

LOCTITE EDAG 427 SS E&C

August 2014

PRODUCT DESCRIPTION

LOCTITE EDAG 427 SS E&C provides the following product characteristics:

| | |
|---|---|
| Technology | Thermoplastic |
| Appearance | Silver |
| Cure | Heat cure or Infrared |
| Operating Temperature-continuous | 149°C |
| Product Benefits | <ul style="list-style-type: none"> • Screen printable • Adheres well polyester film • High solids for excellent coverage and easy film build |
| Application | Conductive Ink |
| Typical Assembly Applications | <ul style="list-style-type: none"> • Membrane switches • electroplating precoat • RFI shielding • printed antennas • Flexible circuits • Heating elements |

LOCTITE EDAG 427 SS E&C conductive screen printable ink consist of very finely divided silver particles dispersed in a thermoplastic resin . This is one of a series of EDAG products designed to provide controlled electrical properties.

It can be used by itself or blended with EDAG 423 SS E&C (graphite) to allow significant cost savings in applications that do not require the extreme conductivity of silver alone. A ready-for-use blend of EDAG 427 SS E&C and EDAG 423 SS E&C is available as EDAG 426 SS E&C .

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|---|--------|
| Solids Content by Weight, % | 77 |
| Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP): | |
| Spindle 7, speed 20 rpm | 40,000 |
| Density, kg/l | 2.63 |
| Shelf Life @ 0 to 27 °C (from date of qualification in original seal), days | 730 |
| Flash Point , ASTM D93-71, Pensky-Martens Closed Cup Flash Tester, °C | 74 |

TYPICAL SCREEN PRINTING PROCESS

This product is applied by standard screen printing techniques. Many factors influence the dried film thickness and the final resistance obtained. These include snap-off distance, screen mesh size, squeegee material, screen material, and emulsion thickness.

| | |
|--|------------|
| Recommended Thickness, dried, µm | 10 to 13 |
| Emulsion Thickness , Solvent resistant emulsion , µm | 20 to 38 |
| Screen Type: | |
| Monofilament polyester screen, mesh | 157 to 200 |
| Stainless steel screen, mesh | 165 to 250 |

Squeegee :

| | |
|---|----|
| For use on Polyester screens, durometer | 60 |
| For use on Stainless steel screens, durometer | 70 |

TYPICAL CURING PERFORMANCE

Cure Schedule

| |
|-------------------|
| 30 minutes @ 71°C |
| 15 minutes @ 93°C |
| 5 minutes @ 121°C |

Percent Volatiles

| | |
|----------|-----|
| VOC, g/l | 556 |
|----------|-----|

Depending on the amount of air flow, curing may be faster.

This product can also be cured using infrared.

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

| | |
|---|------|
| Pencil hardness | 2B |
| Theoretical Coverage (15 g of wet coating covers 1 sq ft @ 25 µm dried film thickness): | |
| sq ft/gal | 656 |
| m ² /kg | 6.11 |
| m ² /l | 16.7 |

Electrical Properties

| |
|---|
| Sheet Resistance @ 25µm dry coating thickness, <0.075 ohms/sq |
|---|

GENERAL INFORMATION

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

DIRECTIONS FOR USE

Mixing/Dilution

1. LOCTITE EDAG 427 SS E&C can be gently stirred prior to use. Avoid rapid stirring, as this causes air entrapment.
2. LOCTITE EDAG 427 SS E&C is supplied ready for use.
3. Should thinning become necessary, dilute 5% by weight with butyl cellosolve acetate.
4. If the product dries too quickly in the screens, dilute the neat product 5% with butyl carbitol acetate to prolong drying time.

Clean-up

1. The equipment can be cleaned with 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 : 0 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

(°C x 1.8) + 32 = °F

kV/mm x 25.4 = V/mil

mm / 25.4 = inches

N x 0.225 = lb

N/mm x 5.71 = lb/in

N/mm² x 145 = psi

MPa = N/mm²

MPa x 145 = psi

N·m x 8.851 = lb·in

N·m x 0.738 = lb·ft

N·mm x 0.142 = oz·in

mPa·s = 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in

relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada, Inc. the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Loctite:](#)

[1224998](#)