Technical Data Sheet

LOCTITE ABLESTIK A 316-54

July 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK A 316-54 provides the following product characteristics:

Technology	Epoxy
Appearance	Beige
Product Benefits	• One component • Fast heat cure • 100% Solids material • Excellent thermal stability • Exhibits resistance to acids and solvents • Maximum heat and thermal stability after cure
Operating Temperature	-40 to +155 °C
Cure	Heat cure
Filler Type	Oxide
Application	Assembly
Typical Assembly Applications	Magnet and speaker assembly, Batteries and Compressor
Other Application Areas	Sealant and end-cap adhesive for assembly of hydraulic fluid and other filters and bonding phenolics and other heat resistant plastics

LOCTITE ABLESTIK A 316-54 epoxy adhesive and sealant is designed for high throughput assembly operations.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield , 25 °C, mPa·s (cP)	100,000
Density , g/cm³	1.38
Shelf Life @ 0 to 8°C, months	6
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

Gel , 20 seconds @ 180°C, cure , 2 minutes @ 180°C or
Gel , 60 seconds @ 160°C, cure , 5 minutes @ 160°C or
Gel , 90 seconds @ 140°C, cure , 10 minutes @ 140°C or
Gel , 5 minutes @ 120°C, cure , 20 minutes @ 120°C or
Gel , 1 hour @ 100°C, cure , 20 minutes @ 100°C or
Gel , 4 hours @ 80°C, cure , 90 minutes @ 80°C

Films of 0.2mm thick STYCAST A316 showed no significant attach and less than 1% weight gain after 30 days immersed in the following: 10% H2SO4, 10% KOH and 33% KOH @ RT; Skydrol 500 or Freon 22 vapour @ 120ºC; JP-4 or Xylene @ 80ºC.

LOCTITE ABLESTIK A 316-54 is slightly exothermic.

LOCTITE ABLESTIK A 316-54 may be cured in thicknesses up to 2 cm and cured rapidly without adverse heat effects due to exotherm.

LOCTITE ABLESTIK A 316-54 may be cured in 5 or 10 seconds, in thin films, by induction heat.

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

Hardness Shore D		85
Coefficient of Linear Thermal Expansion, ppm/ºC		50
Glass Transition Temperature, °C:		
(Tg) by TMA		125
(Tg) by DMA		185
Young's Modulus (E)Unit}:		
@ 50°C	N/mm²	2,600
	(psi)	(377,100)
@ 100°C	N/mm²	2,350
	(psi)	(340,840)
@ 150°C	N/mm²	1,634
	(psi)	(236,990)
@ 200°C	N/mm²	509
	(psi)	(73,825)
Thermal Conductivity , W/(m-K)		0.5

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength

Tensile Lap Shear Strength:		
Al to Al:		
@ 25°C	N/mm²	12.7
	(psi)	(1,840)
@ 125°C	N/mm²	15.5
	(psi)	(2,250)
@ 150°C	N/mm²	15.4
	(psi)	(2,235)
@ 180°C	N/mm²	13.2
	(psi)	(1,915)
PBT to PBT:		
@ 25°C	N/mm²	5.4
	(psi)	(780)
@ 125°C	N/mm²	2.7
	(psi)	(390)
@ 150°C	N/mm²	2.6
	(psi)	(380)
@ 180°C	N/mm²	2.2
	(psi)	(320)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Oxide-filler may settle after long storage. If settling occurs, stir to re-suspend filler before using.

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.

Optimal Storage : 0 to 8 °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
N/mm² x 145 = psi
MPa = N/mm²
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

Disclaimer

Note:

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Reference 0.0