

# LOCTITE ABLESTIK 104RR FIL

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## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 104RR FIL provides the following product characteristics:

<b>Technology</b>	Epoxy
Appearance, Resin (Component A)	Black liquid
Appearance, Hardener (Component B)	White powder
Components	Two components - requires mixing
Mixing Ratio, by weight Component A: Component B	100 : 64
Product Benefits	<ul style="list-style-type: none"> <li>• Excellent chemical resistance</li> <li>• High shear strength</li> <li>• High temperature resistance</li> <li>• Excellent adhesion</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	Component assembly, Non-conductive adhesive
Key Substrates	Aluminum, Stainless steel, Carbon steel, Brass, Ceramic, Glass and Thermoset plastic
Operating Temperature - Continuous	230 °C
Operating Temperature - Intermittent	290 °C

LOCTITE ABLESTIK 104RR FIL is a two component epoxy adhesive which exhibits outstanding physical and dielectric properties. It contains no solvents or volatile matter and is suitable for bonding a wide variety of porous or non porous materials. The resistance of LOCTITE ABLESTIK 104RR FIL to a wide variety of solvents and chemicals is substantially better than can be obtained with more conventional adhesives.

## TYPICAL UNCURED PROPERTIES

### LOCTITE ABLESTIK 104RR (Resin)

Viscosity @ 25 °C, mPa·s (cP)	55,000
Density, g/cm <sup>3</sup>	1.5
Pot Life @ room temperature, hours	12
Shelf Life @ 18 to 25°C, days	180

## TYPICAL CURING PERFORMANCE

### Cure Schedule

- 1 hour @ 200°C
- 2 hours @ 180°C
- 3 hours @ 150°C
- 6 hours @ 120°C

For optimum performance at temperature above 205°C, a post cure of 12 hours at 260°C is recommended.

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

Hardness, Shore D	90
Coefficient of Thermal Expansion, 10 <sup>-6</sup> K <sup>-1</sup>	49
Heat Distortion Temperature, °C	260

### Electrical Properties

Volume Resistivity (Bulk), ohm-cm :	
@ 25°C	10 <sup>15</sup>
@ 180°C	10 <sup>13</sup>
Dielectric Strength, kV/mm	15.6

### Chemical Resistance

Typical Solvent and Chemical Resistance % Weight Change

After 7 days Immersion @ 24°C

Chemical	% Weight Change	Chemical	% Weight Change
30% H2so4	+ 0.19	10% NaCl	+ 0.21
3% H2so4	+ 0.26	5% Phenol	+ 0.23
10% NaOH	+ 0.11	Distilled H2O	+ 0.20
1% NaOH	+ 0.22	10% Hno3	+ 0.23
95% c2h5oh	+ 0.7	10% HCl	+ 0.22
50% c2h5oh	+ 0.18	5% ch3cooh	+ 0.24
Acetone	+ 0.06	10% nh4oh	+ 0.76
Ethyl Acetate	+ 0.00	2% Na2CO3	+ 0.22
CCl4	+ 0.04	3% h2o2	+ 0.23
Toluene	+ 0.04	10% Citric Acid	+ 0.22
Heptane	+ 0.02	Oleic Acid	+ 0.09
JP-4	+ 0	JP-5	0

**TYPICAL PERFORMANCE OF CURED MATERIAL****Shear Strength**

Tensile Lap Shear Strength :

Aluminum to aluminum:

Tested @ 25 °C	N/mm <sup>2</sup>	10
	(psi)	(1,450)
Tested @ 150 °C	N/mm <sup>2</sup>	12
	(psi)	(1,740)
Tested @ 230 °C	N/mm <sup>2</sup>	6.8
	(psi)	(986)
Tested @ 290 °C	N/mm <sup>2</sup>	4.2
	(psi)	(609)

**GENERAL INFORMATION**

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

**DIRECTIONS FOR USE**

1. Part A is a medium viscosity black syrup which should be mixed to an uniform consistency before removing from the container. Part B is a white finely divided powder.
2. Weigh out the required amount of Part A and add 64 parts by weight of Part B for each 100 parts of Part A.
3. 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.
4. Blend Part A and Part B to a uniform consistency. Modest heating of Part A, up to about 60°C will make blending easier. Heating above 60°C is not recommended as the pot life will be reduced substantially. The pot life of the blended material at room temperature is at least 12 hours.
5. Clean surfaces to be bonded. Roughening with emery paper and a wash with acetone or methyl ethyl ketone is recommended for optimum adhesion.
6. Apply adhesive to all surfaces to be bonded and join together.
7. 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 in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

**Optimal Storage : 18 to 25 °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**

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

**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. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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