

## Series 712

### 1- component pad printing ink

### Single component ink for printing untreated polypropylene (PP) and co-polymerisates

#### Overview

A highly opaque semi-gloss pad printing ink for industrial and graphic applications on treated and un-treated polypropylene plastics. Based on resistant synthetic resins 712 is suitable for indoor and short/medium term outdoor applications.

#### Substrates

Series 712 is formulated for use on a ranged of polypropylene plastics and its modifications and co-polymerisates, and is also suitable for printing styrofoam, paper and cardboard materials.

Due to the wide variety of polypropylene modifications (blending with recycled PP, different polyolefines etc.) we recommend print tests under local conditions with regard to the intended application prior to production.

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#### Applications

Applications for Series 712 included decorative and functional printing of promotional products (hand out market), household articles (toothbrushes, scales, coffee machines etc), toys as well as industrial applications like tools, appliance cases etc. The high quality raw materials used in Series 712 make it suitable for articles in daily use and, with the addition of hardener (Series 700-HDI; 10:1 by weight), for applications where extremely high mechanical and chemical resistance is required. Surface pre-treatment is mostly not required, however for high-use applications a pre-treatment through flame, corona or chemical wipe primer (Series 10-PP) may be beneficial.

#### Characteristics

This modern pad printing ink is suitable for open inkwell as well as closed ink cup systems. Series 712 is free of iron containing materials, so printing problems caused by the magnetizing of metal plates, pallet knives, doctor blades/rings etc. are eliminated.

This ink is formulated to deliver both a smooth, glossy surface desirable on full area print and to render fine detail print with exact definition. The recommended solvents (Series 700-017 thinner, Series 700-018 retarder and Series 700-019 accelerator) facilitate optimal transportation of ink from the plate, to pad and onto the substrate, as well as faster tack-free drying on the printed product.

#### Additives

A reduction of viscosity with the recommended thinner (Series 700-017 added at approximately 15% by weight) results a constant long-term consistency for open and closed ink wells. Rotative equipment requires a higher dilution, we recommend 700-019 fast thinner at approximately 20% weight, special retarders are mostly unnecessary. A faster thinner may be useful in closed cup systems.

Other auxiliary agents useful with Series 712 are described in the Technical Data Sheet 'Series 700; Auxiliary Agents' including special thinner and retarder, hardener, adhesion promoter, wetting agents, ant-static and anti-stringing agents. Note that the addition of additives changes the actual ink properties so that the spectrum of printable substrates as well as chemical and mechanical resistance may be adversely modified in some cases.

#### Pigments

With the future tightening of environmental and health standards in mind, Series 712 is heavy metal free and mono-pigmented. This also means that in many cases pre-printing with white to achieve the desired colour shade is mostly not always necessary. A wide range of high-density (opaque) colour shades are available to cover practically the full colour chromatic spectrum:

Series 712-1005	MS - light yellow
Series 712-1205	MS - dark yellow
Series 712-2005	MS - orange
Series 712-3005	MS - red
Series 712-4005	MS - violet

Series 712-4505	MS - dark blue
Series 712-8005	MS - black
Series 712-9005	MS - white

In addition to these opaque shades there are also 5 highly pigmented transparent shades included in the PMS mixing system, and can be used for attractive results mixed with metallic shades:

Series 712-1105	MS - medium yellow
Series 712-3105	MS - magenta red
Series 712-3305	MS - magenta
Series 712-5005	MS - blue
Series 712-6005	MS - green

High density covering shades for increased print opacity:

Series 712-00	ST - high density white
Series 712-33	ST - high density black

The process colours for 4-colour halftone prints are ready to print and follow the European scale:

Series 712-0950	MS - cyan
Series 712-0960	MS - yellow
Series 712-0970	MS - magenta
Series 712-0980	MS - black

For transparent bases and varnishes, we offer the following:

Series 712-04	transparent Paste
Series 712-06	thixotropic Paste
Series 712-05	gloss varnish

A range of standard pre-mixed metallic colours are also available:

Series 712-100	ST - silver
Series 712-101	ST - brilliant silver
Series 712-102	ST - gold
Series 712-103	ST - copper gold

All Series 712 inks are non toxic and follow the European Regulation EN71, Part 3 (Safety of toys, migration of certain elements). All pigments used in Series 750 show a light fastness of 6-8 according to the wool scale (DIN 16525). If the colour shades are reduced with high amounts of white or transparent systems, light fastness may be reduced.

