

LOCTITE EDAG PE 409 E&C

October 2014

PRODUCT DESCRIPTION

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

Technology	Thermoplastic
Appearance	Gray
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	Air dry
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.

TYPICAL PROPERTIES OF UNCURED 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 CURED MATERIAL

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

Physical Properties

Adhesion, ASTM 3359 Method B, grade 5B

Electrical Properties

Sheet Resistivity, ohms/sq:
@ 25µm dry coating thickness ≤0.05

GENERAL INFORMATION

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

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 thinning become necessary, use Electrodag Diluent 1 (1 to 2% by weight).
6. The equipment can be cleaned with 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 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 Technical Service Center or Customer Service 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 quality department for assistance and recommendations on specifications for this product.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} = \text{N/mm}^2$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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Reference 0.1