Technical Data Sheet

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TW-3196

Conductive Ink

DESCRIPTION

CI-3196 is a carbon based screen printable polymer thick film. When properly configured it can provide a variable printed resistor. **CI-3196** offers adhesion to a wide spectrum of substrates including polyester, paper, cloth, and most plastic films**. CI-3196** has been formulated to have good flexibility, and fast curing properties. While **CI-3196** is application ready with no dilution needed, the electrical resistance can be adjusted with **CI-3196-LR and CI-3196-HR.**

ADVANTAGES

- ✓ Excellent adhesion
- ✓ Superior flexibility
- ✓ Extended screen residence times
- ✓ No dilution required
- ✓ Fast curing
- ✓ Excellent printability

TYPICAL UNCURED PROPERTIES

Color	Black
Appearance	Thixotropic paste
Total Solids Content	32.51%
Density	10.15 lb./gal
Flash Point	212°F (100°C) Tag Close Cup
VOC	821.3 gram/liter
Theoretical Coverage	469.7 ft^2/gal/mil 9.47 m^2/kg/25.4 microns

TYPICAL CURED PROPERTIES

Typical Resistance	18,000 – 22,000 ohms/sq/mil

APPLICATION INFORMATION

- Screen print **CI-3196** with any screen emulsion/mesh combination that yields a wet film thickness of 0.5-0.8 mils. The dry film will yield a dry film thickness of 0.3-0.5 mils.
- Typical screens used are 180-220 mesh with a 1.0 mil emulsion.
- Stainless steel fabric can be used to increase dry film thickness.
- Repeating the cure cycle and observing the electrical resistance change can confirm complete cure. The electrical resistance should not decrease by more than 3%.
- Typically, it is not possible to over cure **CI-3196**. Added curing will improve the flexibility and reduce the electrical resistance.
- **CI-3196** can also be cured with infrared energy. This method often provides improved properties over conventional heat curing.
- **CI-3196** can be blended with **CI-3196-LR** to increase electrical resistance values, and blended with CI-3196-HR to make product more resistive. Please contact an ECM technical service professional for recommendations.

CURE SCHEDULE

CI-3196: 10 Min @ 230 ° F. Peak cure temperature should exceed peak operating temperature by 100˚ F.

CLEAN UP

CI-3196 can be cleaned up with M.E.K (Methyl Ethyl Ketone) or a blend of solvents that will completely remove a cured film. Screens and printing tools should be allowed to dry completely before reuse. To avoid possible squeegee swelling, a solvent resistant material such as polyurethane should be used. Typically a high durometer squeegee will provide the best results.

STORAGE AND HANDLING

- Shelf life is six (6) months in an unopened container, stored below 70ºF.
- Store product below 70ºF for maximum shelf life and minimal solvent loss. Avoid high temperature exposure.
- It is suggested that the product be stored at < 55ºF to increase shelf life. The product must be conditioned back to room temperature before use.

HEALTH AND SAFETY

- Use with adequate ventilation.
- Avoid skin contact.
- If ingested, consult a physician immediately.
- Consult the product Material Safety Data Sheet for additional information.

APPLICATION ASSISTANCE

ECM's application specialists are available to assist you with your production start-up. For more information, please call ECM at 1.740.362.4444.

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