Technical Data Sheet

STYCAST W 19

January 2019

PRODUCT DESCRIPTION

STYCAST W 19 provides the following product characteristics:

Technology	Epoxy
Appearance	Clear, red liquid
Cure	RTV or Heat cure
Product Benefits	• Two component • Room or heat temperature cure • Long pot life • Casting resin • Excellent encapsulation of tightly packed components and coils • Can be applied by dip, brush or spray
Application	Impregnant
Operating Temperature	Cat 9 -40 to 130 °C Cat 27-1 -20 to 155 °C

STYCAST W 19 is an unfilled, 100% solids, epoxy impregnant that can be cured with a variety of catalysts. It can be used as a casting resin in applications where a small quantity (<25 grams) of material is needed.

STYCAST W 19 is designed as an impregnant for tightly wrapped coils, small device potting, or as a surface coating applied by dip, brush, or spray. Stycast W 19 has excellent chemical resistance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Density	ASTM-D-792	g/cm^3	1.2
Brookfield Viscosity	ASTM-D-2393	Pa.s	0.25
Work Life using:	Catalyst 9		45 minutes
Shelf Life:	@18 to 25ºC	months	12
Flash Point - See MSDS			

TYPICAL PROPERTIES OF MIXED MATERIAL

Mix Ratio per 100 parts of Stycast W19:			
By Weight	Catalyst 9		15
By Volume	Catalyst 9		16.5
Density	Catalyst 9	g/cm^3	1.09

TYPICAL CURING PERFORMANCE

Cure Schedule Catalyst 9

1-2 hours @ 65°C or
4-6 hours @ 45°C or
16-24 hours @ 25°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.

For optimum performance, follow the initial cure with a post cure of 2 - 4 hours at the highest expected use temperature.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:			**Cat 9**
Hardness	ASTM-D-2240	Shore D	78
Flexural Strength	ASTM-D-790	mPa psi	na
Water Absorption (7 days)		%	na
Dielectric Strength	ASTM-D-149	kV/mm	15.7
Dielectric Constant	ASTM-D-150	@1MHz	na
Dissipation Factor	ASTM-D-150	@1MHz	na
Volume Resistivity	ASTM-D-257	Ohm-cm	$>10^{12}$

INSTRUCTIONS FOR USE

Thoroughly read the information concerning health and safety contained in this bulletin before using. Observe all precautionary statements that appear on the product label and/or contained in product Safety Data Sheets.
To ensure the long term performance of the potted or encapsulated electrical / electronic assembly, complete cleaning of components and substrates should be performed to remove contamination such as dust, moisture, salt, and oils which can cause electrical failure, poor adhesion or corrosion in an embedded part.
Accurately weigh resin and hardener into a clean container in the recommended ratio. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.

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Blend components by hand, using a kneading motion, motion, for 2-3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture. If possible, power mix for an additional 2-3 minutes. Avoid high mixing speeds which could entrap excessive amounts of air or cause overheating of the mixture resulting in reduced working life.
To eliminate moisture absorbed in coils, paper, and other insulation components, the part to be impregnated or potted should be preheated to 100-120°C. For coil molding, preheat the components and mold to 70-90°C prior to pouring. Submerge components in reservoir containing the STYCAST W 19 and allow to stand until assembly is completely penetrated by the resin. Vacuum can be applied to ensure complete penetration in components containing tightly wound coils. Remove impregnated assembly from reservoir and allow to drain.
Resin “runoff” from impregnated components can be minimized during cure when using Catalyst 11 by allowing units to stand overnight at 25-35°C, then curing for 4 hours at 105°C.

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
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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.

Note
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.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 18°C to 25°C
Material removed from containers 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 Technical at HITEK Electronic Materials.

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