

LOCTITE EDAG 427 SS E&C

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PRODUCT DESCRIPTION

LOCTITE EDAG 427 SS E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Silver
Cure	Heat cure or Infrared
Operating Temperature-continuous	149°C
Product Benefits	<ul style="list-style-type: none"> • Screen printable • Adheres well polyester film • High solids for excellent coverage and easy film build
Application	Conductive Ink
Typical Assembly Applications	<ul style="list-style-type: none"> • Membrane switches • electroplating precoats • RFI shielding • printed antennas • Flexible circuits • Heating elements

LOCTITE EDAG 427 SS E&C conductive screen printable ink consist of very finely divided silver particles dispersed in a thermoplastic resin . This is one of a series of EDAG products designed to provide controlled electrical properties.

It can be used by itself or blended with EDAG 423 SS E&C (graphite) to allow significant cost savings in applications that do not require the extreme conductivity of silver alone. A ready-for-use blend of EDAG 427 SS E&C and EDAG 423 SS E&C is available as EDAG 426 SS E&C .

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content by Weight, %	77
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 7, speed 20 rpm	40,000
Density, kg/l	2.63
Shelf Life @ 0 to 27 °C (from date of qualification in original seal), days	730
Flash Point , ASTM D93-71, Pensky-Martens Closed	74
Cup Flash Tester, °C	

TYPICAL SCREEN PRINTING PROCESS

This product is applied by standard screen printing techniques. Many factors influence the dried film thickness and the final resistance obtained. These include snap-off distance, screen mesh size, squeegee material, screen material, and emulsion thickness.

Recommended Thickness, dried, µm	10 to 13
Emulsion Thickness , Solvent resistant emulsion , µm	20 to 38
Screen Type:	
Monofilament polyester screen, mesh	157 to 200
Stainless steel screen, mesh	165 to 250

Squeegee :

For use on Polyester screens, durometer	60
For use on Stainless steel screens, durometer	70

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minutes @ 71°C
15 minutes @ 93°C
5 minutes @ 121°C

Percent Volatiles

VOC, g/l	556
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Depending on the amount of air flow, curing may be faster.

This product can also be cured using infrared.

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

Pencil hardness	2B
Theoretical Coverage (15 g of wet coating covers 1 sq ft @ 25 µm dried film thickness):	
sq ft/gal	656
m ² /kg	6.11
m ² /l	16.7

Electrical Properties

Sheet Resistance @ 25µm dry coating thickness, <0.075 ohms/sq

GENERAL INFORMATION

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

DIRECTIONS FOR USE

Mixing/Dilution

1. LOCTITE EDAG 427 SS E&C can be gently stirred prior to use. Avoid rapid stirring, as this causes air entrapment.
2. LOCTITE EDAG 427 SS E&C is supplied ready for use.
3. Should thinning become necessary, dilute 5% by weight with butyl cellosolve acetate.
4. If the product dries too quickly in the screens, dilute the neat product 5% with butyl carbitol acetate to prolong drying time.

Clean-up

1. The equipment can be cleaned with 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.

Store in a cool, well ventilated area.

Optimal Storage : 0 to 27 °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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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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