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HCS
Heat Cure Silicone Conformal Coating

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.

- 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	**RoHS Compliant (2015/863/EU):**	**Yes**
	REACH Compliant:	**Yes**
	IPC-CC-830:	**Meets Requirements**
	MIL-I-46058C:	**Meets Requirements**
Liquid Properties	Appearance:	Translucent liquid
	Density @ 20°C:	0.99 g/ml
	Flash Point:	None
	Solids content:	100%
	Viscosity @ 20°C (mPa s):	600
	Recommended Drying Time:	10 Minutes @ 105°C
	UV Trace:	Yes
Dry Film Coating	Colour:	Clear
	Temperature Range:	-65 to 200ºC
	Flammability:	Meets UL94 V-0
	Shore Hardness	A20
	Moisture Resistance:	2×10^{10} Ω
	Dielectric Strength:	90 kV/mm
	Surface Insulation Resistance:	1×10^{15} Ω
	Dielectric Constant:	2.4 @ 1 MHz
	Coefficient of Expansion:	300 ppm/ºC
	Dissipation Factor:	0.01
	Modulus	0.55 MPa @ 20°C
	Tensile Strength	0.38 MPa
	Elongation	100%

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All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification.

Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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Description	Packaging	Order Code	Shelf Life
Heat Cure Silicone	5 Litre Bulk	EHCS05L	12 Months

Directions for Use

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. Electrolube manufacture a range of cleaning products using both hydrocarbon solvent and aqueous technology. Electrolube 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 25-200 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.

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