

# LOCTITE EDAG PR 401B E&C

March 2019

## PRODUCT DESCRIPTION

LOCTITE EDAG PR 401B E&C provides the following product characteristics:

<b>Technology</b>	Thermoset Resin
<b>Appearance</b>	Black
<b>Operating Temperature-</b>	150°C
<b>Solids Content, %</b>	65 to 71
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• One component</li> <li>• Can be mixed to produce accurately controlled resistance values</li> <li>• Applicable with manual or semi automatic screen printing equipment</li> <li>• Good screen residence time</li> <li>• Excellent adhesion</li> <li>• Resistant to common industry solvents</li> <li>• Stable resistance at elevated temperatures</li> </ul>
<b>Application</b>	Printed electronics, Conductive and dielectric inks
<b>Typical Assembly Applications</b>	Printed resistors
<b>Surfaces</b>	Copper, Phenolics and Glass epoxy

LOCTITE EDAG PR 401B E&C are a series of screen printable inks of varying resistances, specifically designed for screen printing resistors onto rigid substrates in the production of printed circuit boards.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity Brookfield , 20 rpm @ 20°C, mPa·s (cP)	27,500
Density, kg/m <sup>3</sup>	1,440
Theoretical coverage, wet product @ 10 µm dry coating thickness, m <sup>2</sup> /kg	± 34
Shelf Life @ 5 to 25°C (from date of manufacture), days	365
Flash Point , DIN 53213, °C	54

## TYPICAL SCREEN PRINTING PROCESS

### Recommended Thickness

Applied dry coating thickness , µm	12 to 15
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## Emulsion Thickness

Emulsion Thickness , µm	20 to 40
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## Recommended Screen Type

Monofilament polyester screen, threads/cm	61 to 90
Stainless steel screen , threads/cm	77 to 110

## Recommended Squeegee

Polyurethane , durometer	70 to 75
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## Printing Equipment Type

Manual  
Semi-automatic

## TYPICAL CURING PERFORMANCE

### Cure Schedule

1 hour @ 150°C or higher if the substrate will allow

LOCTITE EDAG PR 401B E&C can be cured in conventional air circulated ovens @ 180°C.

Higher temperatures result in better characteristics.

Infrared curing can also be used successfully.

The above cure profile is a guideline recommendation. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties :

Adhesion, ASTM 3359 Method B, grade	5B
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### Electrical Properties:

Sheet Resistivity, ohm/sq/25µm, ±30%	100
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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 401B E&C is supplied ready for use and does not require dilution.
2. In order to produce printed resistors off the required value, choose the product with the nearest resistance and blend with the next highest or lowest, depending upon whether you want to increase or decrease the resistance, in the appropriate quantity.
3. Should thinning become necessary, dilute with 1 to 5% Electrodag Diluent 2 (butyl "Carbitrol").
4. LOCTITE EDAG PR 401B E&C should be thoroughly stirred prior to use. Avoid rapid stirring as this causes air entrapment.

**CLEAN-UP**

To clean screen and equipment, use Methylethylketone (MEK), MIBK, 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.

Store in a cool, well ventilated area.

**Optimal Storage : 5 to 25 °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.

**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**

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

**Disclaimer****Note:**

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.

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**Reference 1**