



LOCTITE® EDAG PM 404

April 2025

PRODUCT DESCRIPTION

LOCTITE® EDAG PM 404 provides the following product characteristics:

Technology	Thermoplastic
Appearance	Black
Operating temperature, °C	100, continuous
Product benefits	<ul style="list-style-type: none">• Non-conductive• Screen printable• Flexible low temperature drying cycles• Flexible resistive• Excellent screen residence time• Flexible low temperature drying cycles• Good adhesion
Cure	Heat drying
Application	Non-conductive ink
Typical assembly applications	Various resistive applications, Printed resistors, Heating elements, Sensing devices and Protection against electrostatic discharge (ESD)
Key substrates	PET, PEN, PI, Paper

LOCTITE® EDAG PM 404 is a non-conductive ink. It is used to adjust and increase the resistance of the carbon conductive ink LOCTITE® EDAG 6017SS for resistive heating applications.

TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solid content, wt%	39
Viscosity, Brookfield RVT, 25°C, after 1 min, mPa.s (cP) Speed 20 rpm	18,000
Density, g/cm ³	1.27
Theoretical coverage, m ² /kg at 10 µm dry coating thickness	14
Shelf life at 5 to 30°C, from date of qualification in original seal, days	365
Flash point, DIN 53213, °C	78

TYPICAL SCREEN PRINTING PROCESS

Blends of LOCTITE® EDAG PM 404 and ELECTRODAG® 6017SS are applied by standard screen printing techniques.

Emulsion thickness	
Emulsion thickness, µm	20 to 40

Recommended squeegee

Polyurethane, durometer	70 to 75
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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 at 120°C

Blends of LOCTITE® EDAG PM 404 and LOCTITE® EDAG 6017SS can be dried in conventional air circulated ovens. Higher temperatures will shorten the drying time and will lead to more stable resistance values. For high speed production, jet drying, infra-red drying and drying in high speed reel-to-reel equipment can be used.

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

Physical properties

Adhesion on PET, ASTM D3359, grade	5B
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Blending ratios of LOCTITE® EDAG PM 404 and LOCTITE® EDAG 6017SS, dried 15 minutes @ 120°C.

EDAG 6017SS (wt%)	EDAG PM 404 (wt%)	Sheet Resistance (Ohm/sq/25µm)
100	0	35
90	10	50
80	20	70
70	30	105
60	40	170
50	50	290
40	60	675
30	70	2,160
25	75	4,500
20	80	35,000
10	90	> 1 x 10 ⁹



GENERAL INFORMATION

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

Directions for use

1. LOCTITE® EDAG PM 404 is supplied ready for use.
2. Should dilution be necessary, use butyl glycol acetate (CAS: 112-07-2). 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. If a gel structure forms after extended storage, the product may be warmed slightly in a water bath (not exceeding 50°C) and stirred with a mechanical stirrer. Very often, stirring is enough to obtain a proper viscosity again.
4. Blending with LOCTITE® ECI 7004LR or LOCTITE® ECI 7004HR should be performed with a mechanical propeller mixer for the entire jar volume. 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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