Technical Data Sheet

LOCTITE ABLESTIK 285 CAT 27-1

January 2021

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 285 CAT 27-1 provides the following product characteristics:

Technology	Epoxy
Appearance (Resin)	Black
Mix Ratio, by weight - Material:Catalyst	100 : 6
Mix Ratio, by Volume - Material:Catalyst	11 : 14
Product Benefits	• Thermally conductive • Non-sag • Thixotropic • Resin versatility • Low CTE • Long pot life • Good chemical resistance • Good physical and chemical properties at elevated temperatures
Cure	Heat cure
Application	Thermally conductive adhesive
Typical Assembly Applications	Bonding metals and ceramic substrates in heat sink applications

LOCTITE ABLESTIK 285 CAT 27-1 adhesive is designed for assembly applications that require thermal management. It is also recommended for low stress bonding applications.

LOCTITE ABLESTIK 285 can be used with a variety of catalysts. For more information on mixed properties when used with ther available catalysts, please contact your local technical service representative for assistance and recommendations.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties *285*

Density, g/cm³	2.4
Shelf Life @ 25°C, months	12
Flash Point - See SDS	

Part B Properties *CAT 27-1*

Density, g/cm³	1.05
Viscosity @ 25 °C, mPa·s (cP)	300
Flash Point - See SDS	

Mixed Properties

Density, g/cm³	2.27
Working Time, 100 g mass, @ 25ºC, hours	4
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

4 hours @ 120°C

For optimum performance, follow the initial cure with a post cure of 2 to 4 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 specific 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 , µm/m-ºC:		
CTE 1		27
CTE 2		111
Glass Transition Temperature, °C:		
Tg		110
Tan Δ Max		144
Thermal Conductivity, W/(m-K)		1.1
Young's modulus (E) :		
@ -40°C	N/mm²	7,810
	(psi)	(1,132,455)
@ 0°C	N/mm²	6,970
	(psi)	(1,010,768)
@ 25°C	N/mm²	6,580
	(psi)	(954,783)
@ 50°C	N/mm²	6,125
	(psi)	(888,501)
@ 100°C	N/mm²	2,410
	(psi)	(349,540)
@ 150°C	N/mm²	165
	(psi)	(23,786)

Electrical Properties

Dielectric Strength, kV/mm	23
Dielectric Constant / Dissipation Factor :	
@ 50 Hz	5.5/0.001
@ 1 KHz	5.6/0.003
@ 1 MHz	5.4/0.014

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength

Tensile Lap Shear Strength	N/mm²	9.6
	(psi)	(1,392)

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 Henkel 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/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

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