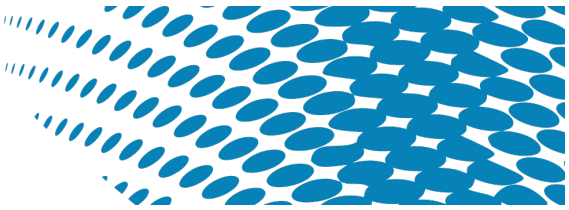
SI3104

Stretchable Printed Insulator



Product Description

ACI SI3104 is a screen printable, thermally cured ink that is stretchable when cured and compatible with ACI's stretchable inks. SI3104 can be used as an insulator and/or crossover dielectric. When cured, the ink displays exceptional durability, excellent flexibility, and high insulation resistance. SI3104 has excellent adhesion to TPU, and is fully compatible with ACI's suite of products engineered for stretchable and flexible electronics.

Product Benefits

- Excellent adhesion to elastomeric substrates
- Maintains flexibility and stretchability to more than 100% elongation
- Good dielectric breakdown strength
- Fully compatible with ACI's stretchable inks and conductive adhesives

Typical Performance	
DC Breakdown[1]	250 V/mil
Maximum Elongation	100%
Adhesion[2]	5B

[1] Three layers printed with 180.0018 Stainless Steel mesh (ACI DC Voltage Breakdown Test)
[2] Method based on ASTM D3359 Method B

Typical Properties as Supplied			
Physical State	Viscous white paste		
Viscosity[3]	25 Pa·s		
Density	1.15 g/cm^3		
Percent Solids[4]	32%		
Shelf Life at 20°C	6 Months		
Processing			
Deposition methods	Screen printing; micro dispense		
Curing Time and Temperatures	5-15 min in box oven at 135°C 5 min in industrial conveyor oven at 135°C		
Recommended Screen Mesh Range TPI/Wire Diameter	150/0.0026" – 200.0006" Stainless Steel 110/43 µm – 140/55 µm PET		
Recommended Squeegee	RKS Carbon BW or S HQ		
Squeegee Durometer	70A – 80A		
Emulsion Over Mesh (EOM) Thickness	15 µm		
Recommended Meshes – Theoretical Dry Film Thickness - Coverage	150/0.0026" 200/0.0016"	14 µm DFT 9 µm DFT	12 m^2/kg 15 m^2/kg
	110/43 µm 140/55 µm	14 µm 10 µm	12 m^2/kg 15 m^2/kg
Recommended # Layers	3		
Mixing	Slow thorough mix, avoid inducing bubbles, fixed spatula in rotating jar ideal[6]		
Thinner/Diluent	TD8106		
Storage	In sealed container in cool dry location		
Clean Up Solvents	Acetone/MEK/Similar Solvents		

[3] Measured on Anton Paar MCR302 Rheometer at 10^{-1} sec shear rate at 25°C
[4] 150°C for 120 min in box oven
[5] AT-LM4 Stirring Type Mixer (E211) recommended

ACI MATERIALS

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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 SDS information.

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