

LOCTITE STYCAST PC 29M

March 2015

PRODUCT DESCRIPTION

LOCTITE STYCAST PC 29M provides the following product characteristics:

Technology	Polyurethane
Appearance	Amber
Product Benefits	• Solvent resistant • No cracking or crazing with vibration • Superior toughness and abrasion resistance • Provides environmental and moisture protection • Fluorescent under UV light
Mix Ratio, by weight - Part A: Part B	100 : 60
Operating Temperature - Continuous	up to 125°C
Dried Film Thickness	adjustable from 0.0015 to 0.006 inches
Cure	Heat cure
Application	Conformal coating
Typical Assembly Applications	Printed circuit board coating

LOCTITE STYCAST PC 29M is a solvent-based, polyol-adduct-type polyurethane printed circuit coating designed for thin film applications. This coating was developed for use where flexibility and superior resistance to moisture are required. Its elastomeric properties provide protection to glass diodes and other sensitive components where strains may cause cracking.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Free TDI content (maximum), %	1
NCO content (minimum), %	10
Solids Content by Weight, %	60
Specific Gravity @ 25 °C,	1.14
Viscosity, Brookfield - RVF, Spindle 2, 25 °C, mPa·s (cP):	
Speed 10 rpm	225
Speed 20 rpm	325
Shelf Life @ °C (from date of manufacture), days	548
Flash Point, °C	49

Part B Properties

Solids Content by Weight, %	76
Specific Gravity @ 25°C	0.97
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 2, speed 20 rpm	150
Shelf Life @ 25°C (from date of manufacture), days	548
Flash Point, °C	30

Mixed Properties

Pot Life @ 25°C, 200 gram mass, hours	6
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TYPICAL CURING PERFORMANCE

Cure Schedule

2 hours @ 100°C

Alternative Cure Schedule

4 hours @ 60°C

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

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Electrical Properties

Insulation Resistance, ohms (0.0254 to 0.0762 mm film):

Initial	25°C/50% R.H.	2×10^{14}
Cycle 4	65°C/95% R.H.	5×10^{10}
Cycle 7	65°C/95% R.H.	1×10^{11}
Cycle 10	65°C/95% R.H.	5×10^{10}
24 hrs after Cycle 10	25°C/50% R.H.	5×10^{12}

Leakage Rate:

Before thermal shock, microamperes	<10
After thermal shock, microamperes	<10

Dielectric withstand at 1,500 volts, 50Hz:

Before thermal shock and moisture exposure	Pass
After thermal shock and moisture exposure	Pass

Dielectric Constant / Dissipation Factor @ 25°C:

@ 100Hz	5.3/0.07
@ 1KHz	4.8/0.06
@ 100KHz	4.0/0.05
@ 1MHz	3.5/0.05

Volume Resistivity @ 25°C, ohm-cm	4×10^{13}
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TYPICAL ENVIRONMENTAL RESISTANCE

Miscellaneous

Fungus Resistance per ASTM G21	Non nutrient
Appearance of film (after thermal and moisture resistance testing):	
Blistering	None
Wrinkling	None
Cracking	None
Peeling	None
Discoloration	None

Flexibility:

Cracking over 3.175 mm diameter mandrel	None
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GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Mix Parts A and B together thoroughly. After mixing, let stand 30 minutes @ 25°C to allow air to escape.
2. Deaeration is not suggested.
3. LOCTITE STYCAST PC 29M can be applied by spray, dip or brush.
4. Cleanliness of the substrate is paramount in promoting adhesion and preventing under-film corrosion of copper conductors.
5. Printed circuits or other objects to be coated should be cleaned in accordance with accepted industry practices. Isopropyl alcohol, P.S. freon or Methyleneethylketone have been found satisfactory as cleaning agents.
6. Applications should be performed in a well-ventilated area.
7. Keep containers tightly closed to avoid contamination. Moisture may cause polymerization of Part A. If container is opened, flush with dry nitrogen before resealing.
8. Viscosity may be reduced when desired with HYSOL AC0305 thinner. Other solvents such as Methoxy propyl acetate, Methyleneethylketone, Xylene and Toluene can be used alone or as a mixture, depending on how coating will be applied and drying time desired.
9. The evaporation rate of some recommended solvents, starting with the fastest, are as follows: Methyleneethylketone, Toluene, Xylene, AC0305 and Methoxy propyl acetate. Dilutions of 15-20% will generally be sufficient for most applications.

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.

Storage

Liquid Storage - Liquids should be stored at 25°C or below, in closed containers. If stored below 25°C, the material MUST be allowed to come to room temperature, in the sealed container, to avoid moisture contamination.

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

Optimal Storage : 25 °C

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 Technical Service Center or Customer Service Representative.

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Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{psi} \times 145 = \text{N/mm}^2$
 $\text{MPa} = \text{N/mm}^2$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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Reference 0.1