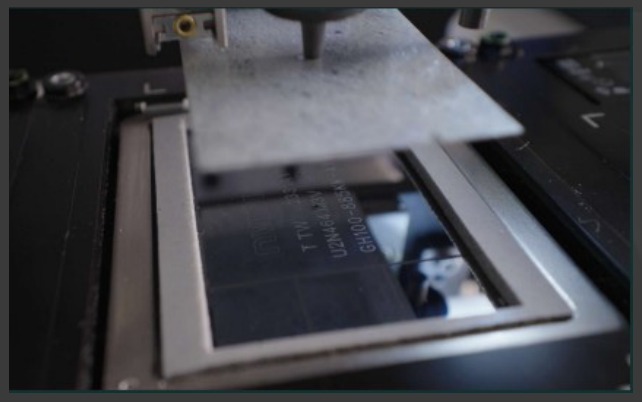
BOSTON MATERIALS

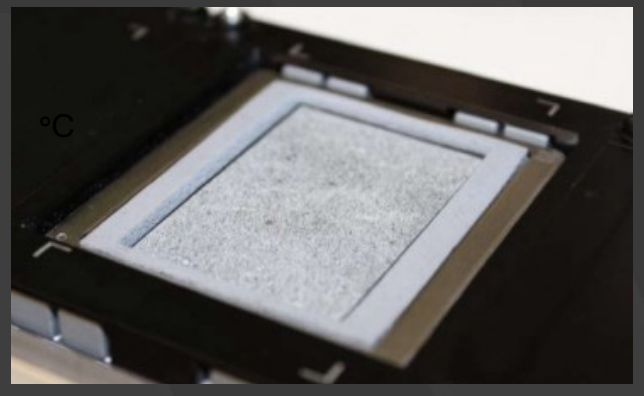
A New Material Foundation

Liquid Metal ZRT® Film

Pick-and-Place High-Performance TIM

A carbon fiber + liquid metal thermal interface purpose-built for the thermal demands of next-generation AI and HPC semiconductors





- **Ideal for highly warped devices: high thermal conductivity and low pressure requirement**
- **Available in up to 200x200mm form factor**
- **Manufacturable with standard pick-and-place equipment**
- **Custom gallium alloy for improved moisture/ humidity performance**

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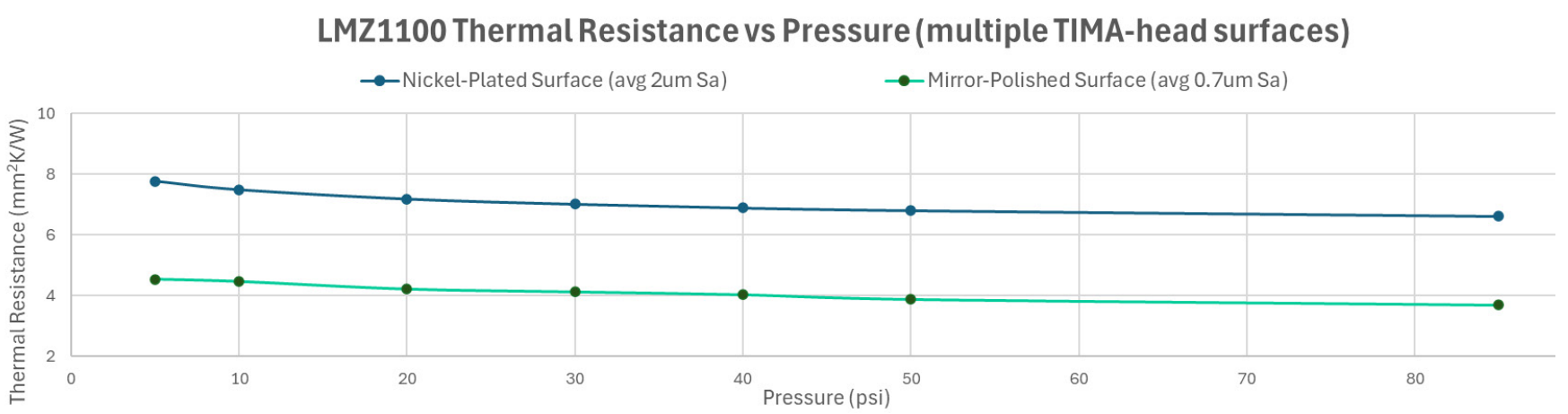
MATERIAL PROPERTIES DATA **LMZ1100**

LMZ1100 PRODUCT SPECIFICATIONS

Property	Value	Units
Z-Axis Fiber Thermal Conductivity	900	W/mK
Matrix	Gallium Alloy	-
Max Continuous Operating Temperature	200+	°C
Thermal Resistance *@ 85psi and 0.7um Sa surface roughness*	3.7	mm^2-K/W
Thickness Options (as provided, no load)	180/220/250/290/360	µm
Operating Bond Line Thickness *@ 20psi / 138kPa*	120	µm
Operating Pressure	5-200 / 35-1380	PSI / kPa
Melting Point	30	°C
Maximum XY Dimensions	200 x 200	mm

LMZ1100 THERMAL RESISTANCE VS PRESSURE

Thermal resistance varies with the roughness of the adjacent surfaces (die backside, cold plate/heat sink base). Values convey the range expected based on surface roughness and applied pressure.



Tested per ASTM D5470 at 85°C. Thermal resistance values include contact resistance.

RELIABILITY AND ENVIRONMENTAL PERFORMANCE

Stress Condition	Test Parameters	Result
Temperature Cycling	-40 to 125 °C, 1,000 cycles (Condition G)	No Degradation
Temperature/Humidity (D85)	85°C/85% RH, 1,000 hours	No Degradation
High-Temperature Storage	150°C, 1,000 hours (Condition B)	~9% Improvement

Coupons tested in ASTM D5470 fixture between Ni-plated copper blocks. Full reliability and accelerated life data available upon request. Boston Materials provides end-to-end support for gasket design to ensure reliable liquid metal containment.