solution allows for stable performance under temperature extremes
- Aluminum core alleviates concerns in mechanical robustness

Part Size	Cut to customer drawing
SW Activation Temperature	45°C
Density	2135 kg/m ³
Lead/Halogen Free	Yes
RoHS Compliant	Yes

Sustainability

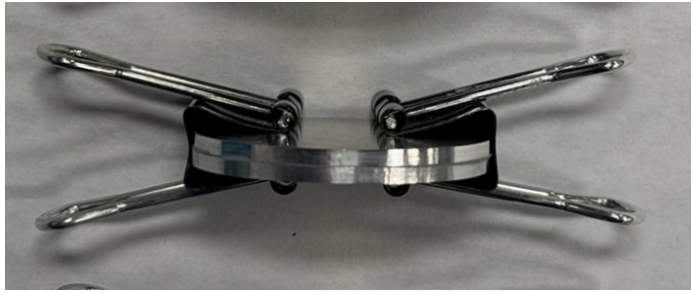
- Carbice Pads are manufactured using recycled aluminum and waste carbon gas in a low temperature circular production model
- The carbon and aluminum provide a stable chemistry that enhances shelf life and enables flexibility with inventory and efficient supply utilization. At end of life Carbice can be recycled in a standard aluminum recycling facility to return it back to raw input material.



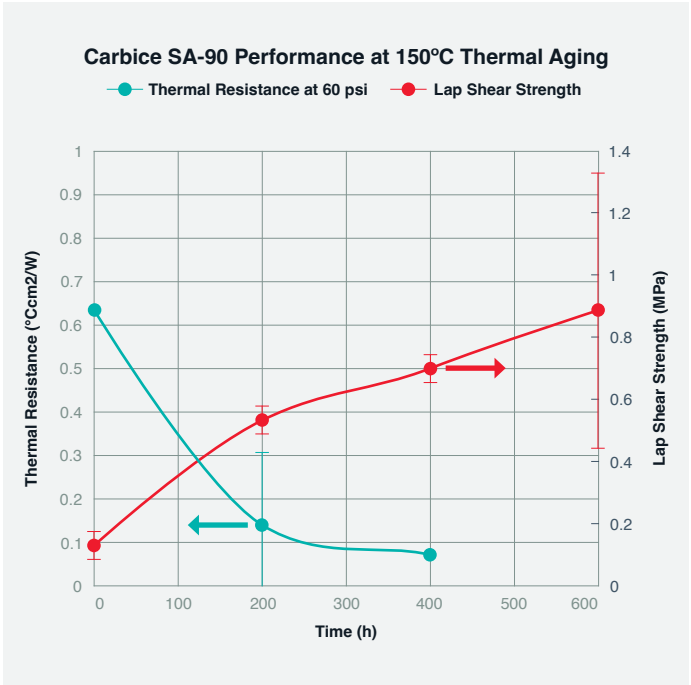


ASTM D5470 apparatus used for thermal resistance measurement

	Carbice® SW-90	Carbice® SA-90
Thermal Resistance @ 30 psi [cm²-K/W]	0.13	0.5
Initial Thickness [μm]	90	90
Lap Shear Adhesion (MPa)	0.02	0.1
Operating Temperature [°C]	-55 to +150	-55 to +200



Lap shear and 150°C aging conducted between two aluminum coins



About Dow

Dow (NYSE: DOW) is one of the world’s leading materials science companies, serving customers in high-growth markets such as packaging, infrastructure, mobility and consumer applications. Our global breadth, asset integration and scale, focused innovation, leading business positions and commitment to sustainability enable us to achieve profitable growth and help deliver a sustainable future. We operate manufacturing sites in 31 countries and employ approximately 35,900 people. Dow delivered sales of approximately \$45 billion in 2023. References to Dow or the Company mean Dow Inc. and its subsidiaries. Learn more about us and our ambition to be the most innovative, customer-centric, inclusive and sustainable materials science company in the world by visiting www.dow.com.

About Carbice

Founded in 2011, Carbice is an Atlanta, Georgia-based company that develops scalable interface solutions to protect the performance of semiconductors and electrical components from heat and stress in any physical environment. From simulation to manufacturing to implementation, Carbice partners with companies in the automotive, consumer electronics, aerospace and defense, data center, networking, and energy systems sectors to enable innovation, drive system cost reduction, and lengthen electronic lifespan. With its class of sustainably manufactured, reliable, easy-to-use, and affordable solutions, Carbice is leveraging aligned carbon nanotube technology to create a future where all electronics are protected from overheating. For more information, visit www.carbice.com.

Notice: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer’s use and for ensuring that the Customer’s workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. No warranties are given; all implied warranties of merchantability or fitness for a particular purpose are expressly excluded. This document is intended for global use.