

Waterbased screen printing ink

SERIES 420

For screenprinting of decorative plastics

A water-based silk finish screenprinting ink made from aqueous synthetic raw materials. Suitable for decorative and functional interior uses or short to middle term exterior use on plastics or fibrous substrates.

Suitable for a wide range substrates such as rigid & flexible PVC, Tyvek, styrene, polystyrene, paper, box-board, wood and other fibrous materials.

Because of the diverse range of material compositions it is imperative that the printer carries out trials to establish ink suitability.

Uses

Suitable for most point-of-sale plastics, PVC labels and stickers, coated self-adhesive polyolefines rigid PVC in packaging or internal signage. The quality raw materials used make series 420 suitable for short-term external use when used with cross-linking hardener series 400-HD to give greater chemical resistance. An addition of 2% by weight is required and this will give the mixed ink a pot life of > 24 hrs.

Properties

The ink has been developed to give excellent flow and stay open characteristics ensuring high quality printing of both line and fine copy details. With a humidity of over 40 rel. series 420 maintains good open-screen characteristics. Series 420 is water based and contains under 10% by weight of solvent residuals, is odourless and non-flammable and by conforms to today's guidelines of the dangerous goods act. Series 420 has a silk finish, is quick drying, block resistant, flexible and gives good water resistance to glass and household cleaners.

Additives

Series 420 comes screen ready in the can but if needed the viscosity can be reduced by up to 20% addition of tapwater. For improved consistent laydown onto materials an addition of 0.5% by weight of flow additive series 400-VM is recommended and thorough mixing will ensure ink stability. Care should be taken to avoid adding excess flow additive as this can affect adhesion.

Colour shades

The 420 ink series is heavy metal free, monopigmented and suitable for matching to MS-colour mixing system.

Colours available:

- 420 – 1000 Lemon yellow
- 420 – 1100 Yellow (light)
- 420 – 1200 Yellow (reddish)
- 420 – 2000 Orange

- 420 – 3000 Carnation red
- 420 – 3100 Transparent red
- 420 – 3200 Transparent dark red
- 420 – 3300 Transparent magenta
- 420 – 4000 Transparent violet
- 420 – 5000 Transparent blue
- 420 – 6000 Transparent green
- 420 – 7000 Red / brown
- 420 – 8000 Mixing black
- 420 – 9000 Mixing white

The transparent inks are suitable for colour adjustment whilst keeping brilliance of colourmatches and are also suitable for tinting with metallic pigments.

Standard inks according to colourange ST
31 brightshades (shade 08-38)
9 fluorescent colours (shades 40-47)

Trichromatic colours:

- 420 – 0950 Cyan
- 420 – 0960 Yellow
- 420 – 0970 Magenta
- 420 – 0980 Deep black

And blending pastes:

- 420 – 04 Extender base
- 420-07/MT Matt Paste

To expand the special uses there are also different standard lacquers to choose from

- 420 – 05 gloss lacquer
- 420 – 05MT Matt lacquer

Metallics:

- 420 – 100 Silver (rub proof)
- 420 – 102 Light gold

Various special effect inks can be made to customer specification.

All the above colours conform to EN71, Part 3 (safety of toys, migrations of various elements) and are heavy metal free. The inks all have a blue wool rating of 6-8 (DIN 16525) and care should be taken with white or clear lacquer discolouration under strong lighting conditions. Also the base colours in this series do not react with saliva and perspiration according to DIN 53160.

Drying

Series 420 dries quickly with excellent block resistance and is suitable for hand printing as well as semi and fully automatic lines (up to 2000 IPH). Drying with a jet drier should be done at temperatures between 35-45 C.

Meshes

Most polyester meshes between 90-120 threads/cm are suitable with tensions over 15N/cm recommended.

Stencils

Series 420 can be used with all water resistant polymer films. Ulano films DLX & RLX give excellent results and can be post exposed for longer print runs.

Cleaning

Cleaning down of screens and machine parts can be achieved with special cleaner series 400-URS.

Storage

Under normal storage conditions (low temperature changes 20-35C, humidity 20-70%) the ink can be stored for up to 2 years (6 months for metallic inks) without deterioration of ink properties.

Packaging

Available in standard 1Kg and 5Kg polyethylene tubs that are suitable for re-cycling after removal of ink remnants. The un-hardened ink requires special waste disposal (waste key 55509 in Germany, special waste X (1640) Switzerland)

Precautionary measures

Read material safety data sheet prior to processing.

The material safety data sheets according to OSHA form contain indication 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 our leaflets have been made to the best of our knowledge and are given without any obligation. They serve to advise our business associates, **but it is absolutely necessary** to make your own printing tests under local conditions, with regard to the intended purpose prior to starting the printing job. In case of any doubts please contact our technical advisors. The application, use and processing of the products delivered by us are beyond our control. This is subject to your responsibility and there is no liability or guarantee on our part. In case of justified complaints the manufacturer can only be made liable for the countervalue of the used ink system.

Addition of not mentioned products or competitors products are on your own risk and releases Printcolor Screen Ltd. of any later demands, especially in cases of damage and loss caused by alien products.

All former leaflets are no longer valid.

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