

# LOCTITE STYCAST PC 52

November 2016

## PRODUCT DESCRIPTION

LOCTITE STYCAST PC 52 provides the following product characteristics:

<b>Technology</b>	Acrylic
<b>Color</b>	Colorless
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>Fluorescent under UV light</li> <li>Superior toughness and abrasion resistance</li> <li>Easily removable with soldering iron or suitable solvent</li> </ul>
<b>Cure</b>	Air dry
<b>Application</b>	Conformal coating
<b>Operating Temperature-continuous</b>	-40 to 125°C
<b>Typical Assembly Applications</b>	Printed circuit board

LOCTITE STYCAST PC 52 one component conformal coating is designed to provide environmental and mechanical protection to printed circuit boards used in automotive, military and other electronic applications.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - LV, 23 °C, mPa·s (cP)	51
Solids Content %	23
Specific Gravity @ 25°C	0.89
Flash Point , °C	-4

## TYPICAL DRYING PERFORMANCE

### Recommended Drying Conditions

45 minutes @ 75 °C

### Alternative Drying Conditions

24 hours @ 25°C

### Tack Free Time

<10 minutes @ 25 °C on glass plate

For semi-hard film, cure 4 hours @ 25°C.

Drying of the coating depends upon solvent evaporation. For optimum performance, boards should be dried at least 30minutes at 25°C to remove solvents before final drying in oven (or before applying additional coats).

Drying temperatures higher than recommended could cause formation of bubbles if bulk solvent is not allowed to evaporate before placing in oven. Optimization of the drying schedule may be possible to reduce the times stated above. Ultimately, drying times will depend on film thickness and circuit board design. It is therefore imperative to verify the drying schedule for each applications. Deaeration is not suggested due to a risk of solvent loss.

## TYPICAL PROPERTIES OF DRIED MATERIAL

### Physical Properties :

Film Thickness (Adjustable), µm	25 to 100
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### Electrical Properties:

Insulation Resistance Per MIL-I-46058C, 25 to 75 µm film thickness, ohms:

Initial	25°C/50% R.H.	>2.3×10 <sup>14</sup>
Cycle 4	65°C/95% R.H.	5.0×10 <sup>11</sup>
Cycle 7	65°C/95% R.H.	4.0×10 <sup>10</sup>
Cycle 10	65°C/95% R.H.	1.0×10 <sup>10</sup>
24 hrs after Cycle 10	25°C/50% R.H.	3.5×10 <sup>12</sup>

Volume Resistivity, ASTM D257, ohms-cm:

@ 25°C	1.04×10 <sup>16</sup>
@ 60°C	3.89×10 <sup>14</sup>
@ 90°C	2.86×10 <sup>13</sup>
@ 110°C	9.25×10 <sup>14</sup>

Dielectric Strength, ASTM D149, volts/mil 2,000

Dielectric Constant / Dissipation Factor, ASTM D150:

@ 25°C:	
@ 100Hz	2.78/0.079
@ 10kHz	2.36/0.027
@ 100kHz	2.29/0.012
@ 60°C:	
@ 100Hz	3.67/0.036
@ 10kHz	2.74/0.11
@ 100kHz	2.39/0.062
@ 90°C:	
@ 100Hz	3.54/0.003
@ 10kHz	3.43/0.064
@ 100kHz	2.89/0.132
@ 110°C:	
@ 100Hz	3.42/0.014
@ 10kHz	3.41/0.015
@ 100kHz	3.24/0.089

Dielectric Withstand at 1,500volts, 50Hz:

Before thermal shock	Pass
After thermal shock	Pass
Moisture exposure	Pass

Leakage Rate:

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

**TYPICAL ENVIRONMENTAL RESISTANCE****Miscellaneous**

Fungus Resistance per ASTM G21 Non nutrient

**GENERAL INFORMATION****For safe handling information on this product, consult the Safety Data Sheet, (SDS).****DIRECTIONS FOR USE****Application**

1. Substrate cleanliness is paramount in promoting adhesion and preventing underfilm corrosion of copper conductors.
2. Apply by spray coating.

**Cleaning**

1. Remove wet or dry LOCTITE STYCAST PC 52 with Toluene, Isopropyl alcohol or Ketones. A suitable solvent is available from your local Henkel 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.

**STORAGE**

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

**Optimal Storage: 5 to 30°C. Storage below 5°C or above 30°C can adversely affect product properties.**

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.

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

Reference 1

**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.

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