

LOCTITE® EDAG 452SS

November 2025

PRODUCT DESCRIPTION

LOCTITE® EDAG 452SS provides the following product characteristics:

| | |
|--------------------------------------|---|
| Technology | Acrylates |
| 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 is a green UV-curable dielectric ink with good adhesion onto treated- and untreated polyester foil as well as onto polycarbonate. It is suitable for application by screen printing. The protective coatings based on LOCTITE® EDAG 452SS perform with good flexibility. Therefore, it is often used for printing dielectric layers and conformal coatings onto flexible circuits. This dielectric is also available in blue color under the name of LOCTITE® EDAG PF 465 and clear under the name of LOCTITE® EDAG ML 25208.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--|--------|
| Solids content, % | 100 |
| Viscosity, Brookfield #5SP, 25°C, mPa.s (cP) | |
| Speed 20 rpm | 13,000 |
| Density, g/cm ³ | 1.27 |
| Shelf life @ 8 to 28°C, (from date of manufacture), year | 1 |

TYPICAL SCREEN PRINTING PROCESS

Recommended coating thickness

| | |
|---------------------------|----|
| Dry coating thickness, µm | |
| 61 threads/cm screen | 25 |
| 77 threads/cm screen | 18 |
| 120 threads/cm screen | 10 |

For protective coatings, a 10 to 15 µm thickness is recommended.

Emulsion thickness

| | |
|------------------------|----------|
| Emulsion thickness, µm | 20 to 40 |
|------------------------|----------|

Recommended squeegee

| | |
|-------------------------|----------|
| Polyurethane, durometer | 70 to 75 |
|-------------------------|----------|

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 J/cm² ???

| UV Lamp (watt/cm ²) | Belt speed (m/min) |
|---------------------------------|--------------------|
| 80 | 10 |
| 120 | 15 |

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

The above cure profiles are guideline recommendations. These conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical properties

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

Electrical properties

| | |
|------------------------------------|----------------|
| Sheet resistance, Ohm/sq/25µm | |
| 4-point probe | not conductive |
| Breakdown voltage @ 25 µm, volt AC | > 1,500 |

GENERAL INFORMATION

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

Directions for use

1. LOCTITE® EDAG 452SS is supplied ready for use.
2. Should dilution be necessary, use dbutyl glycol acetate (CAS: 112-07-2). Henkel recommends a maximum of 10 wt%. This should be accomplished by adding solvent at 5 wt% intervals until desired viscosity and printability is achieved.
3. Mix thoroughly before use to ensure the entire ink volume is homogenous. A slow speed propeller may be utilized to mix until product is uniform. Avoid rapid stirring as this causes air entrapment.
4. If a gel structure forms after extended storage, the product may be warmed slightly in a water bath (not exceeding 65°C) and stirred.

Clean up

The screen and equipment can be cleaned with dilution solvent, or esters (butylacetate, propylacetate, or ethylacetate), or ketones (MEK, 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 30°C. Storage below 0°C or greater than 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 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 Henkel 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 the specifications of this product.

Conversions

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

Disclaimer

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