Technical Data Sheet

LOCTITE STYCAST ES 0520

August 2015

PRODUCT DESCRIPTION

LOCTITE STYCAST ES 0520 provides the following product characteristics:

Technology	Epoxy
Appearance - Part A	Gray
Appearance - Part B	Black
Appearance (Mixed)	Black
Components	Two components - requires mixing
Mix Ratio by weight: Part A: Part B	100 : 100
Mix Ratio by volume: Part A: Part B	1 : 1
Cure	Heat cure
Application	Potting and Encapsulating
Typical Applications	Ignition Coil Potting

LOCTITE STYCAST ES 0520 is a two-component, filled epoxy system formulated for general potting and encapsulating applications. This material is especially well suited for impregnation of components containing tightly wound coils.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Specific Gravity @ °C	1.77
Filler Content %	60.5
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 7, speed 10 rpm	162,000
Shelf Life @ 25°C (from date of manufacture), days	365

Part B Properties

Specific Gravity @ °C	1.74
Filler Content %	60.5
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 5, speed 4 rpm	29,100
Shelf Life @ 25°C (from date of manufacture), days	365

Mixed Properties

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 5, speed 4 rpm	57,600
Pot life @ 25°C, 200-gram mass, hours	>8

TYPICAL CURING PERFORMANCE

Gel Time

Gel Time @ 100°C, minutes 50

Cure Schedule

3 hours @ 93°C plus 2 hours @ 150°C

Alternate Cure Schedule

2 hours @ 125°C plus 3 hours @ 150°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

Linear Shrinkage, %		0.97
Density, gm/cc		1.77
Shore Hardness , Durometer D		95
Tensile Strength	N/mm² (psi)	52 (7,556)
Tensile Modulus	N/mm² (psi)	2,945 (427,025)
Elongation, %		2.0
Glass Transition Temperature (Tg) by TMA, °C		88
Coefficient of Thermal Expansion, µm/m-ºC:		
Below Tg (40 to 60 ºC)		49
Above Tg (110 to 130ºC)		180

Electrical Properties

Dielectric Strength, 20 mil thickness, volts/mil	1,010
Dielectric Constant / Dissipation Factor @ 23ºC:	
1kHz	3.78 / 0.0056
10 kHz	3.75 / 0.0034
Dielectric Constant / Dissipation Factor @ 125ºC:	
1kHz	4.76 / 0.0538
10 kHz	4.41 / 0.0493
Volume Resistivity, ohm-cm:	
@ 25ºC	2.7×10^{16}
@ 125ºC	5.57×10^{13}

GENERAL INFORMATION

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

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 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.

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

Disclaimer
Note:
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Reference 0.1