UV-2530 UV Curable Matte Dielectric

DESCRIPTION

UV-2530 is a ultraviolet light-cured, screen-printable, matte-finish dielectric ink used for screen-printed dielectric layers. Applications include flexible circuits, membrane switches, crossovers and tail coats. It maintains its electrical integrity over wide temperature and frequency ranges.

FEATURES

- Matte finish
- Outstanding adhesion to conductive inks, print-treated polyester films and copper
- High strength and toughness
- Excellent flexibility
- Low odor
- Inherent moisture resistance
- Cured with UV light in seconds for high-speed production
- Withstands extreme thermal shock cycling, from +150°C to well below –50°C
- Available in clear, green or blue translucent colors
- Other application methods include dip, roll or knife over roll coating, curtain coating or die application

UV-2530 dielectric is compatible with our silver-filled conductive inks, carbon resistive inks, silver-filled conductive epoxy and UV curable encapsulants.

Typical Properties	
Appearance	Matte clear, green or blue liquid
Viscosity: Brookfield DVIII Ultra SC4-14 @25°C SR 30	Reported as Tested
Hegman Gauge	≤50 µm
Total NV Solids	100%

Screening Recommendations	
Mesh Screen	Stainless steel or monofilament polyester mesh (305 to 390 mesh)
Emulsion Thickness	Between .001" and .003"
Polyurethane Squeegee	Shore 'D' durometer between 60 and 90

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APPLICATION GUIDELINES

Follow screen printing recommendations. For thicker coatings, use smaller mesh sizes and thicker emulsions. Other conventional methods of application include dip, roll or knife over roll coating, curtain coating or die application. The excellent pot life and UV cure mechanism allow for the heating of the material to precisely control viscosity for consistent application weights.

When using UV-2530 as a screen printed dielectric for membrane switches and other additive circuits, it is essential to make sure that pinholes and contamination in the cured material do not allow shorting between conductive paths. It is recommended that two layers of UV-2530 be applied in order to assure that any pinholes or defects are eliminated. After screening the first layer of UV-2530, it should not be cured completely in order to allow for optimal chemical bonding between the two layers when the second layer of UV-2530 is screened and cured.

CURING

UV-2530 must be exposed to ultraviolet light of the proper wavelength to activate the curing mechanism. This can be done with any ultraviolet light source which puts out wave-lengths of <380 nanometers. The most common commercial light source is the medium pressure mercury vapor (MPMV lamps), electrode or microwave activated arc, with or without spectral enhancement (doped). Cure can also be accomplished with xenon or carbon arc lamp sources. These sources are available in increasing arc lengths and varying intensities for specific applications from a large number of manufacturers. It is highly recommended that a radiometer be used to verify energy levels in any UV curing system. A UV-LED cure is not suitable for this product.

As a general guideline, lamp input power settings should be at the highest level (300 watts in most systems), and the belt speed should be adjusted until a reading of between 400 and 700 millijoules/square centimeter (mj/cm^2) is obtained on the radiometer. Keep in mind that some systems may require values outside of this range in order to completely cure UV materials. Always verify completeness of curing UV materials in an initial process capability study, and then use the energy readings that provide this optimal curing as a set up parameter each time the UV line is set up to run production.

After screening and curing two layers of UV-2530 on a test substrate, perform a cross hatch/tape adhesion test. If the two layers of dielectric separate from each other, then the UV lamp density needs to be reduced for curing the first layer, or the line speed needs to be increased for curing the first layer so that it is slightly under cured. Before screening the second layer of UV-2530, be sure to reset the line speed and lamp density to allow for complete curing.

STORAGE & SHELF LIFE

Shelf life is 12 months in unopened container. Store in a dry area in temperatures less than 25°C. Do not use product after the expiration date. Avoid sunlight and non-UV filtered light during storage and use.

Do not store used ink in the same container as unused ink.

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DISPOSAL

The material and its container must be disposed in accordance with all local, state, federal and/or international regulations.

HANDLING

Consult Safety Data Sheet (SDS) for details on the handing procedures and product hazards prior to use. If you have any questions regarding handling precautions or product hazard, please email productsafety@kayakuAM.com.

DISCLAIMER

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