

# LOCTITE® EDAG 479SS

November 2024

## PRODUCT DESCRIPTION

LOCTITE® EDAG 479SS provides the following product characteristics:

<b>Technology</b>	Thermoplastic
<b>Appearance</b>	Gray paste
<b>Filler type</b>	Silver
<b>Product benefits</b>	<ul style="list-style-type: none"> <li>• Good conductivity</li> <li>• Low temperature drying</li> <li>• Excellent abrasion resistance and hardness</li> <li>• Excellent creasability</li> <li>• Excellent fine line printing</li> <li>• Extended screen residence time</li> <li>• Superior adhesion to polyester film</li> <li>• Screen printable</li> </ul>
<b>Operating temperature, °C</b>	max 120°C
<b>Cure</b>	Heat drying
<b>Application</b>	Conductive ink
<b>Typical assembly applications</b>	Membrane switches and Fflexible circuitry display devices
<b>Key substrates</b>	PET, PI, PEN, paper, copper, ITO, glass

LOCTITE® EDAG 479SS is a halogen-free, conductive silver ink with good flexibility. The resistance level of LOCTITE® EDAG 479SS typically lies around 18 mOhm/sq/25µm. It can be dried at low temperature, down to 80°C. LOCTITE® EDAG 479SS is compatible with EDAG dielectric and carbon inks. This ink can further be blended with the carbon ink LOCTITE® EDAG 965SS to adjust resistance levels and make the material more economical. Thanks to good thermal and chemical stability, this product is compatible with high operating temperature, has good adhesion to many substrates, and is compatible with a large range of electrically conductive adhesives for component attach or solderable with low melting Sn42Bi58 solder. LOCTITE® EDAG 479SS is suitable for screen printing and often used to create flexible circuits, keyboards, membrane switches, medical electrodes or biosensors.

## TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solid content, (wt%)	75
Density, kg/l	2.56
Viscosity, Brookfield - RVT, CP 51, 25°C, mPa·s (cP)	12,000
Speed 20 rpm	
Theoretical coverage, @ 10µm dry coating thickness, m <sup>2</sup> /kg	15
Shelf life @ 2 to 8°C, (from date of manufacture), days	365
Flash point, Tag Closed Cup Flash Tester, °C	110

## TYPICAL SCREEN PRINTING PROCESS

### Recommended thickness

Dry film thickness, µm	4 to 12
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### Emulsion thickness

Solvent resistant emulsion, µm	20 to 40
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### Recommended screen type

Monofilament polyester screen, mesh/inch	157 to 280
Stainless steel screen, mesh/inch	165 to 325

### Recommended squeegee

Polyurethane or other solvent resistant material	
Polyester screen, durometer	60 to 70
Stainless steel screen, durometer	70 to 80

## TYPICAL DRYING CYCLE

### Recommended drying cycle

15 minutes @ 120°C

LOCTITE® EDAG 479SS can be dried immediately after printing at temperatures 80 to 140°C. The higher the temperature, the lower the sheet resistance and the better the mechanical properties.

For high speed production jet drying, infra red drying and drying in high speed reel-to-reel equipment can be used successfully.

The above drying profile is a guideline recommendation. Conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer drying equipment, oven loading and actual oven temperatures.

**Percent volatiles**

VOC, g/l 653

Higher temperatures and longer durations improve conductivity and film properties.

**TYPICAL PROPERTIES OF THE DRIED MATERIAL****Physical properties**

Pencil hardness, 2H

**Electrical properties**

Sheet resistance, 4-point probe, Ohm/sq/25µm  
after 45s at 90°C followed by 45s at 120°C 0.018

**GENERAL INFORMATION**

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

**DIRECTIONS FOR USE****Surface preparation**

- Clean surface thoroughly prior to application.

**Mixing/Dilution**

- 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.
- Should dilution be necessary, use 2-(2-Ethoxyethoxy)ethyl acetate (CAS: 112-15-2). Henkel recommends a maximum of 10 wt%. This should be accomplished by adding solvent at 0.5 wt% intervals until desired viscosity and printability is achieved.

**Clean up**

To clean screen and equipment, use a 25% Carbitol acetate 75% Methyl ethyl ketone (MEK) blend.

**STORAGE**

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

- Do not expose to direct sunlight.
- Do not freeze.
- Keep product container tightly closed when not in use.
- Store in cool, dry, good ventilated rooms.

**Optimal storage: 2 to 8°C**

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**

(°C x 1.8) + 32 = °F  
kV/mm x 25.4 = V/mil  
mm / 25.4 = inches  
µm / 25.4 = mil  
N x 0.225 = lb  
N/mm x 5.71 = lb/in  
N/mm² x 145 = psi  
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

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