

Series 752

1- and 2- component pad printing ink

Multi functional pad printing ink for applications on plastics and metal

Overview

A highly opaque, glossy pad printing ink for industrial and graphic applications on various plastics, metals and coated surfaces with jet drying characteristics. Based on chemically resistant resins this ink is suitable for industrial indoor and outdoor applications.

Substrates

Series 752 is suitable for use on a wide range of substrates such as soft and 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), and different elastomers and melamines. Series 752 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 752 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 752 included decorative and functional printing on promotional products (hand out market), industrial applications like the automotive industry, electronic and pharmaceutical market, product packaging etc. The high quality raw materials in Series 752 make it suitable where extremely high mechanical and chemical resistance is needed and good outdoor stability is required. The recommended hardener system is Series 700-HDA (external) at 4:1 by weight for all plastics and metals or Series 700-HDI (internal applications).

Series 752 is based on a variety of polyacrylic-resins that retain absolute gloss stability with outdoor use (together with 700-HDA hardener).

Series 752 (8005 black and 9005 white) has Class VI Certification for application on medical and surgical components.

Characteristics This modern pad printing ink is suitable for open inkwell as well as closed ink cup systems. Series 752 is free of iron containing materials, so printing problems caused by the magnetizing of metal plates, pallet knives, doctor blades/rings etc. are eliminated.

Series 752 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. Series 752 has the jet-drying characteristics of a 1-component ink, with 2-component chemical curing (print resistance) characteristics continuing to be developed for 72 to 96 hours depending on ambient conditions (humidity, temperature, etc.). Forced curing at 140-160°C for a period of 20-30 minutes is always helpful in reaching maximum curing and resistance quickly.

Additives

Series 752 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.

The optimal mixing rate with hardener for 2-component applications on plastics and metals is 5:1 by weight (a ratio of 10:1 is also possible where a more flexible print is required). The recommended hardener Series is 700-HDA (external) or Series 700-HDI (internal) for all metal and plastic materials.

The pot life of 2-component Series 752 is approximately >8 hours depending on regional conditions, and approximately 4 hours for metallic colours. 752 can also be used as a 1-component ink system for decorative/promotional applications where maximum print resistance is not required, giving an unlimited

pot-life.

Other useful auxiliary agents are describe in the Technical Data Sheet 'Series 700; Auxiliary Agents' including special thinner and retarder, hardener, 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 752 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 752-1005 | MS - light yellow |
| Series 752-1205 | MS - dark yellow |
| Series 752-2005 | MS - orange |
| Series 752-3005 | MS - red |
| Series 752-4005 | MS - violet |
| Series 752-4505 | MS - dark blue |
| Series 752-8005 | MS - black |
| Series 752-9005 | 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 752-1105 | MS - medium yellow |
| Series 752-3105 | MS - magenta red |
| Series 752-3305 | MS - magenta |
| Series 752-5005 | MS - blue |
| Series 752-6005 | MS - green |

High density covering shades for increased print opacity:

| | |
|---------------|-------------------------|
| Series 752-00 | ST - high density white |
| Series 752-33 | ST - high density black |

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

| | |
|-----------------|--------------|
| Series 752-0950 | MS - cyan |
| Series 752-0960 | MS - yellow |
| Series 752-0970 | MS - magenta |
| Series 752-0980 | MS - black |

For transparent bases and varnishes, we offer the following:

| | |
|---------------|-------------------|
| Series 752-04 | transparent Paste |
| Series 752-06 | thixotropic Paste |
| Series 752-05 | gloss varnish |

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

| | |
|----------------|-----------------------|
| Series 752-100 | ST - silver |
| Series 752-101 | ST - brilliant silver |
| Series 752-102 | ST - gold |
| Series 752-103 | ST - copper gold |

All Series 752 inks are non toxic and follow the European Regulation EN71, Part 3 (Safety of toys, migration of certain elements). All pigments used in Series 752 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 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 752 doesn't show any corona formation, ensuring problem-free transfer and fast drying on the printed material. There is normally no need for any special drying procedures, though forced curing at higher temperatures is always helpful in accelerating curing and achieving maximum chemical/abrasion resistance.

Screen/Cliche Series 752 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 752, 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 its jet-drying characteristics, a harder, pointer pad generally gives better results and reduces the potential for 'spider-webbing' in the print. Series 752 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 Solva Wash 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 6-12 months for metallics. Metallic colours are mixed to order to ensure you get the maximum shelf life from your inks.

Packaging Series 752 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 lines Series 752

- 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 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)
 - following 5th 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
- * blue and green contains phthalocyanine pigments

April 30, 2004

Printcolor Screen Ltd.



Marc Bär
Managing Director

Dieter Hermann
Technical Manager

Certification Class VI

Series 752 has Class VI Certification for application on medical and surgical components; 752-8005 black and 752-9005 white

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TOXIKON FINAL GLP REPORT: 06-4894-G1

CLASS VI TEST – USP

Test Article
Padprinting Ink Series 752-8005 black

Author
Jianxun Xie, Ph.D.

Final Report Date
November 2, 2006

COMPLIANCE
21 CFR, Part 58
Good Laboratory Practice for Non-Clinical Laboratory Studies

MANAGEMENT OF THE STUDY

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TOXIKON FINAL GLP REPORT: 06-4893-G1

CLASS VI TEST – USP

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CH-8965 Berikon, 14th February 2012

REACH - SVHC

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.

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Printcolor Screen Ltd.



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