Laird TECHNOLOGIES

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

# Tputty™ 504 Series


## SOFT, SILICONE GEL

Tputty™ 504 is a soft silicone gel thermal gap filler ideal for applications where large gap tolerances are present.

The silicone gel is filled with a complex matrix of ceramic fillers to yield superior thermal performance.

Tputty™ 504 is soft and compliant transferring little to no pressure between interfaces. Because Tputty™ 504 has a higher viscosity than grease, it eliminates the bleed and pump-out usually associated with grease. Bond line variances can also be more easily controlled than with traditional thermal pads.

Tputty™ 504 can be applied like grease and is easily dispensable from a wide range of commercially available equipment including screen print, syringe and automated equipment.

## FEATURES AND BENEFITS

- Soft and compliant transferring little to no pressure between interfaces
- 1.8 W/mK thermal conductivity
- Available in 10cc, 30cc and 55cc syringes
- Available in 100cc,170cc and 305cc auto dispense cartridges
- Available in bulk containers from sample jars through 20 kg pails
- Applies like grease and is easily dispensable from a wide range of commercially available equipment including screen print, syringe and automated equipment

## APPLICATIONS

- Flip chip microprocessors
- PPGAs, micro BGAs, BGAs
- DSP chips, graphic accelerator chips
- Other high-wattage electronic components
- LED lighting

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# Tputty™ 504 Series

| | Tputty™ 504 | TEST METHOD |
|---|---|---|
| Construction & Composition | Ceramic-filled dispensable silicone gel | |
| Color | Light Grey | Visual |
| Viscocity @ 23°C, mPa.s (cP) Brookfield RV, TC spindle, Helipath @ 0.5 rpm | 4,000,000 to 8,000,000 | |
| Temperature Range | -45°C to 200°C | |
| Thermal Conductivity | 1.8 W/mK | ASTM D5470 |
| Density | 2.7 g/cc | |
| Thermal Impendance Final Thickness @ 0.010" | 0.15°C-in²/W (0.97°C-cm²/W) | ASTM D5470 (modified) |
| Thermal Impendance Final Thickness @ 0.020" | 0.27°C-in²/W (1.74°C-cm²/W) | ASTM D5470 (modified) |
| Dielectric Strength | 500 VAC/mil | ASTM D149 |
| Volume Resistivity | $>10^{14}$ ohm-cm | ASTM D2240 |
| MSDS | Available upon request | |
| Outgassing TML, wt% / vol% | 0.34 / 0.92 | ASTM E595 |
| Outgassing CVCM, wt% / vol% | 0.09 / 0.24 | ASTM E595 |

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