Technical Data Sheet

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	• 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/m³	1,270
Theoretical coverage @ 10µm dry coating thickness, m² /kg	78
Shelf Life @ 5 to 25 °C (from date of qualification in original seal), year	1
Flash Point ºC	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
Emulsion Thickness	
Emulsion Thickness , µm	20 to 40
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 flourescent 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 enerygy level of 0.5 Joule/cm² .
- Other Electrodag 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

Disclaimer

Note:

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.
Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.
Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.1