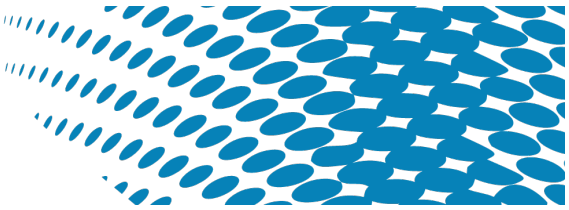
FC3203

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] Method based on ASTM D3359 Method B tested on 0.005" Melinex® ST506 PET

Typical Properties as Supplied	
Physical State	Viscous black paste
Viscosity[2]	125 Pa·s
Density	1.17 g/cm^3
Percent Solids[3]	36.7%
Shelf Life at 20°C	12 Months

Processing	
Deposition methods[4]	Screen printing; micro dispense
Curing Time and Temperatures	15 min in box oven at ≥ 120°C <5 min in industrial conveyor oven at ≥120°C
Recommended Screen Meshes	145.0022" / 230.0011"
Recommended Squeegee	RKS Carbon BW or S HQ
Coverage for Recommended meshes	15 m^2/kg / 25 m^2/kg
Recommended Cured Thickness	10-15 µm
Mixing	Slow thorough mix, avoid inducing bubbles, fixed spatula in rotating jar ideal[5]
Recommended Thinner/Diluent	TD8106
Clean Up Solvents	Acetone/MEK/Similar Solvents

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

ACI MATERIALS

Contact ACI

Email: info@acimaterials.com
Phone: (805) 324-4486
Website: www.acimaterials.com

Mailing and Shipment Address

ACI Materials, Inc.
44 Castilian Drive
Goleta, CA 93117

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.

Disclaimer

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