

# Copper ink IK-3xx

PRODUCT DESCRIPTION

Jan 2020

Copper ink IK-3xx provides the following product

<b>Technology</b>	Screen printing
<b>Appearance</b>	Copperish paste
<b>Filler Type</b>	Copper
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• High conductivity</li> <li>• Small particle size</li> <li>• Good adhesion</li> <li>• Excellent printability with screen printing</li> </ul>
<b>Drying</b>	Ceramic lamps/hot air/thermal plate
<b>Sintering</b>	Heat press
<b>Application</b>	Conductive Ink
<b>Key Substrates</b>	PET
<b>Typical Assembly Applications</b>	UHF and HF antenna, heaters and sensors

Copper ink IK- 350 screen printable paste is formulated to provide high electrical conductivity.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Average particle Size, $\mu\text{m}$	<0.15
Solids Content, after 30 minutes @ 150°C, %	85
Density, g/ml	2.8
Viscosity @ 25°C, DVEHA Brookfield spindle 14, 100rpm, mPa·s (cps)	6000-8000
Thixotropic Index (1.5/15 s <sup>-1</sup> )	1.4-1.6
Theoretical coverage @ 5 $\mu\text{m}$ dry film thickness,	17 m <sup>2</sup> /kg
Shelf Life @ -10°C, days	180
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE Recommended

Drying cycle  
120sec @85°C (Hot air, Reflow oven)

Sintering cycle  
60 sec @ 200°C (Heat press)

Basically, Copprint IK-3XX can be dried using hot air, (near) infrared or ceramic lamps. Sintering should be carried out at 200 C for 30-120 sec.

The above drying is a guideline recommendation. Conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer drying equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL Physical Properties

Adhesion, (tape test 3M Scotch 234)	pass
Cross cut test ISO 2409-2007	4-5b

## Electrical Properties

Sheet Resistance, ohm/sq/25 $\mu\text{m}$	<0.004
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## GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

## DIRECTIONS FOR USE

### Preparation guidelines

1. Copper ink IK-3XX is supplied as "Sinter ready" formulation ready for use.
2. Mix formulation prior print.

\*Detailed procedure can be found in Application Notes

[www.ipss.shop](http://www.ipss.shop)

### Application (screen properties)

Emulsion, Solvent and Water resistant emulsion, $\mu\text{m}$	10 to 40
Squeegee Shore Hardness	70 to 90
Screen Type, Polyester screen, mesh	100 to 300

## CLEAN-UP

The equipment can be cleaned with Dowanol DB followed by water.

## STORAGE:

Store product in the tightly closed container in a dry location below -10°C. Open the container carefully. Storage information may be indicated on the product container labeling.

**Optimal Storage: below -10°C. Storage above -10°C can adversely affect product properties.**

Material removed from containers may be contaminated during use. Do not return product to the original container. IPS cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated.

## Not for product specifications

The technical data contained herein are intended as reference only