

Series 792

2- component pad printing ink

Highly flexible, glossy ink for printing elastic materials.

Overview

A highly opaque, glossy pad printing ink for industrial and graphic applications on a variety of soft plastics and rubber materials. Series 792 is based on highly chemical resistant resins and is suitable for indoor and outdoor applications.

Substrates

The properties of this ink line allow it to be used on a wide range of soft substrates such as PVC's with high content of plastizisers, different rubber and natural or synthetic un-vulcanized materials. Series 792 has also been successfully used on some polyester substrates and coated metals (shown in print trial cross hatch and tape tests on 2 component 4:1 hardener 700-HDA made after 100 hrs rest at normal conditions).

The wide variety of printable materials makes it absolutely necessary to undertake your own tests under local conditions with regard to the printed products intended use to determine ink suitability prior to production. On going development of Series 792 formulations may result in an increase of compatible substrates.

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 include the decorative and functional printing on soft substrates for promotional items (eg stress toys) and industrial uses like automotive and electronic parts and packaging. The high quality raw materials used make Series 792 suitable where extreme mechanical and chemical resistance is needed, eg. on soft touch surfaces. To retain maximum ink layer flexibility we recommended Series 700-HDA hardener at a mixing ratio of 4:1 for all plastics and metals. Series 792 is based on polyurethane-resins making it ideal for indoor or outdoor use.

Characteristics

This modern pad printing ink is suitable for open ink well equipment as well as closed cup (pot) systems. Series 792 is free of iron containing materials, so printing problems associated with the magnetizing of metal plates, filling knife, doctor blade or metal caps are eliminated. This ink is formulated to deliver both the smooth surface desirable on full area print and render fine detail print with exact definition. The recommended solvents (Series 700-017, thinner; Series 700-018 and Series 10-02637, retarders; Series 700-019, accelerator) guarantee an optimised transportation of ink from plate, to the pad and onto the substrate, as well as a fast tack-free drying on the printed material. Chemical resistance (curing) is realised between 72 to 96 hours depending on regional conditions (humidity, temperature etc.). Forced curing with 140-160°C for a period of 20-30 minutes is always helpful in developing full hardness and resistance.

Additives

Series 792 was developed for user-friendly handling. This means a normal 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.

The recommended mixing ratio for hardeners is 4 parts to 1 part with Series 700-HDA, or 700-HDR (for baking process) for all plastic and natural materials. Ink pot life is approximately > 8 hours depending on local environmental conditions. Experience shows that 2-component metallics have a restricted pot life which may be reduced to < 4 hours depending on local conditions (special formulations are available for metallics where longer pot life is necessary).

Other auxiliary agents useful with Series 792 are describe in the Technical Data Sheet 'Series 700; Auxiliary Agents' including special thinner and retarder, hardener, adhesion promoter for PP, 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 792 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 792-1005	MS - light yellow
Series 792-1205	MS - dark yellow
Series 792-2005	MS - orange
Series 792-3005	MS - red
Series 792-4005	MS - violet
Series 792-4505	MS - dark blue
Series 792-8005	MS - black
Series 792-9005	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 792-1105	MS - medium yellow
Series 792-3105	MS - magenta red
Series 792-3305	MS - magenta
Series 792-5005	MS - blue
Series 792-6005	MS - green

High density covering shades for increased print opacity:

Series 792-00	ST - high density white
Series 792-33	ST - high density black

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

Series 792-0950	MS - cyan
Series 792-0960	MS - yellow
Series 792-0970	MS - magenta
Series 792-0980	MS - black

For transparent bases and varnishes, we offer the following:

Series 792-04	transparent Paste
Series 792-06	thixotropic Paste
Series 792-05	gloss varnish

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

Series 792-100	ST - silver
Series 792-101	ST - brilliant silver
Series 792-102	ST - gold
Series 792-103	ST - copper gold

All Series 792 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 viscosity in ink wells/cups, and quick release of solvents in the printing process. Series 792 doesn't show any corona formation, ensures an unproblematic transfer as well as fast drying on the printed material. There's normally no need for any special drying aggregates. Universal thinner Series 700-017 maintains the ink properties and mostly makes the use of special retarders unnecessary. Experience shows that accelerator also works well in closed cup systems. For faster cross-linking between resins and hardener (curing) Leister-hot air curing is helpful.

Screen/Cliche

Series 792 does not contain any ingredients which attack polymer plates or cause oxidation of steel printing blocks. Both polymer and steel plates are suitable, etch depths of approximately 28-32 micron for steel or polymer plates, depending on the motif, are practicable.

- Pads** Choosing the correct type of pad, shape and Shore-hardness depends on article (form, structure, surface tension, etc.) to be printed. Series 792 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 Series 792 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 792 is available in 500grm 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

© Colour Components 2006



CERTIFICATE

printcolor



Printcolor pad printing ink lines Series 792

- 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 27, 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.

Printcolor Screen Ltd. CH-8965 Berikon (Schweiz)

www.printcolor.ch

14-02-2012

Printcolor Screen Ltd.



Richard Gähwiler
HSE Manager



Dieter Hermann
CEO