Technical Data Sheet

LOCTITE STYCAST 3103 BIPAX

December 2016

PRODUCT DESCRIPTION

LOCTITE STYCAST 3103 BIPAX provides the following product characteristics:

Technology	Epoxy
Color	Black
Components	Two part - Resin & Hardener
Cure	Room temperature cure or Heat cure
Operating Temperature	-60 to 145 °C
Product Benefits	• Electrically Insulating • Low viscosity • General purpose • Solvent-free • Easy mixing • Room temperature cure • Minimal shrinkage at room temperature cure • Thermal shock and impact resistant • Provides environmental resistance • Chemical resistant
Mix Ratio, (by weight) Resin : Hardener	100 : 10.5
Application	Potting, Encapsulant
Substrates	Glass, Ceramic, Most metals, Potting shells and Other plastics

LOCTITE STYCAST 3103 BIPAX epoxy casting compound is designed for use in applications where a combination of good mechanical, thermal and electrical insulating properties are required.

LOCTITE STYCAST 3103 BIPAX passes cytotoxicity testing, Elution Test ISO 10993-5.

LOCTITE STYCAST 3103 BIPAX passes NASA outgassing standards.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (5/50 rpm)	1.3
Mixed Viscosity @ 25 °C, mPa·s (cP)	4,000
Specific Gravity, mixed	1.58
Pot life, minutes	30

TYPICAL CURING PERFORMANCE

Cure Schedule

24 hours @ 25°C or
4 hours @ 65°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 :

Coefficient of Expansion, cm/cm/ºC	3.5×10^{-5}
Glass Transition Temperature (Tg), °C, ultimate	80
Hardness, Shore D	85
Reactive solids contents, %	100
Thermal Conductivity , W/(m-K)	5×10^{-1}
Heat Distortion Temperature, ºC	102

Electrical Properties:

Volume Resistivity @ 25ºC , ohm-cm:	
@ 25ºC	4×10^{16}
@ 100ºC	4×10^{14}
Dielectric Strength, volts/mil	510
Dielectric Constant / Dissipation Factor @ 25ºC:	
@ 1 KHz	4.1/0.01
@ 100 KHz	3.8/0.01

TYPICAL PERFORMANCE OF CURED MATERIAL

Lap Shear Strength :

Alum to Alum	N/mm²	18
	(psi)	(2,600)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Apply mold release to mold walls if casting is to be removed after cure
2. Carefully clean and dry all surfaces to be bonded
3. Remove clamp and thoroughly mix the LOCTITE STYCAST 3103 BIPAX epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout
4. Pour the completely mixed epoxy system into the mold and then cure. A vacuum deairing step for 10 minutes immediately after pouring (but prior to curing) may be used to remove entrapped air for void-free castings
5. Some ingredients in this formulation provided in BIPAX, TRA-PAX and bulk packaging may crystallize when subjected to low temperature storage. A gentle warming cycle of 52ºC for 30 minutes prior to mixing components may be necessary. Crystallized epoxy components do not react as well as liquid components and should be redissolved prior to use for best results

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:
The expiration date for pre-mixed and frozen materials is based upon dry storage conditions at or below the temperature indicated on each package.

Optimal Storage : 27 °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
(°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
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer
Note:
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