

LOCTITE EDAG 452SS E&C

September 2014

PRODUCT DESCRIPTION

LOCTITE EDAG 452SS E&C provides the following product characteristics:

Technology	Polyester Resin
Appearance	Green
Product Benefits	<ul style="list-style-type: none"> • Screen printable • Excellent printability • Fast UV cure • Excellent adhesion • Excellent flexibility • Good dielectric strength
Cure	Ultraviolet (UV)/ visible light
Application	Dielectric ink
Typical Assembly Applications	<ul style="list-style-type: none"> • tail coating for membrane touch switches • insulating and protective coating on flexible circuitry • encapsulating coating for Surface Mount Devices (SMDs) on flexible circuitry
Key Substrates	Untreated and print receptive polyester and Polycarbonate film

LOCTITE EDAG 452SS E&C ink is designed as an insulating and protective ink in the production of low voltage circuitry on untreated or print receptive polyester and polycarbonate film.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content by Weight, %	100
Viscosity, Brookfield, mPa·s (cP):	
Speed 20 rpm, @ 20°C	17,500
Density, kg/cm ³	1,270
Shelf Life @ 5 to 25°C (from date of manufacture), year	1

TYPICAL SCREEN PRINTING PROCESS

Recommended Coating Thickness

Dry Coating Thickness	
61 threads/cm screen, µm	25
77 threads/cm screen, µm	18
120 threads/cm screen, µm	10
For protective coatings, a 10 to 15 µm thickness is recommended.	

Emulsion Thickness

Emulsion Thickness, µm	20 to 40
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Recommended Squeegee

Polyurethane, durometer	70 to 75
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Recommended Screen Type

Monofilament polyester screen, threads/cm	61 to 120
Stainless steel screen, threads/cm	77 to 160

Printing Equipment Type

Manual
Semi-automatic
High speed reel-to-reel

TYPICAL CURING PERFORMANCE

Recommended UV Cure Condition

UV @ 0.5 Joule/cm²

UV Lamp (watt/cm ²)	Belt Speed (meter/minute)
80	10
120	15

When applying LOCTITE EDAG 452SS E&C as an encapsulating coating on surface mount devices, belt speed should be chosen so that LOCTITE EDAG 452SS E&C will be exposed to a minimum energy level of 0.7Joule/cm² to achieve a good cure.

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 @ 10µm dry coating thickness, m ² /kg wet product	78
Adhesion, grade	5B

Electrical Properties

Sheet Resistivity @ 25µm, ohms/sq	>2×10 ⁹
Breakdown voltage @ 25µm, volts AC	>1,500

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. LOCTITE EDAG 452SS E&C is supplied ready for use and does not require dilution.
2. Stir LOCTITE EDAG 452SS E&C prior to each use.
3. Dot dispensing equipment should be used when applying LOCTITE EDAG 452SS E&C as a protective, encapsulating coating on surface mounted devices like LEDs, etc.
4. Bring product to room temperature prior to use.
5. Protect against exposure to UV sources such as daylight and fluorescent lighting. Care should be taken to avoid LOCTITE EDAG 452SS E&C curing on the screen.

Clean-up

To clean screen and equipment, use Methyleneethylketone (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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} = \text{N/mm}^2$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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Reference 0.5