ELMNT.BA™

Conducting Ink - Blade Coating

PRODUCT DESCRIPTION

ELMNT inks are a line of stretchable conductive inks for wearable and flexible electronic applications. ELMNT.BA is the blade coating ink version of the ELMNT family and has high viscosity for coating or patterning through stencil masks. ELMNT.BA has high conductivity and consistent resistance under strain making it ideal for data transmission, joule heating, and RF applications on textiles.

PRODUCT BENEFITS

- Low hysteresis
- Stretchable with consistent conductivity
- Room temperature processing
- Compatible with polyurethane (TPU) for wearable electronic processing
- Metallic bulk conductivity similar to aluminum

RECOMMENDED PROCESSING

Deposit ELMNT.BA onto a stretchable substrate with a trace thickness of 0.15 - 0.20 mm. See Compatibility list for appropriate substrates. Once deposited, allow traces to dry for 20 minutes in ambient air.

ELMNT.BA requires no heat to cure but has high resistance until activated. ELMNT.BA can be activated by subjecting it to >100% strain along its longest axis to achieve maximum conductivity. Compression may also activate conductivity. However, we recommend testing your processing parameters to ensure that adequate conductivity is achieved without damaging traces.

CAUTIONS ⚠

ELMNT inks contain Gallium (Ga) which is corrosive to some metals such as Aluminum (Al). Check compatibility prior to use.

ELMNT is a liquid metal and never fully hardens. Proper encapsulation will ensure traces are not damaged. ELMNT does not adhere well to silicone.

Store at room temperature. Do not freeze.

TEST	TYPICAL PROPERTIES
Conductivity	1700 S/cm
Sheet Resistance	0.05 Ω/sq
Resistance change under strain R/R_0 at 100% strain R/R_0 150% strain	 <1.5 <1.75
Resistivity change with 10k cycles from 0-100% strain	<5%
Viscosity @ 200 1/s	4100 cP
Metal Content	88 wt% (50 vol %)
Density	3.59 g/mL
Shelf Life at 20 °C	>180 days
Theoretical coverage (100µm) film	27.9 cm^2/g

COMPATIBILITY	
Substrate compatibility:	TPUs, polyurethane resins, acrylics, SEBS,
Known metal compatibility	18-8, 16Cr, Ti, W, Ni, V, Ta Stainless steel (300)
Solvent compatibility:	Aliphatic and aromatic alcohols, glycol ethers, aliphatic esters

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