



17 Hampshire Drive, Unit 8
Hudson, NH 03051

www.conductivecompounds.com

Innovative Chemistry For High-Tech Applications

Phone: (603) 595-6221

Fax: (603) 595-6228

WB-101 WATER BASED SILVER FILLED CONDUCTIVE INK/COATING

WB-101 is a low viscosity, high solids silver filled ink design specifically for high speed gravure and rotary screen printing processes. It is also suitable for spray and coating applications. WB-101 dries to a hard, durable and very flexible film and has excellent conductivity – especially in very thin film traces down to 5 to 6 μm dried thickness. WB-101 is designed to dry very quickly, and has excellent adhesion to a wide variety of plastic and metal substrates. Applications for WB-101 include RFID and cell phone antennas, medical EEG and EKG sensors and EMI/RFI shielding applications.

WB-101 is compatible with UV-2530, UV-2531 and UV-1006S dielectrics and our other silver and carbon materials.

WB-101 can also be crosslinked to an even harder, more durable film with the addition of a crosslinking component to the material prior to printing. Contact us for more details.

PROPERTIES

Appearance	Silver Liquid
Viscosity (#5 RV Spindle, 20 rpm, 25° C)	1,500 cps
Drying Schedule	60 to 90 seconds at 145° C, 6 μm dry film thickness
Shelf Life	6 Months
Total % NV Solids	76%

PHYSICAL PROPERTIES AFTER CURE (.001" THICK FILM)

Hegman Gage	<10.0 μ
Volume Resistivity (ref. ASTM D-257)	2.0 x 10 ⁻⁴ Ω -cm
After 1 Crease, 1 mil Dry Film	
On 5 mil Mylar	< 5.0 x 10 ⁻⁴ Ω -cm
Surface Resistivity (ref. ASTM D-257)	< .025 Ω /Square
Pencil Hardness (ref.ASTM D3363-05)	2H minimum

NOTE: Although the above properties are accurate to the best of our knowledge, Conductive Compounds, Inc. makes no guarantees for customer specifications established in applications where this product is used. Customer assumes responsibility for determining fitness of use in their particular application.

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APPLICATION METHODS:

WB-101 can be applied by all conventional methods including spraying, dip, roll or knife over roll coating and curtain coating. When used as to saturate foam or other porous materials in a dip process, it is recommended that excess material be squeezed from the material before oven drying using nip rollers. After application, oven drying is recommended. Depending upon film thickness, drying can be accomplished in less than two minutes at temperatures above 250° F with adequate air flow. Completeness of drying can be verified by measuring electrical surface resistivity of dried material using a box electrode or point electrodes hooked up to a multimeter. After initial drying, measure surface resistivity. Dry the material for another cycle and measure resistivity once more. If the drop in resistivity between the first and second drying cycle is less than 10%, drying can be considered complete after first cycle. For more critical applications, or where outgassing may be a concern the difference in resistivity between the two drying cycles should be less than 5%, and consideration should be given to post baking the material in batch ovens for 30 to 60 minutes at 250 – 300° F.

THINNING AND CLEANUP:

WB-101 can be thinned, if necessary, by adding small amounts of water and mixing well. Do not use solvents to thin WB-101. It is recommended that WB-101 be cleaned up immediately after processing using water. If WB-101 has started to dry on surfaces, solvents such as MEK, acetone or toluene can be used to remove it. If WB-101 is allowed to dry completely on surfaces, cleanup may require aggressive abrasion and the use of solvents to remove it.

The above guidelines are intended to provide a starting point for evaluation. Conductive Compounds, Inc. recognizes that each customer's manufacturing process is unique, and we are available to provide technical assistance to resolve your processing issues. Call us to discuss your application in more detail.

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