

LOCTITE® EDAG PR 406

January 2025

PRODUCT DESCRIPTION

LOCTITE® EDAG PR 406 provides the following product characteristics:

Technology	Thermoset resin
Appearance	Black
Filler type	Carbon
Product benefits	<ul style="list-style-type: none"> • One component • Low electrical resistance • Alternative to gold plating for copper contact protection • Resistant to wave/hot air levelling soldering • Optimum viscosity • Resistant to common industry solvents • Compatible with most commonly used fluxes
Operating temperature, °C	150, continuous
Cure	Heat cure
Application	Conductive ink
Typical assembly applications	Copper contact protection, Conductive pads and jumpers and Printed resistors
Surfaces	Copper, Phenolic paper (FR2), Epoxy paper (FR3) and Glass epoxy (FR4)

LOCTITE® EDAG PR 406 carbon polymer thick film ink is suitable for application on most rigid substrates and copper. This thermoset ink shows very low resistance, below 10 Ohm/sq/25µm; and very good stability in chemically harsh environments. Its high abrasion resistance makes it particularly suitable for copper or gold contact protection.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solid content, (wt%)	58
Viscosity, Brookfield RVT, @ 20°C, after 15 min, mPa.s (cP) Speed @ 20 rpm	32,000
Density, kg/cm ³	1,240
Theoretical coverage, m ² /kg @ 10 µm dry coating thickness	38
Shelf life @ 5 to 30°C, year (from date of manufacture)	1
Flash point, °C	54

TYPICAL SCREEN PRINTING PROCESS

Emulsion thickness

Emulsion thickness, µm	30
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Recommended screen type

Monofilament polyester screen, threads/cm	75.5
Stainless steel screen, threads/cm	93.5

Recommended squeegee

Polyurethane, durometer	72.5
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Printing equipment type

Manual
Semi-automatic

Applied dry coating thickness

Applied dry coating thickness, µm	13.5
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TYPICAL CURING PERFORMANCE

Recommended curing cycle

30 minutes @ 150°C

LOCTITE® EDAG PR 406 can be cured in conventional air circulated ovens.

Higher temperatures result in better characteristics.

This product can also be cured using infrared.

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

The above cure profile(s) are guideline recommendations. 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

Physical properties

Adhesion, grade	5B
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Electrical properties

Sheet resistance, 4-point probe, Ohm/sq/25µm 30 min @ 150°C	7.4
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GENERAL INFORMATION

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

Directions for use

1. LOCTITE® EDAG PR 406 is supplied ready for use.
2. Should dilution be necessary, use diethylene glycol butyl ether (CAS: 112-34-5). 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

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

Disclaimer

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