Chomerics THERMATTACH® T418
Extremely High Strength Heat Sink & Component Attachment Tape

Product Description – T418 is the latest offering in Chomerics' line of industry-leading thermally conductive attachment tapes. Chomerics has utilized its world-class materials science expertise and decades of applications development experience to create this superior product, offering exceptional thermal and mechanical attachment properties.

Typical T418 Material Properties

Properties	Metric Value	Imperial Value	Method
Composition	Ceramic-filled acrylic PSA with fiberglass carrier	Ceramic-filled acrylic PSA with fiberglass carrier	Visual
Thickness (mm) / (inch)	0.25 +/- 0.025	0.010 +/- 0.001	ASTM D374
Thermal Impedance (K-cm^2/W) / (K-in^2 / W) Tested @ 50 psi	9.0	1.4	ASTM D5470
Thermal Conductivity (W/m-K)	0.5	0.5	ASTM D5470
Voltage Breakdown (Vac)	5,000	5,000	ASTM D149
Dielectric Strength (Vac/mm) / (Vac/mil)	15.2	600	ASTM D149
Volume Resistivity (Ohm-cm)	1.0 X 10^{13}	1.0 X 10^{13}	ASTM D257
2 mil Al Foil Peel Strength (N/cm) / (lbf/in) 90º on aluminum 90° on plastic (G10)	 8.1 8.2	 4.6 4.7	ASTM D1000
Lap Shear (KPa) / (psi) 10 psi & 15 second attach, Al - Al. Peel dwell time <10 min.	862	125	ASTM D1002
Die Shear Adhesion after 400 psi attachment (KPa) / (psi) – 2 hour sample dwell time	1,669	242	Chomerics # 54
Contact Area (%) (Acrylic glass to Al, 10 psi attach for 15 seconds)	30+ %	30+ %	Chomerics
Continuous Operating Temperature ºC (ºF)	-40 to + 125	-40 to + 257	Supplier Certification
Shelf-Life months (from Chomerics date of shipment)	12	12	
Flammability Rating	UL94 V0	UL94 V0	UL94V0 against 0.062" Aluminum
RoHS Information	Compliant	Compliant	RoHS Specification. SGS Testing

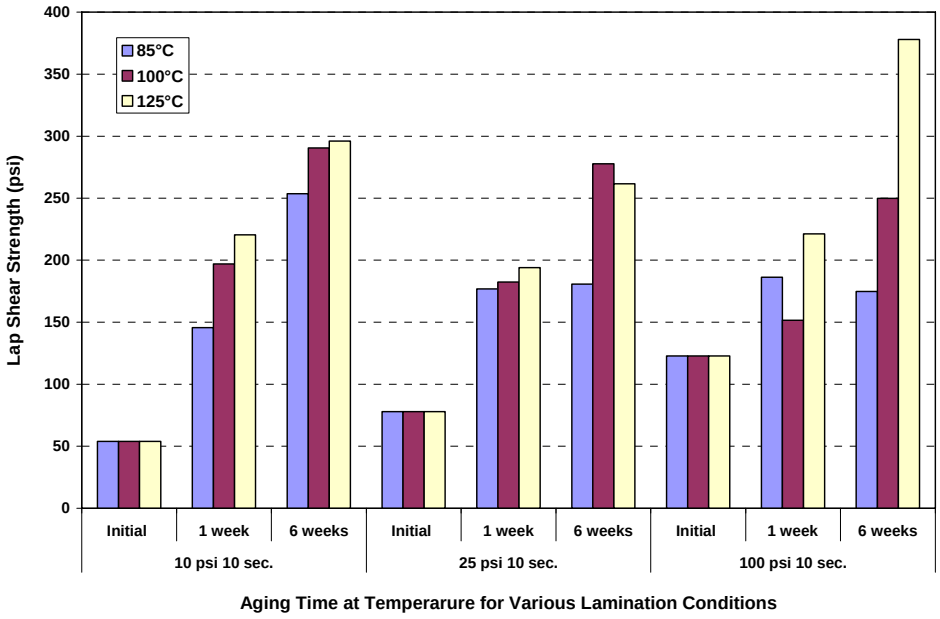
Data contained in this data sheet represents typical properties and is not meant for specification purposes. It is the sole responsibility of the customer (user) to appropriately evaluate this product for use. Please contact Chomerics for official specifications for this product and for applications assistance.

