

Series 750

2- component pad printing ink

Highly resistant pad printing ink for plastics, metals, glassware and ceramics.

Overview

A highly opaque, high gloss pad printing ink for industrial and graphic applications on various plastics, metals, glass and coated surfaces. Formulated from highly chemical resistant epoxy resins designed for use in internal (indoor) commercial and industrial applications.

Substrates

Formulation of Series 750 using modern chemicals and resins makes it suitable for use on a wide range of rigid substrates such as rigid PVC, PET, PET-G, PET-A, PET-E and acrylics like PMMA (take care: risk of brittleness on injection moulded materials), polycarbonate, pre-treated polyolefines (PE/PP), many lacquered and coated surfaces, polyamide (Nylon 6/6), polyetherimide, Tyvek, CAB, paper and cardboard. Series 750 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 750 can also be applied to metals, aluminum (raw, anodized, brushed), compound materials such as Alucobond, Dibond and Vekaplan AL, wood and polyacetale (POM, only with post-flaming process).

Printcolor 750 is recommended for glass and ceramic printing in combination with Series 700-GL hardener (ratio 20:1 by weight) and advisable post-curing temperatures of 140-160°C for 20-30 minutes.

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 750 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 in Series 750 make it suitable for applications where extremely high mechanical and chemical resistance is required. The recommended hardener systems include Series 700-HDI at 4:1 by weight for all plastics and metals and Series 700-GL at 20:1 by weight for glass and ceramics.

Series 750 is based on epoxy-resins which may lose their gloss and colour shade (yellowing/chalking) when subjected to longer term (1-2 years) out-door exposure.

Characteristics

This modern pad printing ink is suitable for open inkwell as well as closed ink cup systems. Series 750 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 the smooth, high gloss surface desirable on solid areas of ink coverage 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 plate, to pad and onto the product surface, as well as a fast tack-free drying on the printed material. Chemical resistance (curing) continues for 72 to 96 hours in relation to 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 recommended to achieve maximum adhesion and resistance characteristics on glassware and ceramics.

Additives

Series 750 has been developed for user-friendly handling. A normal reduction of viscosity with the recommended thinner at approximately 10-15% by weight results 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 are recommended for Series 750, special retarders are mostly unnecessary. The accelerator 700-020 works well in closed cup systems.

The optimised mixing rate with hardener for applications on plastics and metals is always 4:1 by weight. We recommend the Series 700-HDI (internal). For applications on glass and ceramics the hardener Series 700-GL is used at a ratio of 20:1 (up to a maximum of 10:1) by weight.

The pot life of 2 component Series 750 is approximately >8 hours depending on regional conditions.

However, metallic colours often have a restricted in pot life of about 4 hours due to the chemical reaction between the hardener and metallic particles (special formulations available if extended pot life required).

Other auxiliary agents useful with Series 750 are described 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 750 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 750-1005	MS - light yellow
Series 750-1205	MS - dark yellow
Series 750-2005	MS - orange
Series 750-3005	MS - red
Series 750-4005	MS - violet
Series 750-4505	MS - dark blue
Series 750-8005	MS - black
Series 750-9005	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 750-1105	MS - medium yellow
Series 750-3105	MS - magenta red
Series 750-3305	MS - magenta
Series 750-5005	MS - blue
Series 750-6005	MS - green

High density covering shades for increased print opacity:

Series 750-00	ST - high density white
Series 750-33	ST - high density black

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

Series 750-0950	MS - cyan
Series 750-0960	MS - yellow
Series 750-0970	MS - magenta
Series 750-0980	MS - black

For transparent bases and varnishes, we offer the following:

Series 750-04	transparent Paste
Series 750-06	thixotropic Paste
Series 750-05	gloss varnish

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

Series 750-100	ST - silver
Series 750-101	ST - brilliant silver
Series 750-102	ST - gold
Series 750-103	ST - copper gold
Series 750-0709	Special Effect "Imitation Etch"

All Series 750 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 open ink wells and closed cups, and quick release of solvents in the printing process. Series 750 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, but air curing can be slow in cooler environments. Oven curing (baking) is recommended for glass and ceramic printing in combination with Series 700-GL hardener (ratio 20:1 by weight) and advisable post-curing temperatures of 140-160°C for 20-30 minutes.
- Screen/Cliche** Series 750 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 750, 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 750 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 250ml bottles).
- Cleaning** Wet and partially cured pad printing ink can be removed with Printcolor 10-002 Remover, and all commercial solvent based cleaning agents of little polarity. Pad print specific universal cleaning agents Solva Wash 700-URT are the most suitable for machinery and plate wash-up. 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 750 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 750

- 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

June 2, 2004

Printcolor Screen Ltd.



Marc Bär
Managing Director

Dieter Hermann
Technical Manager

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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