Technical Data Sheet

# LOCTITE ABLESTIK ACP 3122

October 2016

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK ACP 3122 provides the following product characteristics:

| | |
|---|---|
| **Technology** | Epoxy |
| **Appearance** | Golden Brown |
| **Cure** | Heat cure |
| Product Benefits | • Snap curable<br>• Anisotropic electrically conductive<br>• Low temperature cure<br>• Optimized rheology<br>• Electrically conductive in the z-axis only |
| **Application** | Assembly |
| Typical Assembly Applications | Copper circuitry, Gold plated terminators and Silver ink conductive traces |

LOCTITE ABLESTIK ACP 3122 anisotropic, epoxy adhesive is designed for high throughput microelectronics assembly applications. This adhesive conducts only in one direction, making it suitable for small die and component attachment without the possibility of electrical shorting. LOCTITE ABLESTIK ACP 3122 requires pressure during cure to establish a reliable interconnect.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|---|---|
| Viscosity, Rheometer, mPa·s (cP): | |
| @ 15 $s^{-1}$ | 22,000 |
| @ 30 $s^{-1}$ | 14,000 |
| Shear Thinning Index (Rheometer) | 6 |
| Work Life @ 25°C, hours | 24 |
| Shelf Life @ -20°C, days | 183 |
| Flash Point - See SDS | |

## TYPICAL CURING PERFORMANCE

**Cure Schedule**

5 seconds @ 150°C under optimum pressure, bondline temperture

LOCTITE ABLESTIK ACP 3122 requires pressure during cure to establish a reliable connection. Most dies up to 1 sq mm in size require a 1 to 3 Newtons to form a reliable interconnect. The optimum pressure is best determined for each new design. The recommended bonding condition for this adhesive is 5 seconds at a bondline temperature of 150ºC. No post cure is required. Material properties will depend upon cure conditions used.

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

Sample cured 10minutes @ 120ºC in convection oven

**Physical Properties** :

| | | |
|---|---|---|
| Glass Transition Temperature, DMA, Tan Δ Max, °C | | 100 |
| Storage Modulus, DMA, Ramp Rate 3ºC/minute: | | |
| @ 25 °C | N/mm² | 2,400 |
| | (psi) | (344,200) |
| @ 50 °C | N/mm² | 1,950 |
| | (psi) | (282,200) |
| @ 100 °C | N/mm² | 220 |
| | (psi) | (32,000) |

## TYPICAL PERFORMANCE OF CURED MATERIAL

**Miscellaneous**:

| | |
|---|---|
| Die Shear Strength : | |
| 50 x 50 mil Si die to Copper/PET, Kg | 2.2 |

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. 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
2. Apply adhesive to all surfaces to be bonded and join together
3. In most applications only contact pressure is required

**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 : -20 °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
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

## 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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