

POLYCOL[®] S 295 HV

UV ink and solvent resistant, highly viscous, one-component photopolymer emulsion for very high stencil build-up thicknesses with very good resolution

POLYCOL S 295 HV is a one-component photoemulsion. High viscosity and solids content make it especially suitable for direct coating of coarse mesh and the production of stencils with a high coating thickness. Stencils made with POLYCOL S 295 HV are typically used for printing tactile warning signs, braille or other haptic printing applications.

SENSITIZING Not applicable, as ready-to-use.

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 POLYCOL S 295 HV can be coated manually or by machine. The use of a coating machine is especially recommended because it achieves an even and reproducible coating result. Use a coating trough with a round edge of radius approx. 1,25 mm.

In order to avoid bubbles during coating, do not stir POLYCOL S 295 HV prior to use. Coat the stencil slowly and evenly. Ensure that the mesh openings are filled from the printing side with 2 coatings. Only then begin with the emulsion build-up from the squeegee side with 3 or 4 coatings, depending on the print job.

In order to avoid that the emulsion runs down the screen, especially when working with coarse mesh, we recommend turning the stencil by 180° after 4-5 coatings from the squeegee side and then continue coating from the squeegee side until achieving the desired emulsion thickness

DRYING In order to achieve the highest resistances of the screen printing stencil, the coated screens have to be dried well before exposure. This should preferably be done in a dust-free drying-chamber with fresh-air inlet at temperatures of between 35-40°C.

Notice: The drying time depends on the emulsion thickness. Stencils with very high emulsion built-up may need several hours to dry.

POST COATING When the stencil build-up thickness is very high, the anchoring of the emulsion to the mesh can be improved by additional two coats from the squeegee side. After drying the stencil again, exposure can be started.

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 320-380 nm. A metal halide lamp provides 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, chose an exposure time which is as long as possible. This maximum exposure time must still allow reproduction of fine details.

Guide values: Light source: 5.000 W metal halide lamp at a distance of 1 m; manual coating (H) or automatic coating (MA):

Mesh	Coating technique (sequence)*	Stencil build-up thickness	Average exposure time
32-70 Y	2D/3R (H)	Approx. 170 µm	3-6 min
	1D/1D-1R/1R/1R/1R (MA)	Approx. 210 µm	4-6 min
	2D/6R (H)	Approx. 300 µm	5-8 min
43 – 80 W	2-4 (H)	Approx. 100 µm	2-4 min

D = coating from the printing side, R = coating from the squeegee side
- = in one coating sequence, / = following coating sequence

DEVELOPING

Method 1:

The exposed stencil can be developed with the KIWO PROFI-WASH, or low water pressure (approx. 30 bar) from both sides, with the final washing preferably from the printing side. While developing/ rinsing the stencil becomes soft, therefore work carefully without too much water pressure.

Method 2:

Before developing, put the exposed stencil into a container with cold water. After 5-10 min (depending on the stencil build-up thickness) the unexposed parts can be rinsed with the KIWO PROFI-WASH, or low water pressure (approx. 30 bar).

Notice: In order to achieve highest resistance, the exposed and developed stencils have to be dried thoroughly prior to printing.

POST CURING

To achieve optimum resistance, the completely copied and dried stencil can be exposed again from the squeegee side, e.g. 3-5 min with a 5000 W metal halide lamp at a distance of approx. 1 m. POLYCOL S 295 HV can be chemically hardened with KIWOSSET products. Ask KIWO for advice.

RETOUCHING/ BLOCKING-OUT

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

DECOATING

Due to the high stencil build-up thickness we recommend to wet the screen thoroughly with water. Let react for a short time, then apply a PREGASOL product and let the solution react again. Spray off with a high pressure water washer.

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

Blue

VISCOSITYApprox. 22.000 mPas (Rheomat RM 180, MS 33, D = 30 s⁻¹, 23°C)**HEALTH HAZARDS/
ENVIRONMENTAL
PROTECTION**

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

STORAGE

18 months (at 20 - 25°C) Protect against freezing.

Screens coated in advance: at least 4 weeks (at 20°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.