



# Electrodag™ 820B™

August 2009

## PRODUCT DESCRIPTION

Electrodag™ 820B™ provides the following product characteristics:

<b>Technology</b>	Thermoplastic
<b>Appearance</b>	Silver
<b>Filler Type</b>	Silver
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Conductive</li> <li>• Screen printable</li> <li>• Fine-line printable</li> <li>• Excellent flexibility</li> <li>• Fast cure</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	Conductive Ink
<b>Operating Temperature-Maximum</b>	121°C
<b>Solvent</b>	Carbitol acetate
<b>Typical Assembly Applications</b>	Membrane switches, PC computer keyboards and Notebook computer keyboards

Electrodag™ 820B™ screen printable polymer thick film ink is designed for use on membrane keyboard printing. This adhesive is compatible with Electrodag® conductive polymer thick film and inks. To achieve low cost material for ESD grid applications, blending with Electrodag® PF-008 (SS 24939) is recommended.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content by Weight, %	59
Viscosity, Brookfield CP51, mPa-s (cP):	
Speed 50 rpm, @ 25°C, 5 minutes	4,600 to 7,400

Density, kg/l	1.84
Shelf Life @ 5 to 27°C, year:	
From date of qualification in original seal	1
Coverage @ 25µm, m² /kg	5.61
Printability, µm:	
Lines	200
Spaces	125

Flash Point, Tag Closed Cup Flash Tester, °C	107
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## TYPICAL SCREEN PRINTING PROCESS

### Recommended Thickness

Dry Film, µm	6 to 10
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### Emulsion Thickness

Solvent resistant emulsion, µm	12 to 25
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### Recommended Screen Type

Monofilament polyester screen, mesh	160 to 300
Stainless steel screen, mesh	165 to 325

## Recommended Squeegee

Polyurethane or other solvent resistant material	60 to 70
Polyester screen, durometer	70 to 80
Stainless steel screen, durometer	70 to 80

## TYPICAL CURING PERFORMANCE

### Recommended Drying Cycle

20 minutes @ 120°C

### Percent Volatiles

VOC, g/l	745
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Curing at 150°C may further improve properties.

Low conductivity and poor adhesion can result from undercuring.

This product can be infrared cured.

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

After screen printing and curing for 20 minutes @ 120°C

### Physical Properties:

Flexibility, % change in resistance	13.6
Resistivity change after 5 creases with 5 kg weight used on crease	
Adhesion, % change in resistance	2.1
90° tape pull with 3M 600 series tape	

### Electrical Properties:

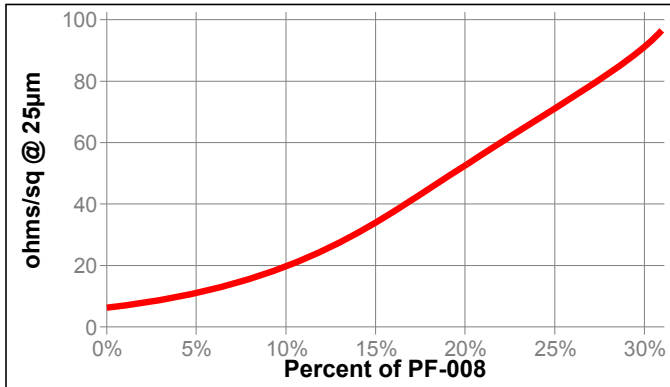
Sheet Resistivity @ 25µm, ohms/sq	0.015
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## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. Do not freeze.
2. Keep product container tightly closed when not in use.
3. Mix thoroughly with plastic spatula or mechanical stirrer from bottom of container, careful not to whip air in to the product. Using a plastic spatula will decrease the possibility of introducing plastic grindings from the container sidewalls into the product, which could damage the screen.
4. Electrodag™ 820B™ can be blended with PF-008 Electrodag® SS24939 carbon ink to achieve custom resistance. PF-008 was designed only for blending with Electrodag™ 820B™ and should not be used for overcoating.
5. Electrodag™ 820B™ is supplied ready for use. Should thinning become necessary, dilute 5% by weight with carbitol acetate.



#### Clean-up

To clean screen and equipment, use Methylenechloride (MEK), MIBK, Isopropanol 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 27 °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

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

#### Note

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Reference 0.0