Replaces the Technical Information dated 04.03.11 Update:30.06.12

AZOCOL® S 300

Solvent resistant Diazo-UV-polymer photoemulsion, easily decoatable

AZOCOL S 300 is used for the production of high-quality, solvent and UV-ink resistant stencils. High resolution and excellent mesh bridging make it suitable for printing finest half-tones, lettering and designs (circuit boards, ceramic decals, scales). Due to its high elasticity AZOCOL S 300 is suitable for printing hollow bodies and if printing over material edges. Easily decoatable even after longest print runs.

SENSITIZING

With DIAZO NO. 19

Where a better resistance or resolution is required, powder-diazo sensitizers can be used, e.g. DIAZO NR. 1 or DIAZO NR. 6.

DEGREASING

Before coating it is recommended to clean and degrease the screen mesh to achieve reproducible coating results. Ensure proper tension of the screen mesh. Use manual degreasers of the PREGAN range or KIWOCLEAN degreasing concentrates for automatic units (see separate technical information). After thorough rinsing with water and drying the screens are ready for coating.

COATING

Coating can be done manually or by machine. The use of a coating machine is especially recommended because it achieves a reproducible coating result. If coating is done manually ensure that the mesh openings are filled from the printing side (generally 2-3). Only then begin with the emulsion build-up from the squeegee side - depending on the print job.

DRYING

The screen must be dried thoroughly before exposing to achieve the highest ink resistance. This should preferably be done in a dust-free drying-chamber with fresh-air inlet at temperatures of between 35-40°C.

EXPOSURE

The stencil is created by UV-light hardening of the non-printing stencil parts. Expose with blue actinic light at a wave length of 350-400 nm. A metal halide lamp provides the best results.

Due to the many variables that determine the actual exposure time, accurate exposure times cannot be given. Optimum copying results can only be achieved by trials (step exposure). For best resistances, please choose an exposure time which is as long as possible. This maximum exposure time must still allow reproduction of fine details.

Guide values (for AZOCOL S 300 with DIAZO NR. 19):

Light source: 5.000 W metal halide lamp at a distance of approx. 1 m ; manual coating (H), two times from the printing side, then three times from the squeegee side; automatic coating (MA) with the KIWOMAT MODULAR, trough type: R 125

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Mesh	Coating sequence*	Stencil build-up Thickness	Average Exposure time
100-40 W	2D/3R (H)	6 ± 1 µm	25-32 s
100-40 W	3D/3R (H)	11 ± 1 µm	35-45 s
100-40 W	1 D (MA)	3 ± 1 µm	13-16 s
100-40 W	1D-1R (MA)	8 ± 1 µm	28-35 s
120-34 Y	1D-1R (MA)	6 ± 1 µm	60-110 s
120-34 Y	1D-1R/1R (MA)	12 ± 1 µm	70-120 s
150-31 Y	1D-1R (MA)	4 ± 1 µm	70-130 s
150-31 Y	1D-1R/1R (MA)	8 ± 1 µm	80-150 s

*D = printing side, R = squeegee side -: in one coating process, /: following coating process

When using a different diazo sensitizer, determine the optimum exposure time for the application by step exposure.

RETOUCHING/ BLOCKING-OUT

For retouching / blocking-out use products of the KIWOFILLER range. Ask your KIWO distributor or KIWO directly for advice.

DECOATING

In general, stencils made using AZOCOL S 300 can easily be decoated with PREGASOL products. Use a PREGAN post-cleaner to remove any ink residue or so-called ghost images which may remain on the screen after decoating. Trials are essential as the type of residue may vary. Please make tests and ask for samples.

NOTICE

Please note that the printing resistance of a screen printing stencil is influenced by a lot of parameters e.g. mesh, coating technique, drying, exposure time etc. Furthermore, a lot of printing media and printing machines are being used in practice which have not all been tested by us. Therefore, please accept our offer and test the suitability of our products by asking for emulsion samples, as we can only guarantee a constant quality according to our own working conditions.

COLOUR

Unsensitized: blue
Sensitized: green

VISCOSITY

Approx. 9.800 mPas (Rheomat RM 180, MS 33, D = 50 s^{-1}, 23 °C)

HEALTH HAZARDS/ ENVIRONMENTAL PROTECTION

Please follow further information given in the material safety data sheet.

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STORAGE

Unsensitized: 12 months (at 20 - 25°C). Protect against freezing.
Sensitized: approx. 6 weeks (at 20 - 25°C)

Screens coated in advance: approx. 4 weeks (at 20 -25°C and in complete darkness).

When storing precoated screens for a longer period of time, the copying material can absorb humidity from the environment. Therefore dry again prior to copying.