

Technical leaflet

Water thinnable one component protection varnish with UV absorber

SERIES 480-5900 (ECOSOL)

For roll- and spray application

Water based, self cross-linking, flexible protection varnish to optimise the resistance properties of inkjet prints, printed with Ecosol-Inks, on a wide range of woven and non-woven carriers.

Substrate

The range of possible substrates covers different plastics i.e. rigid- and soft PVC, Tyvek, polystyrene, polycarbonate, vinyl and board. Due to the meanwhile very wide range of available plastic films, their various modifications, the common incorporation of co-polymers and recycling components, we strongly recommend pre-production trials to confirm the suitability of the varnish in terms of film performance and adhesion.

Application

Area of application is a wide range of different plastics in the promotion and display segment, vehicle tarpaulins, vinyl- and polyolefin self adhesive films, signs and plates for Indoor and short time Outdoor use.

The utilised basic raw materials are carefully selected to meet high resistance expectations of the imprinted media. To achieve this, the images must not contain any residual solvents as this can reduce the adhesion of the water-based varnish!

Properties and handling

The varnish must be well stirred in the original container without trapping air bubbles. After a short time of settling the varnish is ready to use. Initially visible foam has disappeared and the rheology has stabilised. The viscosity should be about seconds measured with a 4 mm DIN cup. To certainly avoid particle contamination it is recommended to filter the varnish prior to use through a suitable mesh.

In order to archive maximum protection the varnish must be applied with a wet film thickness of at least 100 microns. If applied using a roll the following technique is recommended:

- Soak the roll completely with water and press out firmly.
- Fill the roll on the substrate with varnish and distribute evenly (wetting phase).
- Immediately add more varnish and carefully distribute a homogenous second layer. Keep the pressure of the roll low to deposit a heavy film weight. (film build up phase).
- The initial uneven appearance of the wet varnish (air bubbles, orange peel) will disappear soon during film formation (auto levelling phase).

The described sequence must be carried out as quickly as possible. Unnecessary and repeated roll over and crosswise movement of the roll must be avoided, in particular when the varnish starts to dry, as this would interfere with the auto levelling function which develops a smooth and high gloss surface.

If applied using an air brush the varnish must be reduced by 5-10% with water or better with our special-thinner Series 400-377. This must be stirred in slowly. The spray viscosity must be in the range of 25 to 35 seconds measured with a 4 mm DIN cup.

Drying

If laid out at room temperature (20 – 25° C) with a free air flow the varnish Series 480-5900 will become touch dry after approximately 2 hours. In order to obtain full drying and cross linking the varnished media must be stored for 48 hours in an ambient climate. The speed of the drying process can be substantially increased using a hot air drying tunnel set at 50° C. However, the final resistance performance will always be archived after 5 to 7 days.

Cleaning

Rolls and other tools can be cleaned with water immediately after use. Dried varnish can only be removed using slightly alkaline water (ammonia solution) or a special cleaning liquid.

Storage stability

Under normal conditions (low temperature cycles, average temperature between 15-25° C) the varnish can be stored without loss of the designed properties for at least one year after manufacturing. Containers must be always firmly closed when not in use.

Other information

The varnish registers at the Federal Office for Health (BAG) with reference BAG-T Nr. 619000 as a non-toxic substance. Additional information regarding health and safety are provided in the relevant product safety data sheet.

The above information has been gathered through stringent laboratory tests and trials. Our technical advice is given to the best of our knowledge but we would recommend that customers always do their own trials for ink suitability due to the variable nature of production conditions and therefore lie outside our guarantee liabilities. Any use of non-recommended products or alien products are used at the customers own risk and releases PrintcolorScreen AG from any further consequences.

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