Xerox® Silver Nanoparticle Ink for Piezo Inkjet Printing

**PRODUCT FEATURES**
- Hydrocarbon-based ink
- Compatible with a variety of substrates: PEN, PET, PI, PC, PC-ABS blend, glass
- Excellent printhead latency (> 24 h)
- Low annealing temperature (80 – 130°C) enabled by small and uniform silver nanoparticles (8 nm ± 2 nm)
- Resistivity up to 3x bulk silver
- Compatible with Xerox® UV Curable Dielectric (xdi-UV1-C/T)

**PRODUCT PROPERTIES**
- Ink Vehicle: Hydrocarbon
- Silver Content: 40 – 45 wt%
- Particle Size Z_{avg}: < 20 nm
- Shear Viscosity (25°C, 40 – 400 s^{-1}) = 4 – 7 cP
- Surface Tension: 25 – 33 mN/m
- Annealing Conditions:
  - Thermal (examples): 100°C for 1 h, 130°C for 10 min
  - Photonic: NovaCentrix PulseForge® 1300, Xenon™ S-2100

**MATERIAL PERFORMANCE (POST ANNEALING)*
- Line Thickness: 60 – 200 nm
- Line Width: 60 – 120 μm
- Volume Resistivity: 3 – 6x bulk Ag
- Conductivity: > 9 x 10^4 S·cm^{-1}

**SAFETY AND HANDLING**
Safety and handling information is available in the product Safety Data Sheet (SDS).

**RELATED XEROX® PRODUCTS**
- Silver Nanoparticle Inks: Pneumatic Aerosol Jet® xcm-nsPA1, Ultrasonic Aerosol Jet® xcm-nsUA1, UV Curable Dielectric: xdi-UV1-C/T

**XEROX RESEARCH CENTRE OF CANADA**
With more than 40 years of delivering innovative materials options for Xerox, we have a proven track record for taking concepts from the lab to commercial viability. Leveraging our broad expertise in materials research, development and engineering, along with our state-of-the-art facilities, we can help you navigate the technical challenges of bringing your product to the market.

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*Conductive traces printed using a Dimatix DMP 2800 printer followed by thermal annealing at 120°C for 30 min.

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