

LOCTITE ABLESTIK ICP 3850

May 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ICP 3850 provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure
Product Benefits	Electrically conductive
	 Low halogen content
	 Pb-free alternative to solder
	 Low temperature cure
	 Good dispensing characteristics
Application	Assembly

LOCTITE ABLESTIK ICP 3850 electrically conductive adhesive is designed as a Pb-free alternative to solder. The rheology of LOCTITE ABLESTIK ICP 3850 adhesive is optimized for high speed dispensing in the assembly of mounting small LEDs onto flexible substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	8,000
Thixotropic Index (5/6 rpm)	5.0
Work Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minutes @ 120°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

Glass Transition Temperature (Tg) by TMA	, °C	101
Coefficient of Thermal Expansion:		
Below Tg, ppm/°C		53
Above Tg, ppm/°C		142
Dynamic Tensile Modulus, DMA:		
@ 25 °C	N/mm² (psi)	5,450 (790,455)
@ 100 °C	N/mm² (psi)	2,597 (376,663)
@ 250 °C	N/mm² (psi)	167 (24,221)

Electrical Properties

Volume Resistivity, ohm-cm	0.001
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TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured 30 minutes @ 120°C

Die Shear Strength @ 25 °C:

2 X 2 mm Si die, kg-f:	
On Ag LF	20
On Au LF	20.5
On Steel	20

GENERAL INFORMATION

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

THAWING:

- 1. Allow container to reach room temperature before use.
- 2. Material is ready to use after 1 hour @ 25°C.
- After removing from the freezer, set the syringes to stand vertically while thawing.
- Refer to the Syringe Thaw time chart for the thaw time recommendation.
- DO NOT open the container before contents reach 25°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
- DO NOT re-freeze. Once thawed to -40°C, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

- Thawed adhesive should immediately be placed on dispense equipment for use.
- If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants and/or air into the adhesive.
- Silver-resin separation may occur if the adhesive is left out at 25 °C beyond the recommended work life.

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: -40 °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·m 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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