

## TECHNICAL SPECIFICATIONS

### PRODUCT DESCRIPTION

The CARBON ELECTRON CEL-002 is a solvent ink.

### APPLICATIONS

Compatible with PET, TCA, paper, Polyimide and polyurethane.

*The above-mentioned substrates may differ according to their origin.*

*It is therefore essential to carry out preliminary test.*

### MAJOR ADVANTAGES

Excellent conductivity, easy to use with screen printing process. Good printability and printing uniformity on large areas, long shelf life on screen.

### ELECTRICAL PROPERTIES

Resistivity  $\leq 120 \text{ m}\Omega/\text{sq}/\text{mil}$  under  $120^\circ\text{C}$  ( $248^\circ\text{F}$ ).

### PRINTING

**Machines:** automatic, semi-automatic and manual silkscreen machines.

**Screen:** all types of polyester or stainless-steel fabrics can be used with a mesh from **79 to 120** threads/cm.

**Squeegees:** polyurethane **65 Shore A**, good sharpness.

**Dilution:** no dilution must be performed before printing. Such treatment would deteriorate the conductive properties of the printed patterns.

**Cleaning:** we recommend ethyl-acetate and ethyl-ethoxy-propionate (EEP) as cleaning solvents.

### TICKNESS PRINTING

(90 threads/cm polyester mesh) : **12 microns**

### DRYING AND CURING

Thermal curing:  **$120^\circ\text{C}$  to  $150^\circ\text{C}$  ( $248$  to  $302^\circ\text{F}$ ) during 3 to 5 mins**

IMSE process: **2 seconds**

### PACKAGING

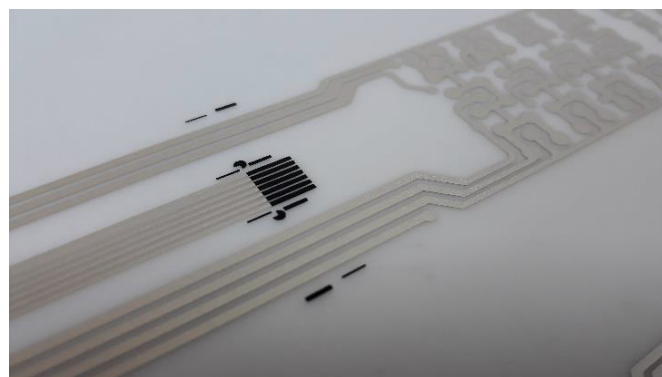
High density polyethylene pots (**HDPE**). Open pots for sampling must be carefully closed as soon as possible.

Table 1: Physical properties on PET TCA (125 $\mu\text{m}$ )

TESTS	PROPERTIES
Resistivity ( $\text{m}\Omega/\text{sq}/\text{mil}$ ): Curing at $120^\circ\text{C}$ – 5 mins	120
Resistivity after net fold (1 cycle) ( $\text{m}\Omega/\text{sq}/\text{mil}$ )	145
Adhesion ASTM 3359 (B)	5B
Scotch resistance 3,5 N and 7,5 N	No transfer

Table 2: rheological properties

TESTS	PROPERTIES
Viscosity (Pa.s) Rotathinner 562 RPM, $25^\circ\text{C}$	16
Shelf-life on screen (min)	>30
Solid charge (%)	25 - 35
Coverage ( $\text{cm}^2/\text{g}$ ): <i>Depending on thickness</i>	180 - 220



## WASTE MANAGEMENT

Packaging contaminated with hazardous substances. Do not dispose into the environment.

VFP Ink Technologies encourages all users to develop a responsible environmental policy.

## HEALTH AND SAFETY

Refer to the MSDS. We recommend that you wear Personal Protective Equipment recommended by the MSDS and follow its handling precautions.

## STORAGE

1 year in its original packaging stored between  $+5^\circ\text{C}$  and  $+35^\circ\text{C}$ .

**Guarantee reserves:** Although the data in this leaflet have been established after careful testing, it is provided as a guide; no liability can arise from this for VFP, it being understood that we advise you to carry out preliminary tests before any commercial draw. No seller, representative or agent has the right to give any guarantee or insurance, which would be in contradiction with what is said above. In any case, refer directly to our general conditions of sale.