Technical Data Sheet

LOCTITE® STYCAST PC 88

August 2021

PRODUCT DESCRIPTION

LOCTITE® STYCAST PC 88 provides the following product characteristics:

Technology	Acrylic
Appearance	Clear liquid
Cure	Hot air drying
Product Benefits	• Toluene-free • Single component • Fluorescent under UV light • Superior toughness and abrasion resistance
Operating Temperature - Continuous	-65 to 100°C
Application	Conformal coating
Dried Film Thickness	25 to 100µm
Typical Assembly Applications	Printed circuit board coating

LOCTITE® STYCAST PC 88 one component conformal coating is designed to provide environmental and mechanical protection to printed circuit boards used in automotive, military and other electronic applications.

Components and joints may be repaired by heating the coating with a soldering iron for easy removal, or the entire coating may be removed with a suitable solvent. When fully dried, the material has superior toughness and abrasion resistance. Even after long environmental exposure, the coating retains its very light color.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content, %	24
Specific Gravity @ 25ºC	0.902
Viscosity, Brookfield - LV, 25 °C, mPa·s (cP):	
Spindle 1, speed 30 rpm	65
Shelf Life @ 25ºC, days	365
Flash Point ISO 13736:1997, BS 2000 Part 170:1995, Abel Cup, ºC	7.75

TYPICAL DRYING PERFORMANCE

Recommended Drying Conditions

45 minutes @ 75°C

Alternative Drying Conditions

24 hours @ 25°C

Tack Free Time

For a 120µm wet film, @ 25°C / 35% RH, on glass plate, minutes	<10

Drying of the coating is contingent on solvent evaporation. Drying at temperatures higher than that recommended could cause formulation of bubbles if bulk solvent is not allowed to evaporate before oven placement.

Optimization of the drying schedule is possible to reduce the time listed above. Drying times will depend on film thickness and circuit board design.

For optimum performance, boards should be air dried at least 30 minutes @ 25°C to remove solvents before final oven drying (or before applying additional coats).

Deaeration is not suggested.

The above cure profile is a guideline recommendation. Cure rate and ultimate depth of cure depend on light intensity, spectral distribution of light source, exposure time and the light transmittance of the substrate.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

T-shock for 100hr at -65 to 125°C per IPC-CC-830 : pass

Electrical Properties

Insulation Resistance , 25 to 75 µm film:		
Initial	25°C/50% R.H.	2.8×10^{12}
Cycle 4	65°C/95% R.H.	9.7×10^{10}
Cycle 7	65°C/95% R.H.	9.9×10^{10}
Cycle 10	65°C/95% R.H.	1.2×10^{11}
24hours after Cycle 10	25°C/50% R.H.	2.7×10^{12}
Dielectric Strength , ASTM D149, volts/mil		1,500
Dielectric Constant / Dissipation Factor :		
@ 100Hz:		
@ 25ºC		2.56/0.067
@ 60ºC		2.87/0.045
@ 90ºC		3.01/0.011
@ 110ºC		3.21/0.033
@ 10kHz:		
@ 25ºC		2.41/0.033
@ 60ºC		2.56/0.056
@ 90ºC		2.89/0.034
@ 110ºC		3.02/0.024
@ 100kHz:		
@ 25ºC		2.19/0.018
@ 60ºC		2.45/0.063
@ 90ºC		2.76/0.056
@ 100ºC		2.89/0.016

GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

DIRECTIONS FOR USE

1. Any tank should be pressurized with dry nitrogen..
2. Ideally applied via non-atomised selective film coater.
3. Do not use hand gun spray tool as this will lead to clogging of the nozzle.
4. Substrate cleanliness is paramount in promoting adhesion and preventing underfilm corrosion of copper conductors.
5. Furthermore compatibility with solder paste and flux etc should always be verified.
6. Removal of liquid or dried PC88 can be achieved with Xylene or a Ketone (e.g. MEK).

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 25°C. Storage below 5°C or above 30°C can adversely affect product properties. Once opened, containers should be purged with dry nitrogen.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel Representative.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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