



# ABLESTIK 104 STANDARD GRADE

September 2018

## PRODUCT DESCRIPTION

ABLESTIK 104 Standard Grade provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Technology (Part B)</b>	Anhydride
Appearance, Resin (Component A)	Black syrup
Appearance, Hardener (Component B)	White powder
Components	Two component - 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>• Non-conductive</li> <li>• High shear strength</li> <li>• High temperature resistance</li> <li>• Long pot life</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	Assembly
Key Substrates	Metals , Glass, Ceramic and Thermoset plastic
Operating Temperature	-25 to 230°C

ABLESTIK 104 Standard Grade adhesive is designed for applications requiring very high temperature exposures. This adhesive can withstand continuous exposure at temperatures as high as 230°C. It may be used at temperatures up to 290°C for short periods or intermittent use

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A Properties

Viscosity @ 25 °C, mPa.s (cP)	35,000
Specific Gravity	1.35
Shelf Life @ 25°C, days	183
Flash Point - See SDS	

### Part B Properties

Shelf Life @ 25°C, days	183
-------------------------	-----

### Mixed Properties

Working Time, 100 g mass @ 25 °C, hours	>12
Density , g/cm <sup>3</sup>	1.4

## 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 temperatures 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, minimum	90
Coefficient of Thermal Expansion TMA, ppm/°C	60
Glass Transition Temperature DSC/TMA, °C	>225
Heat Distortion Temperature, °C minimum	260

### Electrical Properties

Volume Resistivity @ 25°C, ohm-cm	10 <sup>15</sup>
Volume Resistivity @180°C, ohm-cm	10 <sup>13</sup>
Dielectric Strength, kV/mm, 3mm sample	15.7

### Outgassing Properties

Outgassing , per NASA Reference Publication 1124, %:  
sample cured 6 hours @ 120°C

TML	0.52
CVCM	0.08

## Chemical Resistance

Typical Solvent and Chemical Resistance % Weight Change  
After 7days 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% ch2cooh	+ 0.24
Acetone	+ 0.06	10% nh4oh	+ 0.76
Ethyl Acetate	+ 0.00	2% Na2CO3	+ 0.22
CCI4	+ 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



