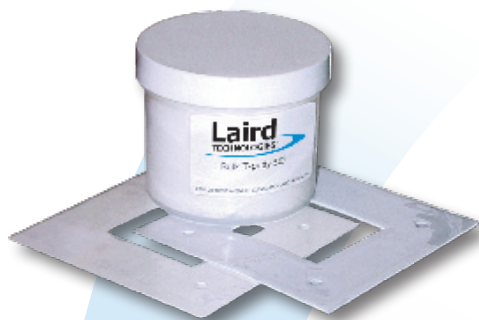




Innovative **Technology**  
for a **Connected** World



# T-putty™ 502 Series

## CREATES COMPRESSION OF INTERFACE MATERIAL

T-putty™ 502 is the best material for applications where large tolerance differences create the need for compression of the interface material beyond 50% of its original thickness.

T-putty™ 502 will flow and ensure low pressures on the components being cooled. In conjunction with outstanding compression characteristics, T-putty™ 502 has a high thermal conductivity, resulting in very low thermal resistance.

T-putty™ 502 is naturally tacky and requires no additional adhesive coating that can inhibit thermal performance.

## FEATURES AND BENEFITS

- Soft and ultra high compressibility for low stress applications
- 3 W/mK thermal conductivity
- Available in sheets 0.020" - 0.200" (0.5mm - (5.0mm) thick and in bulk
- Naturally tacky needing no further adhesive coating

## APPLICATIONS

- Cooling components to the chassis or frame
- Entire large panel PCB cooling
- Semiconductor automated test equipment (ATE)
- Any high compression low stress application

**global solutions: local support™**

Americas: +1.800.843.4556

Europe: +49.8031.2460.0

Asia: +86.755.2714.1166

CLV-customerservice@lairdtech.com

[www.lairdtech.com/thermal](http://www.lairdtech.com/thermal)

	T-PUTTY™ 0.020	T-PUTTY™ 0.040	T-PUTTY™ 0.060	T-PUTTY™ 0.080	T-PUTTY™ 0.100	TEST METHOD
Construction & Composition	Reinforced boron nitride filled silicone elastomer	Reinforced boron nitride filled silicone elastomer	Reinforced boron nitride filled silicone elastomer	Reinforced boron nitride filled silicone elastomer	Reinforced boron nitride filled silicone elastomer	
Color	White	White	White	White	White	Visual
Thickness	0.020" (0.51mm)	0.040" (1.02mm)	0.060" (1.52mm)	0.080" (2.03mm)	0.100" (2.54mm)	
Thickness Tolerance	± 0.002" (± 0.05mm)	± 0.003" (± 0.08mm)	± 0.004" (± 0.10mm)	± 0.004" (± 0.10mm)	± 0.005" (± 0.13mm)	
Specific Gravity	1.39 g/cc	1.38 g/cc	1.37 g/cc	1.37 g/cc	1.36 g/cc	Helium Pycnometer
Hardness *without fiberglass	05 Shore OO	05 Shore OO	05 Shore OO	05 Shore OO	05 Shore OO	ASTM D2240
Outgassing TML (Post Cured)	0.11%	0.11%	0.11%	0.11%	0.11%	ASTM E595
Outgassing CVCN (Post Cured)	0.06%	0.06%	0.06%	0.06%	0.06%	ASTM E595
Temperature Range	-45°C to 200°C	-45°C to 200°C	-45°C to 200°C	-45°C to 200°C	-45°C to 200°C	
Thermal Conductivity	3 W/mK	3 W/mK	3 W/mK	3 W/mK	3 W/mK	ASTM D5470 (modified)
Thermal Impedance @ 10 psi @ 69KPa	0.44 °C-in²/W 2.84 °C-cm²/W	0.49 °C-in²/W 3.16 °C-cm²/W	0.53 °C-in²/W 3.42 °C-cm²/W	0.58 °C-in²/W 3.74 °C-cm²/W	0.62 °C-in²/W 4.00 °C-cm²/W	ASTM D5470 (modified)
Thermal Expansion	92 ppm/C	92 ppm/C	92 ppm/C	92 ppm/C	92 ppm/C	IPC-TM-650 2.4.24
Breakdown Voltage	2000 Volts AC	4000 Volts AC	>5000 Volts AC	>5000 Volts AC	>5000 Volts AC	ASTM D149
Volume Resistivity	5 x 10 <sup>13</sup> ohm-cm	5 x 10 <sup>13</sup> ohm-cm	5 x 10 <sup>13</sup> ohm-cm	5 x 10 <sup>13</sup> ohm-cm	5 x 10 <sup>13</sup> ohm-cm	ASTM D257
Dielectric Constant @ 1MHz	3.20	3.20	3.20	3.20	3.20	ASTM D150

## STANDARD THICKNESSES

0.020" (0.51mm)	0.030" (0.76mm)	0.040" (1.02mm)	0.050" (1.27mm)
0.060" (1.52mm)	0.070" (1.78mm)	0.080" (2.03mm)	0.090" (2.29mm)
0.100" (2.54mm)	0.110" (2.79mm)	0.120" (3.05mm)	0.130" (3.30mm)
0.140" (3.56mm)	0.150" (3.81mm)	0.160" (4.06mm)	0.170" (4.32mm)
0.180" (4.57mm)	0.190" (4.83mm)	0.200" (5.08mm)	

Consult the factory for alternate thicknesses.

## BULK

T-putty™ 502 is available in bulk form in the following sizes:  
100 cc Jar 500 cc Jar 1000 cc Jar

Consult the factory for alternate bulk sizes.

## STANDARD SHEET SIZES

9" x 9" (229mm x 229mm) and 18" x 18" (457mm x 457mm).  
9" x 9" only over 0.100" thickness

T-putty™ 502 is available in individual die cut shapes. Pressure sensitive adhesive is not applicable for T-putty™ products.

## REINFORCEMENT

T-putty™ 502 sheets are reinforced on both sides with fiberglass.

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

THR-SPEC-T-PUTTY-502 0109

Our customers are reminded that they bear the responsibility for testing Laird Technologies' materials for their proposed use. Any information furnished by Laird Technologies and its agents is believed to be accurate and reliable, but our customers must bear all responsibility for the use and application of Laird Technologies' materials since Laird Technologies' and its agents cannot be aware of all potential use. Laird Technologies makes no warranties as to the fitness, merchantability, or suitability of any Laird Technologies' materials or products for any specific or general uses. Laird Technologies shall not be liable for incidental or consequential damages of any kind. All Laird Technologies' products are sold pursuant to the Laird Technologies' domestic terms and conditions of sale in effect from time to time, a copy of which will be furnished upon request. A13502-00 Rev G, 2/05/07

© 2009 All Rights Reserved. Laird Technologies is a registered trademark of Laird Technologies, Inc.