

# LOCTITE® EDAG 109

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## PRODUCT DESCRIPTION

LOCTITE® EDAG 109 provides the following product characteristics:

<b>Technology</b>	Thermoplastic
Appearance	Black liquid
Filler type	Carbon
Product benefits	<ul style="list-style-type: none"> <li>• Fast drying</li> <li>• Extremely flexible</li> <li>• Conductive</li> </ul>
Operating temperature, °C	max. 105
<b>Cure</b>	Heat drying
<b>Application</b>	Conductive ink
Typical assembly applications	Electronic circuitry, RFID antenna, hearing elements and bio and medical sensors
Key substrates	Plastics and paper substrates

LOCTITE® EDAG 109 is a carbon ink with low viscosity and fast drying solvent suitable for high speed rotogravure or flexographic printing. After dilution, this ink can also be used as sprayable EMI shielding coating onto plastic and metal substrates, with attenuation up to 40 dB. LOCTITE® EDAG 109 is fully blendable with silver ink LOCTITE® EDAG SP 413 to adjust the coating price and resistance.

## TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solid content, (wt%)	40
Viscosity, Brookfield RVT, @ 20°C, 1 min, 5 min shake, mPa.s (cP)	1,700
Speed @ 20 rpm	
Density, g/cm <sup>3</sup>	1.03
Theoretical coverage, m <sup>2</sup> /kg	
@ 10 µm dry coating thickness	22
Shelf life @ 5 to 30°C, days	
(from date of qualification in original seal)	365
Flash point, °C	14

## TYPICAL DRYING PERFORMANCE

### Recommended drying cycle

30 minutes @ 70°C

LOCTITE® EDAG 109 can be dried with forced air or infrared systems. Higher temperatures for longer time will improve performance. Care should be taken with infrared. Too much energy can destroy the coating. Design drying rates for the maximum the substrate and production speeds can tolerate.

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

Pencil hardness HB

### Electrical properties

Sheet resistance, 4-point probe, Ohm/sq/25µm  
Full surface coating, 30 min @ 70°C 8.8

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

### 1. Surface preparation

- Surfaces to be coated must be clean, dry and free of dust.

### 2. Mixing/Dilution

- Before use, the material should be mixed thoroughly using a mechanical stirrer or paint shaker until it is of uniform consistency. Check to see that no sediment remains in the bottom of the container.
- Pour in a suitable container in case dilution is required.

### 3. Application

LOCTITE® EDAG 109 may be applied by spray, brush or print method.

#### ► SPRAY APPLICATION

1. If dilution is necessary, use MEK or MIBK.
2. Use a ratio of 1:1 product to diluent by weight for dilution.
3. To dilute, add solvent to LOCTITE® EDAG 109 and continue stirring until mixture is of uniform color.
4. LOCTITE® EDAG 109 is applied using conventional padde agitated pressure tank spray systems. Recommended spray pressure is 2 to 2.5 bar with a spray gun nozzle diameter of 1 to 2 mm.
5. Small prototype runs may be sprayed with suction sup spray equipment.

#### ► BRUSH APPLICATION

1. LOCTITE® EDAG 109 can be applied by brush as supplied.

## ► PRINT APPLICATION

1. LOCTITE® EDAG 109 is supplied ready for use. Should thinning become necessary, use MEK or MIBK.

## 4. Drying

- This product air dries to touch in about 10 minutes and to handle in approximately 30 minutes, depending on ambient temperatures.
- For production runs, conventional forced drying methods may be used for faster processing.

## 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 cool dry well ventilated area. Storage information may be indicated on the product container labeling.

**Optimal storage: 8 to 28°C. Storage below 8°C or above 28°C can adversely affect product properties.**

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

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

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