



## CREATES COMPRESSION OF INTERFACE MATERIAL

Tputty™ 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.

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

Tputty™ 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

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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)

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

	Tputty™ 0.020	Tputty™ 0.040	Tputty™ 0.060	Tputty™ 0.080	Tputty™ 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 CVCM (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-in <sup>2</sup> /W 2.84 °C-cm <sup>2</sup> /W	0.49 °C-in <sup>2</sup> /W 3.16 °C-cm <sup>2</sup> /W	0.53 °C-in <sup>2</sup> /W 3.42 °C-cm <sup>2</sup> /W	0.58 °C-in <sup>2</sup> /W 3.74 °C-cm <sup>2</sup> /W	0.62 °C-in <sup>2</sup> /W 4.00 °C-cm <sup>2</sup> /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

Tputty™ 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

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

## REINFORCEMENT

Tputty™ 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-Tputty-502 0710

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➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd  
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➤ Sales :

Direct +86 (21) 6401-6692

Email [amall@ameya360.com](mailto:amall@ameya360.com)

QQ 800077892

Skype [ameyasales1](#) [ameyasales2](#)

➤ Customer Service :

Email [service@ameya360.com](mailto:service@ameya360.com)

➤ Partnership :

Tel +86 (21) 64016692-8333

Email [mkt@ameya360.com](mailto:mkt@ameya360.com)