BONDERITE S-FN EB-012 ACHESON CONDUCTIVE COATING

(Known as DAG EB-012)

Issued 6/30/2017

DESCRIPTION

BONDERITE S-FN EB-012 ACHESON (Known as DAG EB-012) is one in a series of conductive coatings designed to provide controlled electrical properties.

BONDERITE S-FN EB-012 ACHESON is an application versatile, single component, water based dispersion of graphite in a thermoplastic binder that offers an extremely flexible coating with low resistance at a low cure temperature. The coating will provide a conductive, chemical-resistant coating that will withstand the environment inside of a lithium-ion polymer battery. With proper dilution, **BONDERITE S-FN EB-012 ACHESON** can be applied by spray, brush, roll, or print methods. Once properly cured, the coating provides a tenacious, chemical and solvent resistant coating for most metal substrates.

FEATURES

- Water based coating that cures at a low temperature
- The highly flexible coating provides excellent adhesion to copper and aluminum substrates, providing chemical and solvent resistance
- The wet coating can be applied by spray, brush, roller, or flexo and gravure print techniques

BENEFITS

- The low VOC level found in this product, allow for easier compliance to local environmental legislation. The low cure temperature allows for energy savings, thus reducing overall process costs
- Proven performance for polymer lithium-ion battery applications
- The application versatile coating allows for flexibility of choice with regard to part processing

TYPICAL APPLICATIONS

Conductive protective coating for lithium-ion and lithium-ion polymer batteries
Current collector coating for EDLC applications
Conductive coating on screw threads
Tough, tenacious, chemical and solvent-resistant coating on metals

TYPICAL PROPERTIES

(of wet product)

Color:	black
Pigment:	graphite
Binder:	thermoplastic
Carrier:	water
Viscosity:	50-200 mPa·s
Density:	1.09-1.14 kg/l (9.1-9.5 lbs/gal)
Solids content by weight:	29 – 31%
Flashpoint:	none, contains water

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VOC	:	10 g/l (< 0.1 lb/gal)
Theoretical coverage	:	7.40 m^2/kg @ 25 μm (336 ft^2/gal @ 1 mil)
Color	:	black
Sheet resistance	:	< 30 ohms/sq @ 25 μm (1 mil) dry film thickness

METHOD OF USE

Surface Preparation

Substrates must be dry and free of contaminants (dirt, grease, powder, and other residues) before application of **BONDERITE S-FN EB-012 ACHESON**.

The etching process to prepare aluminum grids for coating is as follows:

1. Soak grid three minutes in 5% NaOH
2. Rinse 30 seconds under tap water
3. Soak 30 seconds in 1% HCl
4. Rinse 30 seconds under tap water
5. Rinse with Acetone to remove water
6. Allow to dry before coating

Mixing/Blending/Dilution

BONDERITE S-FN EB-012 ACHESON is supplied ready for use, but an addition of up to 8 ounces of water can be added per gallon, if needed. Thoroughly mix **BONDERITE S-FN EB-012 ACHESON** on a paint shaker or with a prop blade mixer before use. Do not vortex or agitate violently, as air entrapment or foaming may cause separation of solids.

Application

BONDERITE S-FN EB-012 ACHESON is normally applied by printing or spray techniques. For spray application, use either a conventional system, or for greater transfer efficiency, high volume, low pressure (HVLP) type equipment. Optimum coating thickness is 0.001 inches (25.4 microns). However, a thinner coating may be acceptable, depending on individual performance requirements.

Curing

BONDERITE S-FN EB-012 ACHESON may be cured by exposure to any of the time/temperature conditions indicated.

- Air dry at room temperature for 24 hours
- Forced dry 3-10 minutes at (70°-90°C) 158°-203°F

STORAGE/ HANDLING

Shelf life for this product is 12 months from date of qualification under original seal. Prolonged storage of **BONDERITE S-FN EB-012 ACHESON** at temperatures higher than 50°C (120°F) is not recommended. Do not allow to freeze. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

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APPLICATION ASSISTANCE

Henkel's Application Specialists are available to assist you in production start-up with **BONDERITE S-FN EB-012 ACHESON.** Visit our website www.henkelna.com/metals for more information and for the Henkel global location nearest you.

HEALTH & SAFETY

Please consult Material Safety Data Sheet

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