

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
---------------------------------------	---

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
-----------------------------------	--------------------

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
---	------

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.

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.

Conversions

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 N x 0.225 = lb
 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
 m·mm x 0.142 = oz·in
 mPa·s = cP

Disclaimer**Note:**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.1

Americas
 +1.888.943.6535

Europe
 +32.1457.5611

Asia
 +86.21.3898.4800

For the most direct access to local sales and technical support visit: www.henkel.com/electronics