FC3203

Flexible Carbon Conductor

Product Description

ACI FC3203 is a carbon-filled flexible conductive ink for use on PET, polyimides, and other flexible substrates. This ink offers high conductivity for a 100% carbon conductor with rheology tailored toward low slump and fine feature resolution via screen printing. FE3203 has excellent adhesion and flex ductility to accommodate various packaging form-factors and use cases. The ink is fully compatible with other products in ACI's flexible electronics platform.

Product Benefits

- High conductivity carbon conductor
- Limited resistivity change associated with bending and flexing
- Good feature resolution
- Excellent adhesion to PET and polyimide
- Screen printable for volume applications
- Fully compatible with ACI's flexible adhesives and dielectrics

Typical Performance	
Volume Resistivity 120°C for 15 min in box oven	< 10 Ω/square/mil < 2.5 x 10^{-2} Ω*cm
Adhesion[1]	5B
[1] ASTM D3359 Method B	

Typical Properties	
Color	Black
Viscosity[2]	125 Pa·s
Density	1.17 g/mL
Percent Solids[3]	36.7%
Shelf Life at 20°C	12 Months

Typical Processing Parameters	
Deposition Methods[4]	Screen, pad, µdispense
Drying Time and Temperatures	15' ≥ 120°C box <5' ≥120°C line oven
Recommended Screen Meshes	145.0022" / 230.0011"
Recommended Dry Film Thickness	10-15 µm
Coverage	15 m2/kg / 25 m2/kg
Mixing	Slow thorough mix, avoid inducing bubbles, fixed spatula in rotating jar ideal[5]
Thinner/Diluent	FE8106
Clean Up Solvents	Acetone, MEK, and similar solvents

[2] Anton Paar MCR302 10 s -1 at 25 o C
[3] 150 °C for 120 minutes in box oven
[4] Recommend DAC mixing prior to screen printing
[5] 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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