Technical Data Sheet

# LOCTITE ABLESTIK 2151

August 2014

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 2151 provides the following product characteristics:

| | |
|---|---|
| **Technology** | Epoxy |
| Appearance | blue |
| Components | Two component - requires mixing |
| Product Benefits | • Thermally conductive<br>• Electrically Insulating<br>• High adhesion<br>• Room temperature cure |
| Mix Ratio, by weight - Resin : Hardener | 100 : 9.5 |
| Typical Assembly Applications | Staking transistors, Diodes, Resistors, Integrated circuits and Heat sensitive components |
| **Cure** | Room Temperature or Heat Cure |
| Operating Temperature | -70 to 115 °C |
| **Application** | Conductive adhesive |
| Surfaces | Many metals, Silica, Steatite, Alumina, Sapphire, Glass, Plastics and Ceramics |

LOCTITE ABLESTIK 2151 is a thixotropic, two-part adhesive that develops strong, durable high-impact bonds at room temperature, improving heat transfer while maintaining electrical insulation. LOCTITE ABLESTIK 2151 bonds offer resistance to salts, mild acids and alkalis, petroleum products, lubricating oils and alcohol.

LOCTITE ABLESTIK 2151 passes NASA outgassing standards.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

**Mixed Properties**:

| | |
|---|---|
| Viscosity @ 25 °C, mPa·s (cP): | |
| rv#7, 10 rpm | 40,000 |
| Thixotropic Index (5/5 rpm) | 1.7 |
| Specific Gravity, , g/cm³ | 2,300 |
| Reactive solids contents, % | 100 |
| Pot life , minutes: | |
| @ 25 grams | 45 |
| @ 100 grams | 35 |
| Work Life, hours: | |
| @ 25 grams | 1.5 |
| @ 100 grams | 1.25 |
| Flash Point - See SDS | |

## TYPICAL CURING PERFORMANCE

**Cure Schedule**

24 hours @ 25°C or
2 to 4 hours @ 65°C

The above cure profile is a guideline recommendation. 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/ºC | 26 |
| Glass Transition Temperature (Tg), °C | 60 |
| Thermal Conductivity , W/(m-K) | 0.95 |
| Hardness, Shore D | 90 |

**Electrical Properties**

| | |
|---|---|
| Volume Resistivity, ohms-cm: | |
| @ 25 °C | $2.10\times10^{15}$ |
| @ 75 °C | $2.10\times10^{15}$ |

## TYPICAL PERFORMANCE OF CURED MATERIAL

**Shear Strength**

Lap Shear Strength :

Alum to Alum:

| | | |
|---|---|---|
| Cured @ 65 °C for 2 hours | N/mm² (psi) | 20 (2,850) |
| Cured @ 25 °C for 24 hours | N/mm² (psi) | 15 (2,150) |

Gold to gold:

| | | |
|---|---|---|
| Cured @ 65 °C for 30 minutes | N/mm² (psi) | 6 (880) |

**Miscellaneous**

| | | |
|---|---|---|
| Tensile Strength, cured 30 min @ 65ºC | N/mm² (psi) | 50 (7,500) |

IZOD Impact Resistance :

| | |
|---|---|
| Ft. lbs/inch of notch | 0.49 |
| J/m | 26 |

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. Carefully clean and dry all surfaces to be bonded.
2. Remove clamp and thoroughly mix the LOCTITE ABLESTIK 2151 epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout.
3. Apply this completely mixed adhesive to the prepared surfaces, and gently press these surfaces together. Contact pressure is adequate for strong, reliable bonds; however, maintain contact until adhesive is completely cured.
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. Some ingredients in this formulation provided in BIPAX, TRA-PAX and bulk packaging may crystallize when subjected to low temperature storage. A gentle warming cycle of 52ºC for 30 minutes prior to mixing components may be necessary. Crystallized epoxy components do not react as well as liquid components and should be redissolved prior to use for best results.

**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 : 27 °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

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