

UV varnishes for screen printing

Screen printing can be performed on rotating and flat machines. In this case, all of the above varnishes are intended for flat printing machines.

Flat screen printing machines are divided into manual, semi-automatic and automatic. The higher the degree of automation, the faster the printing speed. As the printing speed increases, the time of varnish distribution decreases. Therefore, in the case of screening machines, varnishes with a lower viscosity are recommended.

Approximate recommendations regarding the viscosity of a standard gloss UV varnish depending on the type of screen printing machine:

Manual 90-150 seconds DIN4 25 ° C

Semi-automatic 60-120 seconds DIN4 25 ° C

Automatic 35-100 seconds DIN4 25 ° C

Depending on the type of equipment and the task being performed, sieves of various lines are used. The higher screen type, the lower the viscosity of the UV varnish used.

Examples of recommendations are given in the table:

Screen type/ cm	Type of work	Viscosity DIN 4 25 ° C	Recommendation
165-200	Full surface varnishing with minimal consumption	35-60	U762035 U 762041 U 762061
120-150	Full surface varnishing	50-100	U 762061 U 762091 U 762091-01 U 762093 U 444751
77-140	Selective varnishing or varnish with pigments size ≤ 25 microns	60-120	U 762091 U 762091-01 U 762093 U780001 U780401
≤ 77	Embossed varnish or varnish with pigment or glitter	≥ 120	U762120 U 762091-01 U762093

Offset printings with or without water based varnish are usually varnished via screen. It is necessary to achieve full drying of the offset ink to avoid adhesion problems. It is

recommended that the interval between printing and varnishing should be 24-48 hours. If there are problems printing or drying, increase the gap between printing and varnishing until the print is completely dry. It is necessary to control the humidity of the prints, because the humidity slows down the drying of the print and decrease adhesion of the UV varnish on the unprinted elements.

Standard water based varnishes, such as **LW0GS40** or **LW0HG40** etc., allow the application of UV varnish, but the **LW0GS60** Primer is recommended for best results.

Varnishing of laminated prints or varnishing on foils are often made. To obtain a high-quality coating, the surface must be activated at a surface tension of at least 38 dynes / cm². It is necessary to monitor the temperature during the lamination process, because as the laminating temperature increases, the likelihood of losing the activation of the film increases. Depending on the substrate, it is possible to use standard screen-printing lacquers as well as a special varnish for artificial substrates (eg PE, PP, PVC) - **U 762035**.

Varnishes manufactured by UVLine, most commonly used in screen printing:

U 762035- standard screen varnish with a viscosity of 35 seconds. It is recommended for full varnishing with the use of 165-200 grids / cm lines. It can be applied using a roller coater.

U 762041- standard screen varnish with a viscosity of 40 seconds

U76206F - standard screen varnish with a viscosity of 50 seconds, benzophenone free

U 762061 - standard screen varnish with a viscosity of 60 seconds

U 762091 - standard screen varnish with a viscosity of 90 seconds

U 762091-01 - screen varnish with increased reactivity. Suitable as a "base" for glitter or pearl pigment.

U 762093 - varnish with increased elasticity; smoothes surfaces

U 780001 - matt screen varnish, viscosity 60-80sec, gloss 10-20

U 780401 - matt silk-screen varnish, viscosity 110-130sec, gloss 5-15, suitable for selective varnishing or with glitter

Special cases of applying varnishes via screen printing:

U 444751 - UV flexo varnish, which can be used in screen varnishing with 120-150 lines / cm.

Typically, water-based lacquers are not used in screen printing, but the **LW00850** Blister can be used because this technology allows the application of a thick layer of varnish necessary for the production of a high-quality blister pack.

Varnishes in the elaboration:

- U 766321- varnish for laminated and plastic substrates