

# LOCTITE ABLESTIK ICP 4015

November 2014

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK ICP 4015 provides the following product characteristics:

|                                    |                                                                                                                         |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Technology</b>                  | Silicone                                                                                                                |
| <b>Appearance</b>                  | Silver                                                                                                                  |
| <b>Cure</b>                        | Heat cure                                                                                                               |
| <b>Product Benefits</b>            | <ul style="list-style-type: none"> <li>One component</li> <li>High flexibility</li> <li>Low temperature cure</li> </ul> |
| <b>Operating Temperature Range</b> | -40 to 200°C                                                                                                            |
| <b>Application</b>                 | Assembly                                                                                                                |
| <b>Filler Type</b>                 | Silver                                                                                                                  |

LOCTITE ABLESTIK ICP 4015 is a silicone based, electrically conductive adhesive. It is specially designed for applications where both high flexibility and excellent conductivity are required.

LOCTITE ABLESTIK ICP 4015 is engineered to maintain its flexibility and conductivity at elevated temperatures, up to 200°C. This adhesive is also formulated to cure at temperatures as low as 80°C.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25°C:

|                                                         |        |
|---------------------------------------------------------|--------|
| Plate 2 cm @ Shear rate 15 s <sup>-1</sup> , mPa·s (cP) | 22,000 |
| Increase after 16 hours @ RT, %                         | <10    |
| Increase after 48 hours @ RT                            | <50    |
| Thixotropic Index                                       | 2.5    |
| Density, g/cm <sup>3</sup>                              | 4.1    |
| Solids Content, %                                       | 85     |
| Shelf Life @ -40 °C, days                               | 121    |

## TYPICAL CURING PERFORMANCE

### Cure Schedule

30 minutes @ 80°C

### Weight Loss on Cure

Weight Loss on Cure, % <1

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

Sample cured 30 minutes @ 80°C.

### Physical Properties

|                       |                                        |
|-----------------------|----------------------------------------|
| Elongation @ break, % | >100                                   |
| Tensile Stress        | N/mm <sup>2</sup> >1.5<br>(psi) (>217) |

## Electrical Properties

|                             |                    |
|-----------------------------|--------------------|
| Volume Resistivity, ohms-cm | 1×10 <sup>-4</sup> |
|-----------------------------|--------------------|

## TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured 30 minutes @ 80°C .

### Miscellaneous

|                                                      |     |
|------------------------------------------------------|-----|
| Die Shear Strength :                                 |     |
| 2 X 2 mm (80 x 80 mil) Si to Ag Plated Cu L/F, grams | 300 |

## GENERAL INFORMATION

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

### 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.

### THAWING:

- After removing from the freezer, set the syringes to stand vertically while thawing.
- DO NOT open the package before contents reach ambient temperature.
- Any moisture that collects on the thawed package should be removed prior to opening the package.
- Material is ready to use after 1 hour @ 25°C.
- DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

### DIRECTIONS FOR USE

- Packages removed from storage should be allowed to return to ambient temperature before use.
- This material can be applied by hand, automatic dispense equipment or by stencil printing.
- Clean or degrease all application surfaces with a suitable solvent.

### 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. Storage below -40°C or above -20°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**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{N/mm}^2 \times 145 = \text{psi}$   
 $\text{MPa} = \text{N/mm}^2$   
 $\text{MPa} \times 145 = \text{psi}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

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Reference 0.1