Technical Data Sheet

LOCTITE EDAG 451SS E&C

January 2017

PRODUCT DESCRIPTION

LOCTITE EDAG 451SS E&C provides the following product characteristics:

Technology	Acrylate
Appearance	Green
Product Benefits	• Screen printable • Suitable for high speed flexographic printing • UV curable • Dielectric • Fast cure • Smooth film surface • Compatible with other LOCTITE silver and carbon inks
Operating Temperature-Maximum	177ºC
Cure	Ultraviolet (UV) light
Application	Dielectric ink
Typical Assembly Applications	• Insulating coatings • Insulating crossovers • Protective tail coatings for membrane switches
Key Substrates	Treated polyester film

LOCTITE EDAG 451SS E&C dielectric coating is designed for use as an insulative and/or protective coating for printed circuitry.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content by Weight, %	100
Viscosity, Brookfield - RVT, mPa·s (cP):	
Spindle 5, speed 20 rpm	9,000
Density, kg/l	1.08
Shelf Life (from date of manufacture), days	730
Flash Point, ºC	102

TYPICAL CURING PERFORMANCE

Recommended UV Cure Condition

Light Source and Condition	
H Type UV curing bulb	
Light Intensity, watts	200 to 300
Wavelength, nanometers	250 to 400
Cure @ 25µm, EIT Radiometer, Joule/cm²	0.3 to 0.7

At thicknesses greater than 25µm, more exposure (lower belt speeds and/or higher light intensities) may be needed.

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

Physical Properties

Coverage @ 25µm dry coating thickness, m² /kg wet product	36.45

Electrical Properties

Dielectric Strength @ 25µm thickness, volts AC	1,500
Dielectric Constant	5.31

GENERAL INFORMATION

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

DIRECTIONS FOR USE

Mixing/Dilution

- LOCTITE EDAG 451SS E&C is supplied ready for use and does not require dilution.
- Gently stir prior to use.

Application Details

Screen Mesh, Polyester	160 to 300
Emulsion	Diazo sensitized direct photo film
Film thickness, µm:	
160 mesh screen	28
200 mesh screen	18 to 20
300 mesh screen	10

Used as a Crossover

- Recommended thickness when used as a crossover is 20 to 25 µm. Use either one coat with 160 mesh or two coats with 300 mesh.
- When using LOCTITE EDAG 451SS E&C as a crossover, be sure to cure the links that are printed over it within five minutes. Do not allow the inks printed over LOCTITE EDAG 451SS E&C to air dry for extended time periods.
- All LOCTITE inks adhere well to LOCTITE EDAG 451SS E&C and is designed to pass the tape pull test. This allows the material to be used as an insulator for crossovers. Maximum adhesion is gained by using LOCTITE EDAG 479SSC (silver) or LOCTITE EDAG 423SS (graphite).
- When using two coats, cure first coat with minimum exposure necessary to gain adhesion. Cure second coat with slightly more exposure.

CLEAN-UP

To clean screen and equipment, use Methylethylketone (MEK), MIBK, Acetone or similar solvents

STORAGE:
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : 5 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.

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.

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

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Reference N/A