MicroCoat Technologies

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Unparalleled in Polymer Coatings and Adhesives Technology [™]

Product Data Sheet

HOT 'N COLD CO.

769-3 & 769-4LT UV & Heat Cure Elastomeric for Peltier Devices

This 100% solids, silicone free, very low extractable ions, epoxy coating may be used as an interface in any high reliability electronics or microelectronics application where resiliency and excellent temperature cycling is required. Designed primarily for Thermo-Electric cooler/heaters, this UV and/or heat cured product eliminates the need for two component mixing issues. MicroCoat Technologies 769-3 has a latent heat catalyst that may be used for deep intrusions if desired. The 769-4LT is a low temperature cure. The combination of UV and heat cure systems enables a quick fixture of components by UV hardening of fillets followed by rapid thermal cure of the shadowed areas if present. Alternatively, heat alone may be used to cure the product with no change in elasticity or adhesion. The material is highly thixotropic yet dispenses easily. The cured product is of a low modulus yet does not deflect upon heating in order to bond disparate surfaces such as gold, silicon, aluminum, glass, copper, ceramics, and other oxide surfaces as well as FR-4. The 769 family is inherently low outgassing after cure, and is therefore suitable for applications on or near sensitive components. Preliminary testing shows little change in characteristics at 175°C.

Special note: Curing by heat alone for any epoxy material will reduce the viscosity thereby affording the chance of flowing in unwanted areas. It is highly suggested that the device be exposed to UV for ~20 seconds. This will eliminate this possibility

*769-3

99+%

>200°C

Clear or colored

Thixotropic gel

Typical Physical Properties: <u>Uncured Material</u>

Color:

Viscosity: Percent non-volatile material:

Flash Point:

Solubility: Shelf life:

*UV/Visible Light and Heat Cure 769-3:

**UV/Visible Light and Heat cure 769-4LT

Cured Material

Durometer: Tg by DSC: Moisture absorption:

Mechanical deflection from -50°C - 100°C Extractable lonics:

Extractable Organics:

D58 D58 <40°C <40°C <.05% <.05%

Cure temp: 125°C 10-20 Min.

Cure temp: 90°C – 100°C 10-20 Min Cure Time is thickness dependent

Fluorinated solvent extraction followed by analysis of residuals: Nothing detected by GC/MS

Chlorinated solvents, oxygenated solvents

12 Months at Ambient

**769-4LT

99+%

>200°C

Clear or colored

Thixotropic gel

Depth of Cure – 30 seconds 250 mW/cm²:

Electrical Specifications:

Volume Resistivity: Dielectric Strength: Dielectric Constant: Thermal Conductivity: .75cm .75cm 4X4 X 10¹⁴

17.7 kV/mm 4.0 @ 1Khz 0.29W/m . °K

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