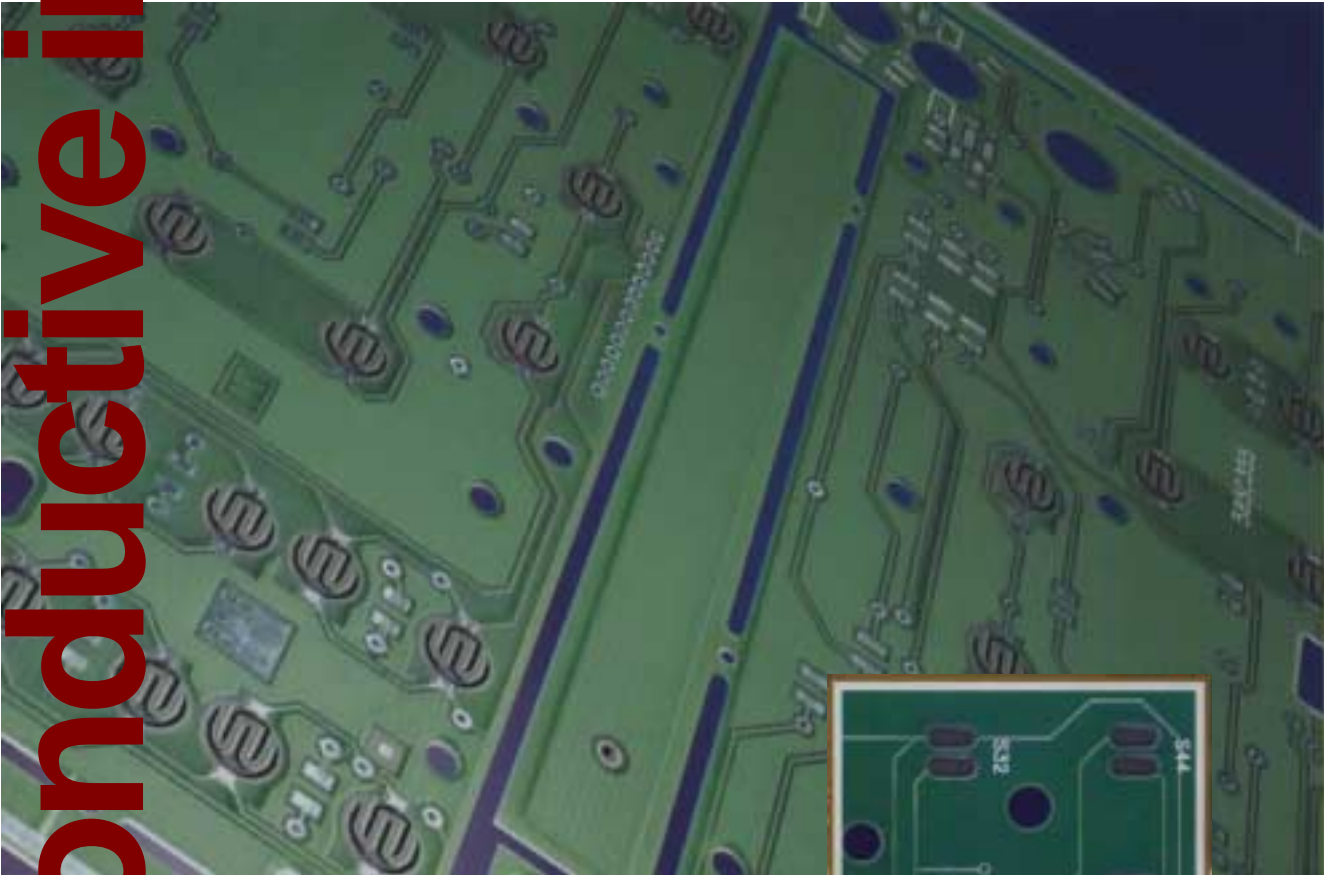


XZ310 conductive ink

XZ310 is a new, screen applied, high conductivity, thermal curing conductive carbon ink for use as a low-cost alternative to gold plating for contacts and edge connectors on rigid and flexible circuit boards. Substantial improvements in formulation techniques now make available a most superior conductive ink for supplementary and additive circuitry.



