

Series 660

1- and 2- component screen printing ink

Multi purpose 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.
- 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.
- 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.
- 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-Lemon Yellow
Series 660-1200	MS-Corn Yellow
Series 660-2000	MS-Orange
Series 660-3000	MS-Carnation Red
Series 660-4000	MS-Violet
Series 660-8000	MS-Black
Series 660-9000	MS-White
Series 660-0900	MS-Ultramarine (not lightfast) MS= PMS Mixing System Colour

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 660-1100	MS-Transparent Yellow
Series 660-3100	MS-Transparent Red
Series 660-3200	MS-Transparent Dark Red
Series 660-3300	MS-Transparent Magenta
Series 660-5000	MS-Transparent Blue
Series 660-6000	MS-Transparent Green

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) an IR- or Leister-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 test's are necessary by using indirect stencil materials.
- 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 like Series 600-URS and 600-BRS are the most suitable. Removal of completely cured 2-component screen printing inks Series 660 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 6 months for metallics.
- Packaging** Series 660 is available in 250gsm, 500gms, 1kg and 5 kg polyethylene containers.

Precautionary Measures

Read 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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