## **Drying**

The composition of the solvents ensures both long-lasting stability of the viscosity in the ink wells and closed cups, and quick release of solvents in the printing process. Series 712 doesn't show any corona formation, ensuring problem-free transfer and faster drying on the printed material. There is normally no need for any special drying procedures, but air curing can be slow in cooler environments.

## **Screen/Cliche**

Series 712 doesn't contain any ingredients which attack polymer clichés or cause oxidation on steel printing blocks. Both steel and polymer plates are suitable for use with Series 712, with an etch depth of approximately 30 microns for steel and 20-30 micron for polymer plates depending on the image.

## **Pads**

Choosing the correct type of pad, shape and Shore-hardness depends on article (form, structure, surface tension, etc.) to be printed. Due to the 'fast' drying of the ink, a harder, pointer pad generally gives better results and reduces the potential for 'spider-webbing' in the print. Series 712 is compatible with all types of pads with normal handling practices i.e. delubrication of new printing pads, careful handling, don't wipe with solvents, cleaning with adhesive tape, etc. Silicone-activation of old pads may be achieved with the application of light pad oil (available in 100ml bottles).

## **Cleaning**

Wet and partially cured pad printing ink can be removed with all commercial solvent based cleaning agents of little polarity. Pad print specific universal cleaning agents Solva Wash 700-URT are the most suitable. Removal of completely cured pad printing ink is time consuming and only possible using very aggressive decoaters. If cleaning ink from pads with adhesive tape is not successful, low aggressive cleaning agents (eg metho) may be used on a cotton towel.

## **Storage**

Under normal conditions (limited change of temperature, medium temperature 20-35°C, humidity 20-70%) we guarantee a shelf life of 24 months from manufacture date and 12 months for metallics. Metallic colours are mixed to order to ensure you get the maximum shelf life from your inks.

## **Packaging**

Series 712 is available in 1kg metal cans.

## **Precautionary Measures**

Read the Material Safety Data Sheet (MSDS) prior to processing. The MSDS contain indications of hazardous ingredients, TLV-level and instructions for precautions when processing, handling and storing as well as first aid. The information given in the MSDS refers to processing as described in this technical leaflet. The statements in these leaflets have been made to the best of our knowledge and are given without any obligation. These Technical Sheets serve to advise, but it is absolutely

necessary to undertake your own printing tests under local conditions with regard to intended purpose prior to starting the printing job. The application, use and processing of the products delivered by Colour Components are beyond our control and imply no liability or guarantee on our part. Issue 1; 04/06

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## CERTIFICATE

# printcolor



### Printcolor pad printing ink lines Series 712

- are heavy metal free according to Euronorm DIN EN 71, part 3  
(PB < 10ppm / Cr < 6ppm / Hg < 3ppm / Cd < 5ppm (Recommendation IX and European Resolution AP/89))
- are heavy metal free according ASTM Standard F 963-95
- fulfil DIN 53160: Saliva and sweat resistance test of coloured toys
  - are free of brominated organic compounds (f.e. PBB, TBBP-A-bis, PBdiphenylethers, other brominated org. compounds)
- following 5<sup>th</sup> Alteration of Bedarfsgegenständeverordnung (engl. Consumer goods)
- are free of organic tin compounds (f.e. TBT, TPT)
- are free of listed Azo compounds
- are free of Asbestos
- are free of Formaldehyd (exception: fluorescent colors)
- are free of free vinyl chlorid or monomeric VC

August 10, 2004

Printcolor Screen Ltd.



**Marc Bär**  
Managing Director

**Dieter Hermann**  
Technical Manager

CH-8965 Berikon, 14th February 2012

## REACH - SVHC

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We herewith confirm that all raw materials used by Printcolor Screen Ltd. for production are

- pre-registered with respect to REACH-conformity
- not chemically modified during the manufacturing process
- conform to the threshold values of the ECHA SVHC Candidate List (December 2011) – excluding the waterbased Series 420 – they still contain small amounts (<3%) of 1-Methyl-2-pyrrolidone, CAS-No. 872-50-4.

**Printcolor Screen Ltd. CH-8965 Berikon (Schweiz)**

[www.printcolor.ch](http://www.printcolor.ch)

14-02-2012

**Printcolor Screen Ltd.**



**Richard Gähwiler**  
HSE Manager



**Dieter Hermann**  
CEO