

SS1109

Stretchable Printed Silver Conductor

Product Description

ACI SS1109 is a silver-filled conductor for printed interconnects for devices on elastomeric substrates. After drying, the ink has excellent conductivity and offers excellent elongation and flexibility. SS1109 has been formulated for superior adhesion to thermoplastic urethanes (TPU). It is compatible with ACI's other stretchable materials. SS1109 is used in stretchable electronics and e-textile applications to power components/devices, and carry signals from embedded devices and sensors. Contact our engineering team for application-specific questions.

Product Benefits

- Superior stretch performance on TPU offering elongation greater than 200%
- Excellent resistivity and rapid return after strain
- Excellent adhesion to TPU
- Washable with ACI stretchable insulator
- Compatible with other products in ACI's stretchable electronics platform

Typical Performance

Volume Resistivity 135°C for 15 min in box oven	<0.017 Ω /square/mil <4.5.0 x 10 ⁻⁵ Ω .cm
Maximum Elongation ¹	>200%
Adhesion ²	5B

¹ 2 mm wide trace cured on TPU substrate

² ASTM D3359 Method B

Typical Properties as Supplied

Physical State	Paste
Color	Silver
Viscosity ³	40 Pa·s
Density	2.39 g/mL
Percent Solids ⁴	69%
Shelf Life at 20°C	6 Months

Typical Processing Parameters

Deposition Methods	Screen printing, syringe dispense/direct write
Curing Time and Temperatures	5 min box oven \geq 135°C 5 min in industrial conveyor oven at \geq 120°C
Recommended Screen Meshes	200/230 stainless steel
Recommended Cured Thickness ⁵	10-20 μ m
Coverage	9/11 m ² /kg
Mixing	Slow thorough mix, avoid inducing bubbles, fixed spatula in rotating jar ideal ⁶
Thinner/Diluent	SE8106
Clean Up Solvents	Acetone, MEK, and similar solvents

³ Anton Paar MCR302 10⁻¹ at 25°C

⁴ 150°C for 120 minutes in box oven

⁵ Double print wet on wet or dry can be used to build thickness

⁶ AT-LM4 Stirring Type Mixer (E211) recommended

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Caution

Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapors emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate MSDS sheet.

Disclaimer

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