North America• 77 Dragon Court, Woburn, MA 01888-4014 **TEL** +(1) 781-935-4850 **FAX** +(1) 781-933-4318
Europe• Marlow, Bucks, UK **TEL** +(44) 1628 404000 **FAX** +(44) 1628 404090
Asia Pacific • Hong Kong **TEL** +(852) 2 428 8008 **FAX** +(852) 2 423 8253
South America• São Paulo, Brazil **TEL** +(55) 11 3917 1099 **FAX** +(55) 11 3917 0817

Reliability Testing

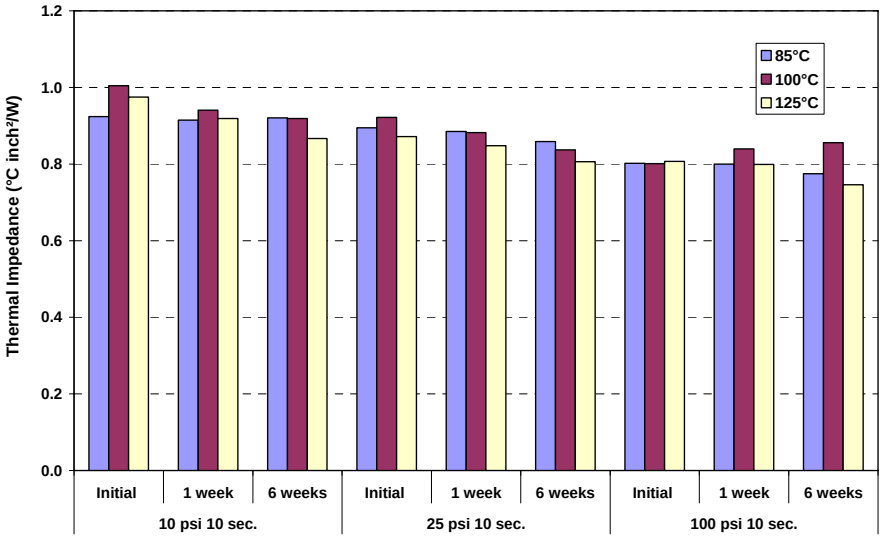
T418 has been tested after exposing to thermal aging (1000 hours at temperatures up to 125°C), Humidity aging (1000 hrs at 85°C/85% relative humidity), Thermal shock (-40 to 125°C, 10°C/min. for 100 cycles), Mechanical shock (60G's in 6 directions with half sine pulse), and Sine vibration (X&Y axis, 10-2000Hz with 2 grams to 12 grams). Lap shear samples were prepared by sandwiching T418 tape between Al substrates with 1x1 inch² overlap. Thermal samples for reliability testing were also prepared by laminating the tape between Al substrates at various pressures. It exhibits excellent stability, and passes thermal and mechanical properties after aging.

