

## HTSX

### Silicone Heat Transfer Compound Xtra

#### DESCRIPTION

**HTSX** is an enhanced version of HTS. It is a non-curing heat transfer paste with extremely low oil bleeding, designed for use as a thermal interface material. It is recommended where the efficient and reliable thermal coupling of electronic components or heat dissipation between any surfaces are required. **HTSX** is based on a silicone oil, offering an exceptionally wide operating temperature range.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

#### FEATURES AND BENEFITS

- General purpose thermal management paste; excellent stability in a range of conditions
- Based on a silicone oil; offers an exceptionally wide operating temperature range
- Very good thermal conductivity; designed for use as a thermal interface material
- 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](http://electrolube.com)

### PHYSICAL PROPERTIES

Category	Results
<b>Typical Properties</b>	
Color	White
Base	Silicone Oil
Thermo-conductive Component	Powdered Metal Oxides
Density @ 20 °C (g/mL)	3.1
Cone Penetration @ 20 °C	400
Viscosity @ 1rpm (Pas)	260 to 290
Thermal Conductivity (Guarded Hot Plate) (W/m.K)	1.58 (calculated)
Thermal Conductivity (Heat Flow) (W/m.K)	1.05 (calculated)
Temperature Range (°C)	-50 to 200
Permittivity @ 10 <sup>6</sup> Hz	4.9
Volume Resistivity (Ω·cm)	1 x 10 <sup>15</sup>
Dielectric Strength (kV/mm)	18
Weight Loss after 15 days	
@ 150 °C	0.28%
@ 200 °C	1.16%

### 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.

### APPLICATION GUIDELINES - BULK

#### Bulk Packaging Specifications

Package Size	Inner Diameter	Height
830 g Cartridge	49.5 mm	216 mm + 14.5 mm for Nozzle
25 Kg Bulk Container	254 mm	330 mm

### 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](http://www.electrolube.com)

<b>North America</b> 109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.367.5460	<b>Europe</b> Ashby Park Coalfield Way Ashby de la Zouch Leicestershire, LE65 1JR, UK 44.01530.41960	<b>Asia</b> 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100
--	---	--

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

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "(R)" and "TM" are registered trademarks or trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.