

LOCTITE STYCAST US 5005

May 2020

PRODUCT DESCRIPTION

LOCTITE STYCAST US 5005 provides the following product characteristics:

Technology	Polyurethane
Components	Two components - requires mixing
Appearance - Part A	Brown
Appearance - Part B	Black
Appearance - Mixed	Black
Mix Ratio by weight: Part A: Part B	10 : 100
Mix Ratio by volume: Part A: Part B	1 : 8.4
Product Benefits	- Flexible - Hydrolytic stability
Cure	Room temperature and Heat cure
Application	Encapsulation and Potting

LOCTITE STYCAST US 5005 is a polyurethane designed for potting stress sensitive components. It features excellent hydrolytic stability and maintains outstanding electrical properties up to 150°C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Viscosity @ 25 °C, mPa·s (cP)	80
Density, g/cc	1.24
Flash Point - See SDS	

Part B Properties

Viscosity @ 25 °C, mPa·s (cP)	25,000
Density, g/cc	1.46
Flash Point - See SDS	

Mixed Properties

Mixed Viscosity @ 25°C, mPa·s (cP)	9,000
Density, g/cc	1.44
Working Time (200 g mass) @ 25 °C, minutes	60
Gel Time (200 g mass) @ 25 °C, hours	2 to 2.5
Shelf Life @ 8 to 28°C (from date of manufacture), days	180

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

48 hours @ 25°C

Alternate Cure Schedule

4 to 5 hours @ 66°C

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

Physical Properties

Hardness, Shore A	83
Glass Transition Temperature (Tg), °C,	-54
Coefficient of Linear Thermal Expansion, in/in/°F x 4.5 10 ⁻⁵	
Thermal Conductivity, W/(m·K)	0.44

Electrical Properties

Dielectric Constant / Dissipation Factor @ 25°C:	
@ 100 Hz	4.6/0.03
@ 1 kHz	4.6/0.03
@ 10 kHz	4.4/0.04
@ 100 kHz	4.1/0.04
Dielectric Strength, volts/mil	950
Breakdown voltage, kV	18.1
Arc Resistance, seconds	125
Volume Resistivity, ohm-cm, 10 ¹⁴	1.0
Surface Resistivity, ohms, 10 ¹⁵	2.6

GENERAL INFORMATION

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

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected with a sealant for chlorine or other strong oxidizing materials.

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 may be indicated on the product container labeling.

Liquid Storage - Liquids should be stored at 8 to 28°C or below, in closed containers. If stored below 23°C, the material MUST be allowed to come to room temperature, in the sealed container, to avoid moisture contamination.

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

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

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 1

Americas
+1.888.943.6535

Europe
+32.1457.5611

Asia
+86.21.2891.8000

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