Technical Data Sheet

LOCTITE ABLESTIK 5076

December 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 5076 provides the following product characteristics:

Technology	Epoxy Film
Carrier Type	Polyimide
Appearance	Amber
Cure	Heat cure
Product Benefits	• Multilayer adhesive • Good electrical resistance • Uniform bondline control • Void-free bondline • Easy application • Custom preforms available • Bond strength
Application	Assembly
Adhesive Thickness mils	2 mils
No. of Adhesive Layers	3
Carrier Film Thickness mils	1 mils
No. of Carrier Layers	2
Total Thickness	8 mils
Typical Assembly Applications	Electrical, mechanical and thermal assemblies

LOCTITE ABLESTIK 5076 multilayer adhesive film is designed for applications requiring high electrical resistance which is accomplished with a three layer construction of 2-mil thick epoxy adhesive alternating with layers of polyimide dielectric film. The redundant layers of polyimide provides electrical isolation while the epoxy adhesive provides superior bond strength.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Work Life @ 25°C, days	91
Shelf Life @ 5°C (from date of manufacture), days	183

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minutes @ 150°C

Alternative Cure Schedule

120 minutes @ 125°C

All temperatures are measured at the adhesive and do not include ramp-up time.

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

Coefficient of Thermal Expansion , ppm/°C		54
Glass Transition Temperature (Tg) by DSC, °C		97
Thermal Conductivity, Laser Flash, W/(m-K)		0.4
Storage Modulus, DMA:		
@ -40 °C	N/mm² (psi)	9,700 (1,406,866)
@ 0 °C	N/mm² (psi)	6,800 (986,256)
@ 25 °C	N/mm² (psi)	4,700 (681,677)
@ 100 °C	N/mm² (psi)	1,200 (174,045)
@ 150 °C	N/mm² (psi)	500 (72,518)
Weight Loss @ 300ºC, %		0.5

Electrical Properties

Volume Resistivity , z axis, ohms-cm	1.3×10^{14}

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Tensile Lap Shear Strength:		
Aluminum to Aluminum @ 25°C	N/mm² (psi)	20 (3,000)

GENERAL INFORMATION

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

THAWING:

1. It is recommended that the film be kept in its original packaging and should be handled with care. Any unnecessary external force to the box or the film itself such as bending and/or flexing should be avoided.

   It is recommended that the film be thawed to room temperature in its original packaging. The recommended thawing time is: 6 hours minimum @ +5 to 25°C.

DIRECTIONS FOR USE

1. While substrate cleaning is not mandatory, wiping with an organic solvent (e.g. isopropanol) is recommended to remove any oils that might interfere with the bonding process .
2. Pressure needs to be applied during cure to promote proper wetting of substrate surfaces. The technique to apply pressure will vary by application and customer preference. For large surface area applications, a load distribution material is recommended between one of the pressure plates and the bonding part in order to equalize the applied pressure over the entire area.
3. Common industry practices to apply pressure include the use of spring clamps, lamination presses, dead weights and vacuum bagging.
4. The recommended cure pressure for LOCTITE ABLESTIK 5076

is from 10 to 60psi.

5. After fixturing, the parts are then cured at the recommended cure schedule.
6. The specified temperatures and times refer to the bondline values. It should be noted that large mass assemblies will take longer time to achieve bondline temperatures.

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

Optimal Storage: 5°C. Storage below -5°C or greater than 5°C can adversely affect product properties.

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
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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Reference 0.1