

LOCTITE EDAG PE 409 E&C

April 2023

PRODUCT DESCRIPTION

LOCTITE EDAG PE 409 E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Gray paste
Filler Type	Silver and Silver chloride blend
Operating Temperature Continuous	-100°C
Product Benefits	<ul style="list-style-type: none"> • Conductive • Screen printable • Good flexibility • Easy printability • Extended screen residence time • Non-critical, flexible low temperature drying cycles • Excellent adhesion to polyester film
Cure	Heat drying
Application	Conductive coating
Typical Medical Device Application	ECG disposable electrodes and Bio medical sensors

LOCTITE EDAG PE 409 E&C is a blend of finely divided silver and silver chloride particles in a thermoplastic resin. It is specially designed for use as an electrode material in polyester film-based medical sensing devices.

LOCTITE EDAG PE 409 E&C meets ANSI/AAMI standards for Pregelled ECG Disposable Electrodes (when used with appropriate gel).

TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solids Content, %	75
Silver:Silver Chloride Ratio	9:1
Viscosity, Brookfield, 20 °C, mPa·s (cP):	
Speed 20 rpm	25,000
Density, kg/cm ³	2,490
Theoretical coverage, m ² /kg:	
Wet product @ 10 µm dry coating thickness	15
Shelf Life @ 5 to 30°C, months (from date of qualification in original seal)	12
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 68 to 110

Recommended Squeegee

Polyurethane, durometer 70 to 75

Emulsion Thickness

Emulsion Thickness, µm 20 to 40

Applied Dry Coating Thickness

Applied Dry Coating Thickness, µm 7 to 12

TYPICAL DRYING CYCLE

Recommended Drying Cycle

Conventional Air Circulated Oven

30 minutes @ 90°C

15 minutes @ 120 °C

LOCTITE EDAG PE 409 E&C can be dried immediately after printing.

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

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 DRIED MATERIAL

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

Physical Properties

Adhesion, ASTM 3359 Method B, grade 5B

Electrical Properties

Sheet Resistance, Ohm/sq/25µm ≤0.035

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Contact with metal equipment and exposure to light should be avoided as much as possible due to product's silver chloride content.
2. Surface to be coated must be dry and free of contaminants such as oil or chemical residues.
3. LOCTITE EDAG PE 409 E&C is supplied ready for use and does not require dilution.
4. Avoid rapid stirring as this causes air entrapment.
5. Should dilution be necessary use Carbitol Acetate (CAS: 112-15-9). Henkel recommends a maximum of 10 wt%. This should be accomplished by adding solvent at 0.5 wt% intervals by weight until desired viscosity and printability is achieved.

6. 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 cool dry well ventilated area. 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.

Empty containers may retain hazardous properties.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

Conversions

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{inches}$$

$$\text{N} \times 0.225 = \text{lb/F}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{N/mm}^2 \times 145 = \text{psi}$$

$$\text{N/mm}^2 = \text{MPa}$$

$$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$$

$$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$$

$$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$$

$$\text{mPa}\cdot\text{s} = \text{cP}$$

Disclaimer

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.

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