

## Series 784

### 2- component pad printing ink

#### Highly resistant, glossy ink for printing plastics and metals.

#### Overview

Highly opaque, glossy pad printing ink with fast curing properties for industrial and graphic applications on various plastics, metals and coated surfaces. Based on highly chemical resistant resins, this ink is for industrial, indoor or outdoor applications.

#### Substrates

The modern formulation of Series 784 means it can be used on a wide range of substrates such as rigid PVC, acrylics like PMMA (take care: risk of brittleness on injection moulded materials), polycarbonate, pre-treated polyolefines (PE/PP), many lacquered and coated surfaces, also polyamide (Nylon), polyethyleneimide and polyetherimide, paper and cardboard. Series 784 can also be used on polystyrene and its modifications (ABS, SAN; etc.) in combination with gentle (non-aggressive) thinner to avoid stress cracking in the surface. Series 784 can also be used on metals, aluminium (raw, anodized, brushed), compound materials such as Alucobond, Dibond and Vekaplan AL, wood and other natural substances.

**Due to the wide variety of materials and their many modifications we recommend print tests under local conditions with regard to the intended application prior to production.**

#### Applications

Applications for Series 784 included decorative and functional printing on rigid substrates for promotional products (hand out market), industrial applications like the automotive industry, electronic and pharmaceutical market, product packaging etc. The high quality raw materials used to formulate Series 784 make it suitable for applications where extremely high mechanical and chemical resistance is required. The recommended hardener system is Series 700-HDA (external) or 700-HDI (internal) at 4:1 by weight for all plastics and metals.

Series 784 is based on a variety of polyacrylic-resins that retain absolute gloss stability with outdoor use (together with 700-HDA hardener).

#### Characteristics

This modern pad printing ink is suitable for open inkwell as well as closed ink cup systems. Series 784 is free of iron containing materials, so printing problems produced through the magnetizing of metal plates, pallet knives, doctor blades/rings etc. are eliminated.

This ink is formulated to deliver both the 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) guarantee optimal transportation of ink from plate, to the pad and onto the substrate, as well as a fast tack-free drying on the printed material. Print resistances continue to be developed for 48 to 72 hours depending on ambient conditions (humidity, temperature, etc.), raising ambient temperatures (40-55°C) will accelerate and improve curing performance. Forced curing at 140-160°C for a period of 20-30 minutes is always helpful.

#### Additives

Series 784 has been developed for user-friendly handling. A normal reduction of viscosity with the recommended thinner at approximately 10-15% by weight results in a constant long-term consistency for open and closed ink cup application. Rotary printing technology requires a higher dilution, we recommend accelerator Series 700-019 at around 20% by weight. Universal thinners 700-019 and 700-17 is recommended for use with Series 784, and special retarder 700-018 (mostly unnecessary). The accelerator 700-019 and fast thinner 700-020 work well in closed cup systems.

The optimal mixing rate with hardener for application on plastics and metals is always 4:1 by weight. We recommend Series 700-HDA (outdoor applications) or Series 700-HDI (internal applications) for all metal and plastic materials.

The pot life of Series 784 is approximately >8 hours depending on regional conditions, 2-component metallic colours often have a restricted pot life of about 4 hours due to the chemical reaction between the hardener and metallic particles (sometimes less when using 700-HDA; special metallic formulations are available to overcome potlife reduction).

Other auxiliary agents that may be useful with Series 784 for special applications are described in the Technical

Data Sheet 'Series 700; Auxiliary Agents' and include special thinner and retarder, hardener, wetting agents, ant-static and anti-stringing agents.

### Pigments

With the future tightening of environmental and health standards in mind, Series 784 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 784-1005	MS - light yellow
Series 784-1205	MS - dark yellow
Series 784-2005	MS - orange
Series 784-3005	MS - red
Series 784-4005	MS - violet
Series 784-4505	MS - dark blue
Series 784-8005	MS - black
Series 784-9005	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 784-1105	MS - medium yellow
Series 784-3105	MS - magenta red
Series 784-3305	MS - magenta
Series 784-5005	MS - blue
Series 784-6005	MS - green

High density covering shades for increased print opacity:

Series 784-00	ST - high density white
Series 784-33	ST - high density black

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

Series 784-0950	MS - cyan
Series 784-0960	MS - yellow
Series 784-0970	MS - magenta
Series 784-0980	MS - black

For transparent bases and varnishes, we offer the following:

Series 784-04	transparent Paste
Series 784-06	thixotropic Paste
Series 784-05	gloss varnish

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

Series 784-100	ST - silver
Series 784-101	ST - brilliant silver
Series 784-102	ST - gold
Series 784-103	ST - copper gold

All Series 784 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 784 doesn't show any corona formation, ensuring problem-free transfer as well as fast drying on the printed material. There is normally no need for any special drying procedures.

- Screen/Cliche** Series 784 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 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. Series 784 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 784 is available in 500gm and 1kg polyethylene containers.

#### 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 line Series 784

- 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
  - fulfill Richtlinie 2002/95/EG (*Reduction of Hazardous Substances (RoHS)*)
  - following 5<sup>th</sup> Alteration of Bedarfsgegenständeverordnung (engl. Consumer goods ordinance)
  - fulfill DIN 53160: Saliva and sweat resistance test of coloured toys
  - are free of chlorinated organic compounds (f.e. PCB, PCN, chlor. paraffins, other chlorinated org. compounds)\*
  - are free of brominated organic compounds (f.e. PBB, TBBP-A-bis, PBdiphenylethers, other brominated org. compounds)
  - fulfill Richtlinie 2003/11/EG (free of OctaBDE, Penta BDE)
  - 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
- \* blue and green contains phthalocyanine pigments

November 13, 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.**



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