

LOCTITE EDAG PF 465 E&C

September 2014

PRODUCT DESCRIPTION

LOCTITE EDAG PF 465 E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Translucent blue
Cure	Ultraviolet (UV) light
Product Benefits	<ul style="list-style-type: none"> • Excellent printability • Fast UV cure • Excellent flexibility • Good dielectric strength • Compatible with other LOCTITE EDAG conductive polymer thick film inks
Application	Dielectric ink
Typical Assembly Applications	Insulating crossovers, tail coating for membrane touch switches and insulating and protective coating on flexible circuitry
Key Substrates	Untreated and print receptive polyester and Polycarbonate film

LOCTITE EDAG PF 465 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, 20 °C, mPa·s (cP):	
Speed 20 rpm	17,500
Density, Kg/m ³	1,270
Theoretical coverage @ 10µm dry coating thickness, m ² /kg	78
Shelf Life @ 5 to 25 °C (from date of qualification in original seal), year	1
Flash Point °C	110

TYPICAL SCREEN PRINTING PROCESS

Printing Equipment Type

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

Recommended Screen Type

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

Recommended Squeegee

Polyurethane, durometer	70 to 75
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Emulsion Thickness

Emulsion Thickness, µm	20 to 40
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Recommended Coating Thickness

Applied 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 15µm thickness is recommended. A 25 to 30µm thickness is recommended for crossovers, applied in two passes, to obtain a pore-free crossover coating.

TYPICAL CURING PERFORMANCE

Recommended UV Cure Condition

- UV lamp 80Watt/cm or
- UV lamp 120Watt/cm

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

Physical Properties

Adhesion, ASTM 3359 Method B, grade	5B
Flexibility: pass sharp crease test	

Electrical Properties

Sheet Resistance @ 25 µm dry coating thickness, ohms/sq	2×10 ⁹
Breakdown voltage @ 25 µm, ASTM D-149 Method A, volts	>1,500

GENERAL INFORMATION

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

DIRECTIONS FOR USE

Mixing/Dilution

- LOCTITE EDAG PF 465 E&C is supplied ready for use and does not require dilution.
- Gently stir prior to use.
- LOCTITE EDAG PF 465 E&C should be at room temperature prior to use.
- Care should be taken to avoid LOCTITE EDAG PF 465 E&C curing on the screen, hence protect against exposure to UV sources such as daylight and fluorescent lighting.

Used as a Protective Coating

- When applying as a one layer protective coating, UV curing oven belt speed should be chosen so LOCTITE EDAG PF 465 E&C will be exposed to an energy level of minimum.
- The following UV oven lamp/belt speed combination will be a good starting points:

UV lamp 80 Watt/cm	Belt Speed 10 meter/min
UV lamp 120 Watt/cm	Belt Speed 15 meter/min
- Speed cure will also depend on the heat output of the UV curing system used.

Used as a Crossover

- When applying as a crossover, two layers of approximately 12 to 15 µm should be applied.
- For a good inter-coat adhesion between the first and second layer and a maximum adhesion of the crossover, it is recommended to cure both layers at an energy level of 0.5 Joule/cm².
- Other Electrodegraph conductive PTF inks printed over LOCTITE EDAG PF 465 E&C should be dried within 5 minutes. Do not allow inks printed over LOCTITE EDAG PF 465 E&C to air dry for extended periods of time.

Clean-up

To clean screen and equipment, use MEK, MIBK, Acetone or similar solvents

Storage

Store product in the unopened container in a cool dry well ventilated area. Storage information may be indicated on the product container labeling.

Optimal Storage : 5 to 25 °C Shelf life is longer at lower storage temperature.

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

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 N x 0.225 = lb
 N/mm x 5.71 = lb/in
 N/mm² x 145 = psi
 MPa = N/mm²
 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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Reference 0.1