Lap Shear Strength After Thermal Aging



Aging Time at Temperarure for Various Lamination Conditions

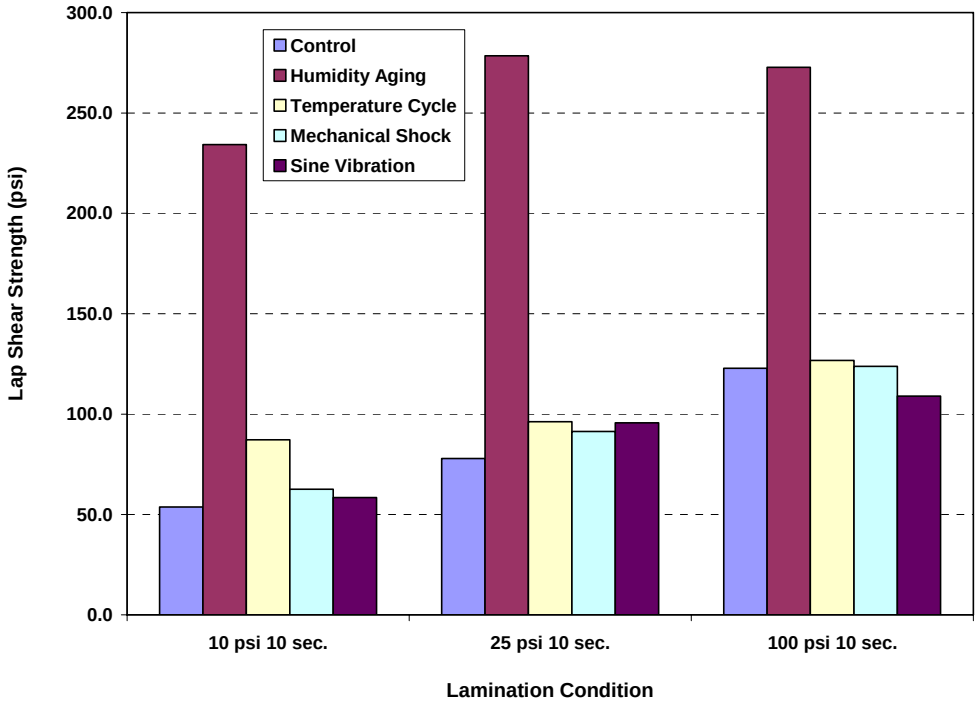
Thermal Impedance After Thermal Aging



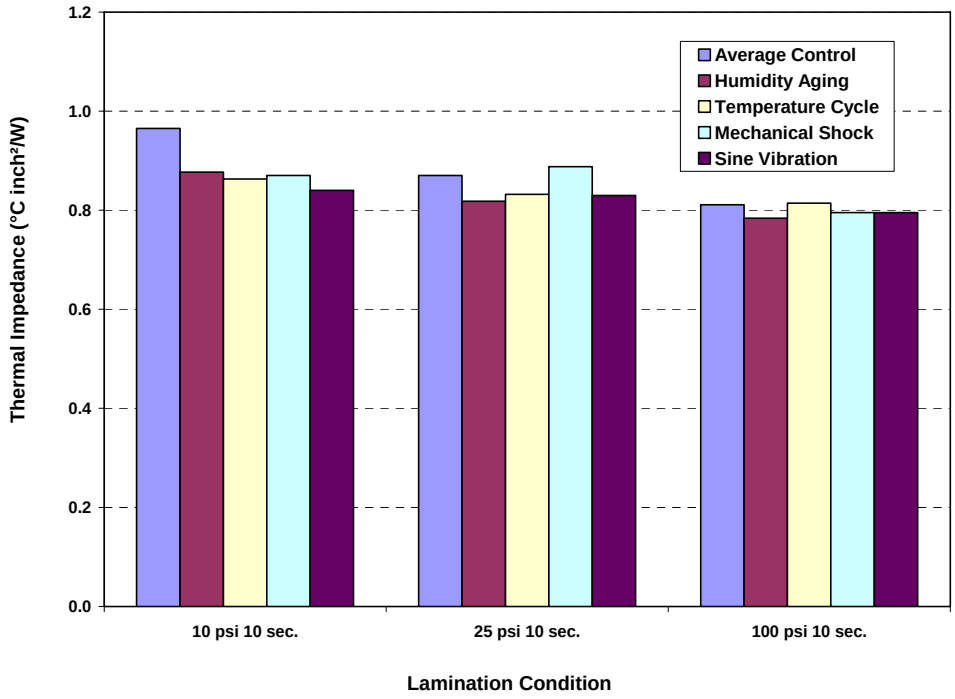
Aging Time at Temperature for Various Lamination Conditions

North America• 77 Dragon Court, Woburn, MA 01888-4014 **TEL** +(1) 781-935-4850 **FAX** +(1) 781-933-4318
Europe• Marlow, Bucks, UK **TEL** +(44) 1628 404000 **FAX** +(44) 1628 404090
Asia Pacific • Hong Kong **TEL** +(852) 2 428 8008 **FAX** +(852) 2 423 8253
South America• São Paulo, Brazil **TEL** +(55) 11 3917 1099 **FAX** +(55) 11 3917 0817

Lap Shear Strength After Different Reliability Stress



Thermal Impedance After Different Reliability Stress



North America• 77 Dragon Court, Woburn, MA 01888-4014 **TEL** +(1) 781-935-4850 **FAX** +(1) 781-933-4318
Europe• Marlow, Bucks, UK **TEL** +(44) 1628 404000 **FAX** +(44) 1628 404090
Asia Pacific • Hong Kong **TEL** +(852) 2 428 8008 **FAX** +(852) 2 423 8253
South America• São Paulo, Brazil **TEL** +(55) 11 3917 1099 **FAX** +(55) 11 3917 0817

Hanging Shear Load Perfromance

Hang shear at 2 temperatures. 1 square inch (25.4 mm^2) contact area. Tested for 1 week (10,080 minutes)							
Epoxy laminate		Ceramic (alumina)		Aluminum		Stainless Steel	
1,000 g weight	500 g weight	1,000 g weight	500 g weight	1,000 g weight	1,000 g weight	1,000 g weight	500 g weight
25°C	70°C	25°C	70°C	25°C	70°C	25°C	70°C
Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

www.chomerics.com

North America• 77 Dragon Court, Woburn, MA 01888-4014 **TEL** +(1) 781-935-4850 **FAX** +(1) 781-933-4318
Europe• Marlow, Bucks, UK **TEL** +(44) 1628 404000 **FAX** +(44) 1628 404090
Asia Pacific • Hong Kong **TEL** +(852) 2 428 8008 **FAX** +(852) 2 423 8253
South America• São Paulo, Brazil **TEL** +(55) 11 3917 1099 **FAX** +(55) 11 3917 0817