

Series 660

1- and 2- component printing ink

Multi functional screen printing ink for synthetic and natural textiles and fabrics.

Overview

A highly opaque screen printing ink for industrial and graphic applications on various fabrics, textiles and soft surfaces. Series 660 is based on chemical resistant resins and can be used as 1- or 2- component ink for indoor and outdoor applications.

Series 660 is also an excellent pad printing for small image applications on textiles such as; tagless T-shirt branding, nylon pencil cases and compendiums and linen serviettes. It also produces excellent pad printing results on difficult materials such as synthetic rubbers, soft PVC and urethane coatings making it perfect for pad printing leather products (real and synthetic), stress toys and soft touch coatings often used on cosmetics, pens and wine accessories.

Substrates

This series has been formulated for use on a wide range of different synthetic textiles like polyamide (eg nylon), polyester materials (eg trevira), and also blended fabrics with both synthetic and natural components, mostly cotton. Print trials (cross hatch and tape tests on 2 component 10:1 hardener 600-HDA made after 100 hrs rest at normal conditions) show that in addition to fabrics, 660 can also be successful on difficult materials such as synthetic rubbers, soft PVC and different urethanes. Series 660 gives excellent adhesion and coverage for pad printing application on stress toys.

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

660 is suited to functional and decorative applications on the most common substrates of fabric articles (bags, ties, umbrellas, etc.), textiles (shirts, overalls, sportswear), sun blinds, flags, pennants and sails. Another application is the manufacturing of fabric labels in the thermo transfer process.

The high quality of raw materials used in the formulation of 660, makes it suitable where extreme mechanical and chemical resistance is needed and good outdoor durability is required. The recommended hardener system is Series 600-HDA (700-HDA is suitable for pad printing applications) at a ratio of 10:1 for all applications and substrates. Series 660 is based on different polyester and acrylic-resins that give it the stable gloss finish essential for outdoor applications.

Characteristics

Series 660 is suitable for flatbed equipment and hand printing, as well as pad printing application. This ink is developed to deliver both the smooth surface desirable on a full area prints, and to render fine detail prints with exact definition. The recommended solvents (Series 600-017 thinner, 600-018 retarder, 10-02637 special retarder and 600-019 accelerator) guarantee optimised use in recommended printing conditions. Chemical resistance (curing) is realised between 72 to 96 hours depending on regional conditions (humidity, temperature etc.). A forced curing with 140 - 160°C for a period of 20 to 30 minutes is always helpful in developing full hardness and resistance.

Additives

The 660 Series was developed for user friendly handling. This means a normal reduction of viscosity with the recommended thinner (Series 600-017 added at approximately 15% by weight) results in a constant long-term consistency for hand print and automated screen printing equipment. Cylinder press technology requires a higher dilution with thinner (we recommend accelerator Series 600-019 at 20% by weight) and also special dryers.

The optimised mixing rate with hardeners is normally 10 parts to 1 part. In special circumstances where increased flexibility is required a reduction of hardener may bring advantages. We recommend Series 600-HDA and Series 600-HDR (for baking) on all substrates and 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).

The addition of 5-10% by weight of the hold out additive Series 10-03861 may be useful when printing absorbing or wide mesh fabrics. Other auxiliary agents useful with Series 660 are describe in the Technical Data Sheet 'Series 600; Auxiliary Agents' including special thinner and retarder, hardener, adhesion promoter

for PP, wetting agents, ant-static and anti-stringing agents.

Pigments

With the future tightening of environmental and health standards in mind, Series 660 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 660-1000	MS - light yellow
Series 660-1200	MS - dark yellow
Series 660-2000	MS - orange
Series 660-3000	MS - red
Series 660-7000	MS - red/brown
Series 660-8000	MS - black
Series 660-9000	MS - white

In addition to these opaque shades there are also 8 highly pigmented transparent shades included in the PMS mixing system, and can be used for attractive results mixed with metallic shades:

Series 660-1100	MS - medium yellow
Series 660-3100	MS - transparent red
Series 660-3200	MS - transparent dark red
Series 660-3300	MS - magenta
Series 660-4000	MS - violet
Series 660-5000	MS - blue
Series 660-6000	MS - green
Series 660-0900	MS - Ultramarine (NB: not light-fast)

All colour shades, including the opaque base colours and the transparent basic colours are highly pigmented and are currently the most opaque inks on the market. We also offer a special extra-high density;

Series 660-33	MS-High Density Black, Opaque
Series 660-00	MS-High Density White, Opaque

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

Series 660-0950	MS-Cyan
Series 660-0960	MS-Yellow
Series 660-0970	MS-Magenta
Series 660-0980	MS-Black

For transparent bases and varnishes, we offer the following;

Series 660-04	Transparent Paste
Series 660-06	Thixotropic Past
Series 660-05	Varnish, Glossy
Series 660-05-MT	Varnish, Matte
Series 660-07	Binder

A range of standard metallic colours are also available;

Series 660-100	Silver
Series 660-101	Silver, Brilliant
Series 660-102	Gold, Light
Series 660-103	Gold, Standard

All Series 660 inks are non toxic and follow the European Regulation EN71, Part 3 (Safety of toys, migration of certain elements). With the exception of MS0900 Ultramarine and the fluorescent inks (Series 660-40 to 660-49) all pigments used in Series 660 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 the long-lasting stability of viscosity in the screen and quick release of solvents in the application process. Universal thinner Series 600-017 enhances these properties and mostly makes the use of special retarders unnecessary. For faster cross-linking between resins and hardeners (curing) infra-red or hot air curing is helpful.

Screen/Cliche

As these inks are free of highly aggressive solvents and water, the most common emulsions and films can be used for stencil making. Preliminary tests are necessary by using indirect stencil materials.

43-80 Y PW PET 1000 up to 120-34 Y PW PET 1000

Cleaning

Wet screen printing ink, or not completely cured inks, can be removed with all commercial solvent based cleaning agents of little polarity. Screen printing specific universal cleaning agents including Solva-Wash 700-URT are the most suitable. Removal of completely cured 2-component screen printing ink is time consuming and only possible by using very aggressive media (decoaters).

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 660 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

© Colour Components 2006



CERTIFICATE

printcolor



Printcolor screen printing ink lines Series 660

- 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 PVC and PVC blends
- * blue and green contains phthalocyanine pigments

March 4, 2003

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