

HCS

Heat Cure Silicone Conformal Coating

DESCRIPTION

HCS is a solvent-free silicone conformal coating, specifically designed for the protection of electronic circuitry. The material cures rapidly at temperatures > 105 °C. The long pot life of **HCS** at room temperature make it an ideal coating for dipping and spraying. **HCS** is a soft, flexible, low stress conformal coating.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- 100% solids coating, no volatile solvent; operator and environmentally friendly
- Soft conformal coating; repairable
- Fast thermal cure; aids efficient application processes
- Very wide operating temperature range; particularly suited to high temperature applications

APPROVALS

Standard	Status
RoHS Compliant (2015/863/EU)	Yes
MIL Approval (MIL-1-46058C)	Meets Approval
IPC-CC-830	Meets Requirement

PRODUCT INFORMATION

For available packaging sizes please visit:

electrolube.com

PHYSICAL PROPERTIES

Category	Results
Liquid Properties	
Appearance	Translucent Liquid
Density @ 20 °C (g/mL)	0.99
Flash Point	None
Solid Content	100 %
Viscosity (mPa s @ 20 °C)	600
Recommended Drying Time	10 Minutes @ 105 °C
UV Trace	Yes
Dry Film Coating	
Color	Clear
Temperature Range (°C)	-65 to 200
Flammability	Meets UL94 V-0
Shore Hardness	A20
Coefficient of Expansion (ppm/°C)	330
Dielectric Strength (kV/mm)	90
Dielectric Constant @ 1 MHz	2.4
Surface Insulation Resistance (Ω)	1 x 10 ¹⁵
Dissipation Factor	0.01
Moisture Resistance (Ω)	2 x 10 ¹⁵
Modulus (mPa @ 20 °C)	0.55
Tensile Strength (MPa)	0.38
Elongation at Break	100 %

APPLICATION GUIDELINES

Substrates should be thoroughly cleaned before coating. This is required to ensure that satisfactory adhesion to the substrate is achieved. Also, all flux residues must be removed as they may become corrosive if left on the PCB. We manufacture a range of cleaning products using both hydrocarbon solvent and aqueous technology. Our cleaning products produce results within Military specification.

The cure mechanism for HCS can be inhibited by the presence of a variety of chemicals including amines, amides and amine-containing materials, polysulphides, polysulphones or other sulphur containing materials, unsaturated hydrocarbon plasticisers and some solder flux residues. It is recommended that process and material compatibility be considered when incorporating HCS into a production environment.

HCS can be sprayed, brushed, or dipped; the thickness of the coating depends on the application (typically 25 to 200 microns).

HCS requires a minimum temperature of 105 °C to ensure the coating fully cures. The time required to cure is dependent on the film thickness and thermal characteristics of the board but should be no more than 10 minutes. The cure time can be reduced by the use of higher temperatures.

INSPECTION

HCS contains a UV trace, which allows inspection of the PCB after coating to ensure complete and even coverage; the stronger the reflected UV light, the thicker the coating layer is.

ADDITIONAL INFORMATION

Shelf Life: 12 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

North America 109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.367.5460	Europe Ashby Park Coalfield Way Ashby de la Zouch Leicestershire, LE65 1JR, UK 44.01530.41960	Asia 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.