

LOCTITE STYCAST ESP 4536

August 2017

PRODUCT DESCRIPTION

LOCTITE STYCAST ESP 4536 provides the following product characteristics:

Technology	Epoxy
Appearance	Gray
Product Benefits	<ul style="list-style-type: none"> • One component • Solvent-free • High temperature resistance • Excellent environmental resistance • High shear strength
Cure	Heat cure
Application	Surface Mounted Devices
Operating Temperature Range	-40 to +180°C

LOCTITE STYCAST ESP 4536 is a fast-setting, industrial grade surface mount adhesive. It is designed to set quickly when heated, providing a material with high shear strength.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity	1.19
Viscosity, mPa·s (cP)	7,500
Shelf Life @ 0 to 8 °C (from date of manufacture), days	270
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

Air Circulating Oven
120 minutes @ 100°C
45 minutes @ 120°C
15 minutes @ 150°C

The actual cure time for any application is dependent on the time it takes for the adhesive to reach temperature. Larger components, or batch curing, will require a longer warm up time and the cure cycle may be extended. The use of alternative heating methods may also affect the time required to achieve full cure; Hotplates, Infra-Red lamps or Induction heating will generally give a faster cure.

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

Coefficient of Thermal Expansion, ppm/°C	65
Gap Fill (Maximum), mm	<0.5

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength, on Steel	N/mm ² 22
	(psi) (3,190)

With joints involving materials such as ferrites, SMC bond strengths are generally greater than that of the substrate itself. The bond strengths measured on the more ductile metals, such as copper and its alloys will be affected by the modulus of the metal and the thickness of the actual components.

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. All surfaces to be bonded should be clean and free of grease, dirt, and other chemical contaminants.
2. Where ultimate performance is required, then the surfaces should be shot blasted, or lightly abraded, in the presence of **LOCTITE SIP**.
3. The adhesive should be extruded using a bead diameter that will allow complete coverage of the bond area.
4. Care should be taken not to include, or trap, any air within the joint. Normally it should be applied to only one surface.
5. Assemble the parts and squeeze together with sufficient pressure to ensure the adhesive spreads to cover the entire bond area.
6. Jig the components using a light clamping pressure and place in the oven to cure. Do not disturb the joint until the adhesive has cured.

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.

Optimal Storage : 0 to 8 °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.

Conversions

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

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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