Technical Data Sheet

LOCTITE ABLESTIK ECF 550X

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ECF 550X provides the following product characteristics:

Technology	Epoxy Film
Appearance	Gray
Cure	Heat cure
Product Benefits	• Electrically conductive • Thermally conductive
Application	Adhesive Film
Carrier Type	Glass fabric
Filler Type	Silver

LOCTITE ABLESTIK ECF 550X adhesive is designed for microelectronic applications which require electrical conductivity. This material exhibits conductivity in the x, y and z axes. When used for substrate attach, this adhesive film acts as an electrical ground plane.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Miscellaneous-Hysol®

Work Life @ 25°C, days	3
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Cure Schedule

1 hour @ 150°C

Alternative Cure Schedule

2 hours @ 125°C

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

Coefficient of Thermal Expansion , TMA:	
Below Tg, ppm	40
Above Tg, ppm	50
Glass Transition Temperature (Tg), °C	109
Weight Loss @ 300ºC, %	0.2
Thermal Conductivity @ 121°C, W/(m-K)	2.1
Water Extract Conductivity, µmhos/cm	25
pH	4.5
Extractable Ionic Content, ppm:	
Chloride (Cl-)	35
Sodium (Na+)	15
Potassium (K+)	5

Electrical Properties

Volume Resistivity, ohm-cm	0.008
Electrical Resistance, ohm/5sq. inch	0.001

TYPICAL PERFORMANCE OF CURED MATERIAL

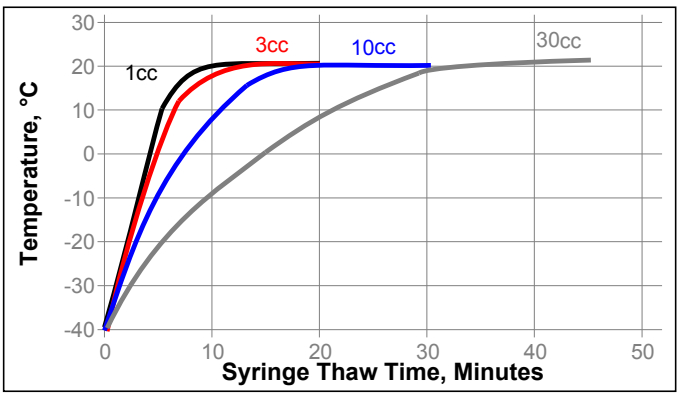
Lap Shear Strength		
Al to Al @ 25°C	N/mm²	15.17
	(psi)	(2,200)
Au to Au @ 25°C	N/mm²	14.48
	(psi)	(2,100)

GENERAL INFORMATION

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

THAWING:

1. Allow container to reach room temperature before use.
2. DO NOT open the container before contents reach 25°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.



DIRECTIONS FOR USE

1. Place precut adhesive film between clean surfaces to be bonded.
2. Assemble components.
3. Apply spring loaded clamp or dead weight to provide continuous pressure of at least 5 to 10 psi during cure cycle.
4. Place assembly in a preheated oven and cure at the recommended cure schedule.

AVAILABILITY

1. LOCTITE ABLESTIK ECF 550X adhesive is available in sheet stock or die cut preforms.
2. LOCTITE ABLESTIK ECF 550X adhesive can be die cut to customer specifications.
3. Tolerances are as close as ±0.005inch in length or width and ±0.001inch in thickness.

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: -40 °C. Storage below minus (-)40 °C or greater than minus (-)40 °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
(°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

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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