

## IcoPrint MS

### Multi substrate UV Screen ink system

Issue No. 009/2015

IcoPrint MS inks are a high satin finish ink system, suitable for a wide range of display materials, including Paper and Board, PVC and other common plastics, as well as more demanding materials, including some polypropylene and polystyrenes.

#### Product Properties

- Adhesion to paper, board, PVC, polypropylene and polystyrene
- Satin/high satin finish
- Suitable for flatbed, cylinder and multicolour machines
- Excellent print definition
- Press ready formulation for large format printers
- Good finishing properties – cutting, creasing, folding

**Please ensure that PP/PS materials have been suitably treated by Corona Discharge**

#### Colour Range

IcoPrint MSP Trichromatic inks were developed to enable easy matching to Fogra 39/ISO 12647-2 Colour Standards, so that repeatable printing results can be achieved to match other printing processes.

Printers should fully fingerprint the inks within their process before commencing full production to ensure the best possible outcomes. Standard colours are made to be clean, high in chromaticity, with a Pantone Matching system available.

#### Curing of Inks

Actual curing rates depend on a number of factors, including ink film thickness, opacity, the number and types of lamps used (including lamp emission spectrum, power and efficiency) and the stock being printed. Care should be taken to ensure that each colour is cured correctly to achieve optimum adhesion to substrate and overprint adhesion of subsequent colours.

#### Post Cure Conditions

The chemical reactions involved in curing UV Inks are not totally completed in the curing unit itself. While up to 90% of the chemical bonds needed to give adhesion etc, are completed during initial cure, there is a post cure period where chemical bonds continue to be made. Studies show that although much of the post cure activity does take place within 24 hours it is now thought the post cure period can last for a few weeks. This reaction can adversely affect inter-coat adhesion and flexibility.

This is important to recognise as the UV curing process, and post curing, can cause shrinkage of the ink film, which puts stress on the material. In the case of self-adhesive PVC the stress manifests itself as cracking or shattering (embrittlement) of the substrate. It is important to be cautious if your results immediately after curing are marginal for embrittlement as the additional post cure stress may cause more serious problems later on.

**Care should be taken that prints are not over-cured - adhesion of subsequent colours, as well as the first colour, should be assessed at regular intervals.**

#### Main Characteristics

##### Properties

- Excellent Flexibility
- Excellent Print Definition
- Developed for self-adhesive and flexible PVC materials
- Has good adhesion to many other plastics
- Unlimited screen stability
- Up to 12 months external durability

##### Curing

Ensure sufficient through cure – recommend using a double lamp system with at least 250mj/cm<sup>2</sup> power.

Please note that this series is not suitable to be used on Flash Curing Equipment.

##### Thinning

Inks are supplied press ready

Small amounts (1-5%) of flexible UV thinner can be added if required.

##### Wash-up

Screens can be cleaned with **ZTC639 IcoPrep Thinner**

##### Mesh

150.34 PW is recommended for general use.

Other meshes from 120:31 – 180:27 are also suitable.

##### Stencil Type

Most direct stencil emulsion materials designed for UV inks are suitable.

##### Recommended:

**IcoPrep EM-GR5 UV Resistant Graphic Emulsion**

##### Coverage & Mesh No.

No. 150.34 PW Mesh. - Up to 90 m<sup>2</sup>/kg

##### Co-use with other inks

We do not recommend using this product with other ink systems

**IMPORTANT: Stir well before every use. Always test application fully before beginning production run as there is often considerable variance in substrates from different manufacturers and even between different batches.**

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### Pre Production Test Requirements

Certain plastics may be impregnated with lubricants which, like plasticiser migration, may impair adhesion even a considerable period after printing. This can usually be overcome by wiping the surface with white spirit before printing.

**Some plastics can become brittle when printed, possibly to the point of shattering, often after several weeks. It is essential to check compatibility between ink and plastic to guard against this.**

### Outdoor Use

Whilst primarily designed for internal display application use, IcoPrint MS inks were tested for resistance to weathering in a Xenon bulb weatherometer to SAE J1960 standards.

Line colours will provide up to 12 months external durability.

Maximum expected outdoor life for Trichromatic MSP colours is for up to 3-6 months, when printed on suitably resistant materials designed for external exposure, and the prints are exposed in temperate climatic conditions.

### Colour Range

#### Line Colours

MS023	Matt White
MS025	Opaque White
MS009	Dense Black
MS064	Yellow (Green Shade)
MS066	Yellow (Red Shade)
MS114	Orange
MS121	Red (Yellow Shade)
MS127	Violet
MS164	Red (Blue Shade)
MS165	Magenta
MS230	Blue
MS325	Green
MS381	Mixing Clear

Available in 5Kg pack sizes.

#### Trichromatic Inks

MSP004	Trichromatic Black
MSP052	Trichromatic Yellow
MSP135	Trichromatic Magenta
MSP215	Trichromatic Cyan
MSP396	Extender Base (for reducing colour density as needed)

Available in 5KG pack sizes.

#### Thinners/Additives

ZE637 UV Thinner

Available in 5KG pack size.

ZE824 Curing Additive

Available in 1KG pack size.

### Storage

Containers should be tightly closed immediately after use.

**IcoPrint inks and reducers should not be stored in direct sunlight or near sources of heat and should be kept away from peroxides.**

For maximum shelf-life, storage should be between 10°C and 25°C. Stored in a cool environment the inks have a shelf-life of approximately 12 months from the date of manufacture

### Safety and Handling

IcoPrint MS inks are formulated to be free from any chemicals toxic to health, carcinogenic, mutagenic or repro-toxic according to Directive 67/548/EC.

MS inks have a flashpoint greater than 61°C and are not classified as a 'dangerous substance' under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) Comprehensive information on safety and handling is given in the MSDS for this product, available on request.

### Environmental Information

IcoPrint MS inks do not contain ozone-depleting chemicals as described in the Montreal Convention.

This product is formulated free from aromatic hydrocarbons.

This product is also free of any volatile solvent and has less impact on the environment, when compared with traditional solvent-based products.

The information and recommendations contained in this Product Information sheet, as well as technical advice otherwise given by representatives of our Company, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Product Information sheet out of date and users are requested to ensure that they follow current recommendations.

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