

LOCTITE STYCAST PC 20M

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PRODUCT DESCRIPTION

LOCTITE STYCAST PC 20M provides the following product characteristics:

Technology	Acrylic
Appearance	Gardner 2
Cure	Heat cure
Application	Conformal coating

LOCTITE STYCAST PC 20M is a stable clear material suitable for continuous operation up to 110°C. It may be applied by brush, dip, or spray to electrical parts for improved moisture and environmental protection. 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 cured, LOCTITE STYCAST PC 20M exhibits superior toughness, and abrasion and solvent resistance. Even after long exposure to the elements, the coating retains its very light color.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Typical Properties of Liquid Material

Solids Content (), %	45
Specific Gravity @ 25°C	0.94
Viscosity, Brookfield - RVF, 25 °C, cps:	
Spindle 4, speed 20 rpm	2,000
Color	Amber
Flash Point, °C	11

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

45 minutes @ 45°C

Alternate Cure Schedule

24 hours @ 25°C

Boards must be air dried for 30 to 45 minutes prior to curing

The above cure profile(s) are guideline recommendation(s). These conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Appearance	No blistering, wrinkling, cracking or peeling of film. No discoloration of printed conductors or substrate after thermal shock, or after moisture resistance testing.
Film Thickness	Adjustable from 0.001" to 0.004".
Flourescent	When viewed under ultraviolet light.

Electrical Properties

(Tested using test methods for electrical properties specified in MIL-I-46058C for type AR)

Insulation Resistance, ohms (1 to 3 mil film):

Initial (25 °C - 50% R.H.)	>2.3×10 ¹⁴
4th Cycle (65 °C - 95% R.H.)	5×10 ¹¹
7th Cycle (65 °C - 95% R.H.)	4×10 ¹⁰
10th Cycle (65 °C - 95% R.H.)	1×10 ¹⁰
24 hrs after 10th Cycle (25 °C - 50% R.H.)	3.5×10 ¹²

DIELECTRIC WITHSTANDING @ 1500 VOLTS, 50 Hz No flash over or breakdown before or after thermal shock and moisture exposure.

Dielectric Strength, volts/mil 2,000

Dielectric Constant / Dissipation Factor:

@ 25°C:	
100 Hz	2.78/0.79
10 kHz	2.36/0.027
100 kHz	2.29/0.012

@ 60°C:	
100 Hz	3.67/0.038
10 kHz	2.74/0.11
100 kHz	2.39/0.062

@ 90°C:	
100 Hz	3.54/0.003
10 kHz	3.43/0.064
100 kHz	2.89/0.089

@ 110°C:	
100 Hz	3.42/0.014
10 kHz	3.41/0.015
100 kHz	3.24/0.089

Volume Resistivity, ohm-cm:

@ 25°C	1.04×10 ¹⁶
@ 60°C	3.89×10 ¹⁴
@ 90°C	2.86×10 ¹³
@ 110°C	9.25×10 ¹²

GENERAL INFORMATION

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

Material Handling

Printed circuits or other objects to be coated should be cleaned in accordance with accepted industry practices. Isopropyl alcohol, or methyl ethyl ketone have been found satisfactory as cleaning agents. If activated flux residues are present, appropriate detergents may be needed to remove any residue.

Applications should be performed in a well-ventilated area.

Any tank should be pressurized with dry nitrogen.

Some variation in listed values may occur; customer should determine whether cure other than recommended cure will give satisfactory results. **Deaeration is not suggested.**

Keep containers closed to avoid contamination. Contents may solidify - if this occurs, warm to 40°C until clear and thoroughly mix before using. Store in a dry place at 20°C to 30°C. Material is flammable. Do not use in presence of open flame or sparks.

Viscosity may be reduced when desired by using xylene. AC0305 is not recommended.

Apply by brush, dip or spray. Cleanliness of the substrate is paramount in promoting adhesion and preventing under-film corrosion of copper conductors.

Air-dry coated boards at least 30 minutes at 25°C to remove solvents before curing in oven or before applying additional coats.

Recommended cure: 45 minutes @ 75°C

Alternate cure: 24 hours @ 25°C

Tack free film, 1 hr
Semi-hard film, 4 hrs
Optimum properties, 24 hrs

CLEAN-UP / REWORK

Uncured LOCTITE STYCAST PC 20M may be cleaned-up with ketones or those solvents listed above. Cured coatings can be removed with toluene, isopropyl alcohol, or ketones.

Storage

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

Storage between 20 and 30°C out of sunlight and in original unopened containers. Refer to packaging specific quote for shelf life information. 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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