STANDARD FEATURES

- Can be used for printing crossovers
- Can be used for touch key pads and will withstand 1 million operations
- Has a resistivity of $<25\Omega/\square$ @ $15\mu\text{m}$ DFT
- Single pack system
- Manufactured to ISO 9001 standards

IMPROVED FEATURES

- Viscosity stability
- Superb printability
- Excellent adhesion
- Stability of resistance values after soldering
- Flexibility
- Unaffected by peelable resist



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processing details

DESCRIPTION **XZ310** Conductive Carbon Ink, has been formulated as a screen applied conductive coating for printing over copper tracks as a replacement for the costly process of gold plating contacts and edge connectors.

XZ310 has good conductivity and should be used for printing crossovers to replace soldered jumper wires.

XZ310 has been formulated to meet typical loop resistance specifications, e.g. <100Ω/sq., for push button operated circuits when activated with a graphite loaded pill, and to withstand 1 million operations.

XZ310 will give a hard resistant film that can be applied to a variety of substrates, and has good compatibility with peelable soldermasks such as Coates XZ93-S.

TYPICAL PROPERTIES

Pigment: Carbon/Graphite.

Medium: Thermally Curing Resins.

Viscosity: 135 – 145 Poise.

Solids: 63%.

S.G.: 1.15.

Coverage: Approx. 25m²/kg. With a 155T/inch (62T/cm.) screen.

Sheet Resistance: <25Ω/sq. @ 15μm dry film thickness.

This information is provided for guidance only and does not form a specification.

PRINTING

XZ310 is suitable for use on hand, semi-automatic or fully automatic screen printing machines.

Conductivity is governed to a large extent by film weight. Monofilament meshes of 125-195T/inch (49-77T/cm) are recommended. A screen of 155T/inch (62T/cm) is commonly used.

CLEANING

To ensure good electrical continuity and adhesion between **XZ310** and copper, the surface should be free of all contaminants.

The presence of dust, oxide, organic coatings and residues, intermetallic layers will have a detrimental effect.

INK ADJUSTMENT

XZ310 is supplied as single part ink and should be used from the can without thinning.

If thinning is required the minimum quantity of Coates Thinner XZ42 should be used.

Please note that **XZ310** tends to 'set' with time, but the viscosity will rapidly return to normal when stirred and during printing.

WASHING UP

Cleaner XZ46 or Universal Screenwash 11-00 can be used for washing up.

As **XZ310** is based on a thermal curing system, it is extremely difficult to remove after stoving.

It is therefore advisable to check boards carefully for misprints, etc. before stoving.

XZ310 can be removed with Cleaner XZ46 or Universal Screenwash 11-00 before stoving.

CURING

This ink should be stoved at 302°F (150°C) for 60 minutes.

CHEMICAL RESISTANCE

It should be remembered that while initial electrical properties may be satisfactory, that if the cure is inadequate then the ink will have reduced resistance to other PCB production processes, such as overprinting with further layers of ink and solvent cleaning, which may alter the final electrical properties.

A fully cured print will withstand 200 rubs with a cotton bud saturated in methylene chloride, although slight pigment staining will occur.

PHYSICAL RESISTANCE

When fully cured **XZ310** will give a hard film with good tape adhesion and abrasion resistance.

SHELF LIFE

When stored in sealed containers in a cool dry place (50-77°F/10-25°C), XZ310 has a shelf life of one year.

Storage at lower temperatures in a refrigerator will assist in maintaining ink properties.

PACKING

XZ310	High Conductivity Carbon Ink	1 kg.	CHSN8031
XZ42	Thinner	5 Ltr.	CDSN4004
XZ46	Screen Cleaner	5 Ltr.	CDSN4008
11-00	Universal Screenwash	5 Ltr.	CDSN4000

SAFETY

XZ310 has been specifically formulated to be free of control by the 1972 Highly Flammable Liquids Regulations.

Detailed Health and Safety Sheets are available on request.

This information has been carefully compiled from experience gained in field conditions and detailed laboratory testing. However, the product's performance and its suitability for the customer's purpose depend on the particular conditions of use and the material being printed. We recommend that customers satisfy themselves that each product meets their requirements in all respects before commencing a print run. Since we cannot anticipate or control the conditions under which our products are used, it is not possible to guarantee their performance.

All sales are subject to our standard terms and conditions of sale.