

LOCTITE EDAG 418SS E&C

October 2014

PRODUCT DESCRIPTION

LOCTITE EDAG 418SS E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Silver
Cure	Hot air drying
Operating Temperature-Maximum	105°C
Product Benefits	<ul style="list-style-type: none"> • Applicable with manual, semi-automatic and high speed screen printing equipment • Good screen residence time • Non-critical, flexible low temperature drying cycles • Compatible for use with polyester film, polycarbonate film, PVC film, paper and cardboard
Application	Conductive Ink
Typical Assembly Applications	Heating elements, membrane touch switches, keyboards, flexible circuitry and shielding against electromagnetic interference

LOCTITE EDAG 418SS E&C conductive screen printable ink consist of very finely divided silver particles in a thermoplastic resin . It is designed for use in the production of low voltage circuitry on flexible substrates and as a cross-over on UV-curable dielectric inks.

LOCTITE EDAG 418SS E&C may also be used on PVC and other solvent sensitive substrates

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content by Weight, %	66.5
Viscosity, Brookfield , 20 °C, mPa·s (cP):	
Speed 20 rpm	20,000
Density, kg/cm ³	2,000
Shelf Life @ 5 to 30°C (from date of manufacture), days	365
Theoretical coverage, wet product @ 10µm dry coating thickness, m ² /kg	15
Flash Point , °C	69

TYPICAL SCREEN PRINTING PROCESS

Printing Equipment Type

- Manual
- Semi-automatic
- High speed reel-to-reel

Recommended Screen Type

Monofilament polyester screen, threads/cm	68 to 110
Stainless steel screen , threads/cm	90 to 154

Recommended Squeegee

Polyurethane , durometer	70 to 75
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Emulsion Thickness

Emulsion Thickness , µm	20 to 40
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Applied Dry Coating Thickness

Applied Dry Coating Thickness, µm	8 to 12
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TYPICAL DRYING CYCLE

Recommended Drying Cycle

Conventional Air Circulated Oven:	
30minutes @ 90°C or	
15minutes @ 120°C	

LOCTITE EDAG 418SS E&C can be dried immediately, after printing, at temperatures between 80 to 140°C. The higher the temperature, the lower the sheet resistance and the better the mechanical properties will be.

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

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.

TYPICAL PROPERTIES OF CURED MATERIAL

Dry Coating on polycarbonate film dried 15 minutes @ 120°C

Physical Properties :

Adhesion , ASTM 3359, grade	5B
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Electrical Properties:

Sheet Resistance @ 25µm dry coating thickness,	<0.03 ohms/sq
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GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. LOCTITE EDAG 418SS E&C is supplied ready for use and does not require dilution.
2. Avoid rapid stirring as this causes air entrapment.
3. If dilution is necessary, use Arcosolv PM-Acetate.
4. If a gel structure forms after extended storage, the product may be warmed slightly in a water bath (not exceeding 50 °C) and stirred.

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 : 5 to 30 °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 0.1