

# LOCTITE EDAG PF 407C E&C

January 2021

## PRODUCT DESCRIPTION

LOCTITE EDAG PF 407C E&C provides the following product characteristics:

|   |   |
|---|---|
| <b>Technology</b>                         | Thermoplastic   |
| <b>Appearance</b>                         | Black   |
| <b>Filler Type</b>                        | Carbon  |
| <b>Product Benefits</b>                   | <ul style="list-style-type: none"> <li>• Conductive</li> <li>• Screen printable</li> <li>• Extended screen residence time over LOCTITE EDAG PF 407A E&amp;C</li> <li>• Good adhesion</li> <li>• Flexible low temperature drying cycles</li> </ul> |
| <b>Cure</b>                               | Heat cure   |
| <b>Application</b>                        | Conductive Ink  |
| <b>Operating Temperature - Continuous</b> | 105°C   |
| <b>Typical Assembly Applications</b>      | Printed resistors, membrane touch switches, keyboards, Heating elements, Flexible circuits and Protection against electrostatic discharge (ESD)   |
| <b>Key Substrates</b>                     | Polyester film, Polyimide film, Polycarbonate, Paper and Cardboard  |

LOCTITE EDAG PF 407C E&C polymer thick film is designed for production of low voltage circuitry on polyester film and solvent sensitive substrates such as polycarbonate.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

|  |        |
|--|--------|
| Solids Content, %  | 37     |
| Viscosity, Brookfield, mPa·s (cP):<br>Speed 20 rpm, @ 20°C                   | 42,500 |
| Density, kg/cm <sup>3</sup>  | 1,130  |
| Theoretical coverage @ 10 µm, m <sup>2</sup> /kg                             | 23     |
| Shelf Life @ 5 to 30°C, year:<br>From date of qualification in original seal | 1      |
| Flash Point, DIN 53213, °C   | 78     |

## TYPICAL SCREEN PRINTING PROCESS

|                                   |          |
|-----------------------------------|----------|
| <b>Recommended Thickness</b>      |          |
| Applied dry coating thickness, µm | 6 to 10  |
| <b>Emulsion Thickness</b>         |          |
| Emulsion Thickness, µm            | 20 to 40 |

## Recommended Squeegee

Polyurethane, durometer 70 to 75

## Recommended Screen Type

Monofilament polyester screen, threads/cm 61 to 90  
Stainless steel screen, threads/cm 77 to 110

## Printing Equipment Type

Manual  
Semi-automatic  
High speed reel-to-reel

## TYPICAL CURING PERFORMANCE

### Recommended Drying Cycle

30 minutes @ 90°C or  
15 minutes @ 120°C

LOCTITE EDAG PF 407C E&C can be dried immediately after printing.

The above cure profile is a guideline recommendation. These cure conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

Dry Coating on Polyester film, dried 15 minutes @ 120°C.

### Physical Properties

Adhesion, grade 5B

### Electrical Properties

Sheet Resistivity @ 25µm, ohms/sq ≤20

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. LOCTITE EDAG PF 407C E&C should be thoroughly stirred prior to use. Avoid rapid stirring as this causes air entrapment..
2. Bring product to room temperature prior to use..
3. LOCTITE EDAG PF 407C E&C is supplied ready for use. Should thinning become necessary, dilute 1 to 3% by weight with Electrodag Diluent 2 (butyl "Carbitrol")..
4. Keep product container tightly closed when not in use.

5. If a gel structure forms after extended storage, the product may be warmed slightly in a water bath (not exceeding 50°C) and stirred. Very often, stirring is enough to obtain a proper viscosity again..

#### CLEAN-UP

To clean screen and equipment, use 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.

#### 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 Henkel Representative.

#### Conversions

(°C x 1.8) + 32 = °F

kV/mm x 25.4 = V/mil

mm / 25.4 = inches

N x 0.225 = lb/F

N/mm x 5.71 = lb/in

psi x 145 = N/mm<sup>2</sup>

MPa = N/mm<sup>2</sup>

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 0.3