



## PRODUCT DESCRIPTION

ELMNT is a stretchable conductive ink for wearable and flexible electronic applications. Its high conductivity and consistent resistance under strain (Resistance/ Zero Strain Resistance,  $R/R_0$ ) makes it ideal for critical data or power transmission, joule heating, RF communications, haptic sensory input/output, and many more applications.

## PRODUCT BENEFITS

- Low hysteresis
- Consistent conductivity under strain
- Compatible with polyurethane (TPU) and other film and fabric substrates
- Metallic bulk conductivity similar to aluminum

## PROCESSING TECHNIQUES

ELMNT conductive ink is ideal for flexible and stretchable applications. It can be patterned on elastomeric substrates and heated onto textiles or integrated with printed circuit boards. ELMNT is both printable and coatable onto many materials using:

- Blade coating
- Airbrushing
- Aerosol jet printing
- Screen printing (under development)
- Inkjet printing (under development)

ELMNT is deposited onto a stretchable substrate (e.g. TPU) and cured at 100°C for 1 hour in a well-ventilated oven with proper exhaust. After removal and cooling, the substrate should be subjected to >100% strain along its longest axis to fully activate conductivity. Test the material for adequate conductivity. Substrate and traces may then be laminated onto the final device.

**Substrate compatibility:** TPUs, polyurethane resins, acrylics

**Solvent compatibility:** aliphatic and aromatic alcohols, glycol ethers, aliphatic esters



TEST	TYPICAL PROPERTIES
Resistivity*	2000-14000 S/cm
$R/R_0$ at 100% strain	<1.5
$R/R_0$ 150% strain	<1.75
Resistivity change 10k cycle from 0-100% strain	<5%
Viscosity range*	10-100,000 cP

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