

HTCPX_LV

Non-Silicone Heat Transfer Compound – Low Viscosity

DESCRIPTION

HTCPX_LV provides the ultimate in thermal conductivity in a non-curing paste, designed for use as a thermal interface material. It is recommended where the efficient and reliable thermal coupling of electronic components or heat dissipation is required. We recommend that compatibility tests be carried out on sensitive materials prior to large scale production. In all applications, **HTCPX_LV** will increase product quality, productivity, reduce maintenance costs and minimise rejects. **HTCPX_LV** is a non-silicone paste, suitable for applications where silicones are prohibited, thus avoiding issues with silicone and low molecular weight siloxane migration.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Very low viscosity for ease of application; designed for use as a thermal interface material
- Exceptionally high thermal conductivity; aids rapid heat dissipation
- Based on a non-silicone oil; avoids issues with silicone and LMW siloxane migration
- Non-curing paste; allows simple and efficient rework of components if required

APPROVALS

Standard	Status
RoHS Compliant (2015/863/EU)	Yes

PRODUCT INFORMATION

For available packaging sizes please visit:

electrolube.com

PHYSICAL PROPERTIES

Category	Results
Typical Properties	
Color	Pale Grey
Base	Blend of synthetic fluids
Flash Point of Base Oil (°C)	> 280
Thermo-conductive Component	Powdered metal oxides
Density @ 20°C (g/mL)	3.0
Viscosity @ 1rpm (Pas)	45 to 70
Thermal Conductivity (Guarded Hot Plate) (W/m.K)	3.00 (calculated)
Thermal Conductivity (Heat Flow) (W/m.K)	2.00
Temperature Range (°C)	-50 to 130
Permittivity @ 1GHz	4.2
Volume Resistivity ($\Omega \cdot \text{cm}$)	1 to 10^{14}
Dielectric Strength (kV/mm)	42
Weight Loss after 96 hours @ 100°C	<1.0%

APPLICATION GUIDELINES

Thermal pastes can be applied to the base and mounting studs of diodes, transistors, thyristors, heat sinks, silicone rectifiers and semi-conductors, thermostats, power resistors and radiators, to name but a few. When the contact surfaces are placed together, a firm metal-to-metal contact will only be achieved on 40 to 60% of the interface, depending on the smoothness of the surfaces. This means that air, which has relatively poor thermal conductivity, will account for the balance of the interface. Only a small amount of compound is required to fill these spaces and thus dramatically increase the effective surface area for heat transfer.

It is important to note that the quality of application of a thermal paste can be as important as the thermal conductivity of the material applied; best results are achieved when a uniform, thin coat is applied between the mating surfaces. Apply a thin layer of compound to one of the contact surfaces using a brush, spatula, roller, automated system or screen printing technique. Ensure

that the entire interface is covered to avoid hot-spots from forming. Any excess paste squeezed out during the mounting process should be removed.

ADDITIONAL INFORMATION

There are many methods of measuring thermal conductivity, resulting in large variances in results. Electrolube utilise a heat flow method which takes into account the surface resistance of the test substrate, thus offering highly accurate results of true thermal conductivity. Some alternative methods do not account for such surface resistance and can create the illusion of higher thermal conductivity. Therefore, when comparing thermal conductivity measurements, it is important to know what test method has been utilised. For more information, please contact the Technical Department.

The rate at which heat flows is dependent on the temperature differential, the thickness and uniformity of the layer, and the thermal conductivity of the material. Products with the same comparable thermal conductivity value may have very different efficiencies of heat transfer in the end application depending on how successfully a thin even film can be applied.

Shelf Life: 36 Months

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

CONTACT INFORMATION

To confirm this document is the most recent version, please contact
TechnicalSupportTeam@hkw.co.uk
www.electrolube.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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