Established: 10.07.18

AZOCOL® Z 173/1 FL-H

Chemically curable, solvent and water resistant, highly pure, dual-cure Diazo photoemulsion, especially suitable for printing finest half-tones, lettering and designs

AZOCOL Z 173/1 FL-H can be used for the production of high-quality, solvent and water resistant stencils. In addition, printing media containing N-methyl-pyrrolidon (NMP), which are used in the electronic industries for instance, can be printed with AZOCOL Z 173/1 FL-H. High resolution and excellent mesh bridging make it suitable for printing finest half tones, lettering and designs. Optimum copying quality can be achieved on steel and polyester mesh. Notice: here the high resolution is given for applications up to a stencil build-up thickness of approx. 10-12 µm, then the exposure time will become clearly longer and the resolution might reduce. Resistance to long print runs can be increased decisively by hardening the emulsion with KIWOSET FL. Before hardening, AZOCOL Z 176 FL-H can be decoated with PREGASOL products.

Due to the specific and optimized production processes, AZOCOL Z 173/1 FL-H offers maximum purity and fulfils therefore highest demands in screen printing, especially in the fields of electronics, medicine or solar technique.

SENSITIZING DIAZO No. 40

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 (i.e. step exposure). For the best ink resistance, please choose an exposure time which is as long as possible. This

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This product is intended solely for industrial applications and not for use by the end consumer. We recommend to our customers to always test the product themselves since only in this way – also after production – can the freedom from certain substances and the suitability for a particular purpose be verified. The user has to test the product for suitability for the intended application. We reserve the right to modify product specifications. Tests that are not part of the specifications of the product mentioned above have not been carried out. All information applies only to the above-mentioned product obtained from Kissel + Wolf GmbH. It corresponds to our current state of knowledge, but is not a confirmation of a particular application and is not automatically replenished.

All information is valid for a maximum of 12 months from the date stated above (annexes may be provided with their own date). Any industrial property rights as well as existing laws and regulations are to be observed by the recipient of our product on his own responsibility. Intellectual property rights of third parties must be observed. Our terms and conditions of sale and delivery shall apply.

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maximum exposure time must still allow reproduction of fine details. When extremely fine details are to be resolved, preferably reduce the exposure dose, e.g. reduce the power of a 5000 W metal halide lamp by 50% to 2500 W.

HARDENING

KIWOSET FL to increase the resistance to long print runs. Apply the hardener onto both sides of the copied and dry stencil and let it react for approx. one minute. Then hardener at 80°C for at least 10 minutes. Notice: hardened stencils are no longer decoatable.

POST EXPOSURE

Resistance to long print-runs can be increased considerably by exposing the squeegee side again. Guide values for a 5000 W halide metal lamp: distance of 1 m, approx. 5 minutes.

RETOUCHING/ BLOCKING-OUT

Due to the special formulation of AZOCOL Z 173/1 FL-H adhesion of common screen fillers can be reduced. For retouching/ blocking-out use the sensitized emulsion. Expose shortly to UV-light again after drying.

DECOATING

In general, stencils made with AZOCOL Z 173/1 FL-H can be decoated with PREGASOL products. However, due to its high resistance, this has to be done with more efforts than for so-called standard emulsions. Ask KIWO for advice. If screens are coated in advance or if printed screens are not immediately decoated, it is recommended to store them protected against UV-light or daylight to prevent post-hardening and hence additional difficulties in decoating.

Residues of the emulsion or printing media on the mesh can be removed with a PREGAN post-cleaner. Ask our KIWO distributor or KIWO for advice.

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 that 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
Senistized: Green

VISCOSITY

Approx. 5.500 mPas (Rheomat RM 180, MS 33, D = 100 s^{-1}, 23°C)

HEALTH HAZARDS/ ENVIRONMENTAL PROTECTION

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

STORAGE

12 months (at 20-25°C). Protect against frost and temperatures over +35°C.

Sensitized: approx. 2 weeks at 20-23°C (for highest quality). Storage time can be extended by storing the sensitized emulsion in a fridge at 7-10°C.

Screens coated in advance: at least 1 month (at 20-25°C and in complete darkness).

When storing pre-coated screens for a longer period of time, the copying material can absorb humidity from the environment. Dry again prior to copying.