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**122-31**

**THIXOTROPIC, HI-TEMPERATURE RESISTANT, THERMALLY CONDUCTIVE, LOW STRESS UNDERFILL ADHESIVE**

**DESCRIPTION:** 122-31 is a two component, thixotropic, high temperature resistant, nitride filled, thermally conductive, low stress under fill adhesive. Suitable for application by, stencilling, dipping and syringe dispensing, this product is specifically designed for bonding silicon die to FR-4 boards in IC packaging applications. The 122-31 is designed to provide outstanding adhesion to FR-4 board as well as a variety of other substrates. This material is useful in bonding substrates that have dissimilar coefficients of thermal expansion. 122-31 is a version of CMI 122-24, that has a higher thixotropic index.

|                        | <u>Part A</u> | <u>Part B</u> | <u>Mixture</u> |
|------------------------|---------------|---------------|----------------|
| Appearance:            | Grey          | Amber         | Grey           |
| Viscosity:             | Paste         | 300 cps       | 125,000 cps    |
| Mix Ratio (by weight): | 100           | 3             | ----           |
| Pot Life:              | ----          | ----          | >96 hours      |

**MIXING INSTRUCTIONS:** Filler settles in storage. Resuspend filler prior to using. Premix Part A in original container prior to adding curing agent, mix gently in order to prevent whipping air into the adhesive. Add Part B to Part A and mix gently until uniform. Apply adhesive to surface to be bonded by hand and/or automatic method and assemble. Apply slight pressure to assure good mating of surfaces and formation of fillet.

**CURING INSTRUCTIONS:** Full Cure: 1 hour @ 80°C + 1 hour @ 125°C

**TYPICAL CURED PROPERTIES:**

|  |                      |
|--|----------------------|
| Consistency  | Smooth Paste         |
| Fillers  | Nitride Blends       |
| Hardness (Shore D)                                 | > 90                 |
| Coef. of Therm. Exp. (in/in°C X 10 <sup>-6</sup> ) | 31                   |
| Thermal Conductivity (W/mK)                        | 2.35                 |
| Cure Shrinkage (%)                                 | 0.17                 |
| Water Absorption (%)                               | <0.22                |
| Dielectric Strength (volts/mil)                    | 425                  |
| Volume Resistivity (Ω-cm)                          | 1 X 10 <sup>14</sup> |
| Power Factor (60 HZ)                               | 0.038                |
| Dielectric Constant (60 HZ)                        | 4.8                  |
| Shear Strength (psi)                               | 2250                 |
| Useful Temperature Range (°C)                      | -55 to 220           |

**STORAGE:** Shelf life: 12 months at 25°C, in unopened, unmixed containers.

*All technical information is based on data obtained by CMI personnel and is believed to be reliable. No warranty is either expressed or implied with respect to suitability in a particular application or possible infringements on patents.*

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