Technical Data Sheet

LOCTITE STYCAST XT 5038-6A

August 2015

PRODUCT DESCRIPTION

LOCTITE STYCAST XT 5038-6A provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Cure	Room temperature or Heat cure
Product Benefits	• Low viscosity • Flame retardant • Can be used with a variety of catalysts
Application	Potting, Encapsulant

LOCTITE STYCAST XT 5038-6A epoxy encapsulant is designed for potting critical electrical, electronic modules, capacitors and other small electrical devices. This material is formulated to have a low mixed viscosity to facilitate good impregnation and fast air release.

LOCTITE STYCAST XT 5038-6A can be used with a variety of catalysts. For more information on mixed properties when used with other available catalysts, please contact your local technical service representative for assistance and recommendations.

LOCTITE STYCAST XT 5038-6A meets UL 94 V-0 Flammability rating.

CATALYST DESCRIPTION

LOCTITE CAT B100 provides the following product characteristics:

Product Benefits	• Low viscosity • Low shrinkage • Good electrical properties • Excellent chemical resistance
Cure	Room temperature cure

LOCTITE CAT B118 provides the following product characteristics:

Product Benefits	• Low color • Low viscosity • Excellent thermal shock and impact resistance • Excellent adhesion to Glass
Cure	Room temperature cure

LOCTITE CAT 22 provides the following product characteristics:

Product Benefits	• Low viscosity • Low exotherm • Long pot life • Good mechanical properties • Good electrical properties
Cure	Room temperature cure

TYPICAL UNCURED PROPERTIES

LOCTITE STYCAST XT 5038-6A	
Brookfield Viscosity , mPa·s (cP):	
Spindle 3, speed 20 rpm	8,000
Density, g/cm³	1.58
Shelf Life @ 25°C (from date of manufacture), days	365
Flash Point - See SDS	
LOCTITE CAT B100	
Viscosity @ 25 °C, mPa·s (cP)	400
Flash Point - See SDS	
LOCTITE CAT B118	
Viscosity @ 25 °C, mPa·s (cP)	25
Flash Point - See SDS	
LOCTITE CAT 22	
Viscosity @ 25 °C, mPa·s (cP)	22.5
Flash Point - See SDS	

TYPICAL UNCURED PROPERTIES AS MIXED

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT B100	
Brookfield Viscosity , mPa·s (cP)	3,400
Density, g/cm³	1.49
Mix Ratio, Material:Catalyst:	
By Weight	100 : 11.5
By Volume	100 : 18.5
Work Life, 100 grams, @ 25ºC, minutes	45
LOCTITE STYCAST XT 5038-6A with LOCTITE CAT B118	
Brookfield Viscosity , mPa·s (cP)	1,200
Density, g/cm³	1.49
Mix Ratio, Material:Catalyst:	
By Weight	100 : 12
By Volume	100 : 19
Work Life, 100 grams, @ 25ºC, minutes	90
LOCTITE STYCAST XT 5038-6A with LOCTITE CAT 22	
Density, g/cm³	1.46
Mix Ratio, Material:Catalyst:	
By Weight	100 : 14
By Volume	100 : 23
Work Life, 100 grams, @ 25ºC, hours	>4

TYPICAL CURING PERFORMANCE

Cure Schedule

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT B100
24 hours @ 25°C
1 to 2 hours @ 65°C

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT B118
24 hours @ 25°C
1 to 2 hours @ 65°C

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT 22
24 to 48 hours @ 25°C
6 hours @ 65°C
2 hours @ 100°C

For optimum performance, follow the initial cure with a post cure of 4 to 6 hours at the highest expected use temperature.

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

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT B100

Physical Properties :	
Hardness, Shore D	85
Water Absorption, %	0.1
Coefficient of Thermal Expansion, ppm/ºC	54
Thermal Conductivity, W/(m-K)	0.43
Operating temperature range, ºC	-40 to +130
Flammability UL 94V-0 thickness, mm	9.9
Electrical Properties:	
Dielectric Constant/Dissipation Factor @ 1 MHz	4.19/0.026
Volume Resistivity, ohm-cm:	
@ 25ºC	2.8×10^{16}
@ 90ºC	8.0×10^{12}
@ 130°C	6.0×10^{10}

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT B118

Physical Properties :	
Hardness, Shore D	70
Water Absorption, %	0.12
Coefficient of Thermal Expansion, ppm/ºC	55.8
Thermal Conductivity, W/(m-K)	0.43
Operating temperature range, ºC	-65 to +105
Flammability UL 94V-0 thickness, mm	6
Electrical Properties:	
Dielectric Constant/Dissipation Factor @ 1 MHz	4.21/0.03
Volume Resistivity, ohm-cm:	
@ 25ºC	1.9×10^{16}
@ 90ºC	7.1×10^{12}
@ 130°C	4.5×10^{9}

LOCTITE STYCAST XT 5038-6A with LOCTITE CAT 22

Physical Properties :	
Hardness, Shore D	80
Thermal Conductivity, W/(m-K)	0.43
Operating temperature range, ºC	-40 to +130
Flammability UL 94V-0 thickness, mm	6
Electrical Properties:	
Volume Resistivity @ 25ºC, ohm-cm	2×10^{14}

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Certain resins and hardeners are prone to crystallization. If crystallization does occur, warm the contents of the shipping container to 50 to 60ºC until all crystals have dissolved. Shipping container must be loosely covered during the warming stage to prevent any pressure build-up.
2. Allow contents to cool to room temperature before continuing.
3. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
4. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use.
5. Power mixing is preferred to ensure a homogeneous product.
6. 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.
7. Blend components by hand, using a kneading motion, for 2 to 3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture.
8. If possible, power mix for an additional 2 to 3 minutes. Avoid high mixing speeds. This can entrap excessive amounts of air. It can also cause overheating of the mixture, resulting in reduced working life.
9. Apply adhesive to all surfaces to be bonded and join together.
10. In most applications only contact pressure is required.

STORAGE:
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : 25 °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.

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.

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:
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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