Technical Data Sheet

LOCTITE® EDAG PF 407A

January 2025

PRODUCT DESCRIPTION

LOCTITE® EDAG PF 407A provides the following product characteristics:

Technology	Thermoplastic
Appearance	Black
Filler type	Carbon
Product benefits	• Conductive • Screen printable • Good screen residence time • Flexible low temperature drying cycles • Good adhesion
Operating temperature, °C	105, continuous
Cure	Heat drying
Application	Conductive ink
Typical assembly applications	Printed resistors, membrane touchswitches, keyboards, Heating elements, Flexible circuits and Protection against electrostatic discharge (ESD)
Key substrates	PET, PEN, PI, PC, Paper

LOCTITE® EDAG PF 407A is a highly conductive carbon ink, which is often used for printing contact areas, sensors and crossovers onto flexible substrates. LOCTITE® EDAG PF 407A is screen printable and a faster drying modification of the LOCTITE® EDAG PF 407C. It can be used onto polyester foils but also onto solvent sensitive substrates like polycarbonate. The coating will be compatible with the silver inks LOCTITE® EDAG PF 410 and LOCTITE® ECI 1010.

TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solid content, (wt%)	36
Viscosity, Brookfield RVT, @ 20°C, after 15 min, mPa.s (cP)	
Speed @ 20 rpm	36,000
Density, kg/cm^3	1,120
Theoretical coverage, m^2/kg	
@ 10 µm dry coating thickness	23
Shelf life @ 5 to 30°C, year	
(from date of qualification in original seal)	1
Flash point, DIN 53213, °C	47

TYPICAL SCREEN PRINTING PROCESS

Applied dry coating thickness

Applied dry coating thickness, µm	6 to 10

Emulsion thickness

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 DRYING PERFORMANCE

Recommended drying cycle
15 minutes @ 120°C

LOCTITE® EDAG PF 407A can be dried immediately after printing.

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 THE DRIED MATERIAL

Dry coating on Polyester film, dried 15 minutes @ 120ºC..

Physical properties

Adhesion, grade	5B

Electrical properties

Sheet resistance, 4-point probe, Ohm/sq/25µm	
15 min at 120°C	13
15 min at 90°C	15

GENERAL INFORMATION

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

Directions for use:

1. LOCTITE® EDAG PF 407A is supplied ready for use.
2. Should dilution be necessary, use PM-acetate, PMA (CAS: 108-65-6). Henkel recommends a maximum of 10 wt%. This should be accomplished by adding solvent at 0.5 wt% intervals until desired viscosity and printability is achieved.
3. Mix thoroughly before use to ensure the entire ink volume is homogenous. A slow speed propeller may be utilized to mix until product is uniform. Avoid rapid stirring as this causes air entrapment.

Clean-up

The screen and equipment can be cleaned with dilution solvent, or esters (butylacetate, propylacetate, or ethylacetate), or ketones (MEK, 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 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.

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 the specifications of this product.

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