EVAPORATION OF SOLVENTS

Apart from a few formulations tailor-made to meet specific customer requirements our screen and pad printing inks are not supplied in ready-to-print viscosity adjustments. Printers can adjust optimum viscosity for screen or pad printing processes to their local climate and printing conditions adding solvents (thinners and/or retarders). Generally, addition ranges from 15 – 30%.
To adjust viscosity of our printing inks we offer a vast range of thinners and retarders with different solving powers (mild to aggressive) and above all different evaporation rates. Thus, printers can adjust inks to local printing conditions to achieve best possible screen stability and drying speeds for screen printing and optimum ink transfer for pad printing applications. Generally, two products of our range are sufficient, pad printers often only need one solvent, Additive A.

EVAPORATION RATE

Definition

Every solvent has a defined evaporation rate. Some, such as Additve C or VD 10 evaporate really fast, others like VZ 30 or TPD evaporate much slower. Different evaporation rates of solvents are defined by comparison measurement. Evaporation of a solvent or solvent mixture is compared to the evaporation rate of ether * under defined conditions (DIN 53170), the result is the evaporation number, in the case of ether 1. Evaporation rates of our thinners and retarders range from evaporation rate 10 to approx. 1.800.

Our pad ink thinners Additive C (evaporation number 12) and Additive A (40) are quick evaporating as well as our screen thinners VD 20 (40) and VD 40 (50). Our standard thinners VD 50 (evaporation number 120) and VD 60 (200) have slower evaporation rates.
The term retarders also refers to longer drying times. VZ 10 with evaporation rate 460 is still quite fast, whereas VZ 30 with evaporation rate of 1.800 is really slow. This is very beneficial in respect to screen stability for slow printing speeds, however then drying times will be significantly longer.

** Our solvent charts are different. We use evaporation factors based on evaporation numbers. The factor of evaporation rate of the individual products is listed in relation to screen thinner VD 60 and for pad printing in relation to Additive A. Both have factor 1.

* In the US in relation to butyl acetate

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Screen Centre; Training Program

SOLVENTS FOR SCREEN PRINTING

Product	Evaporation	Factor**
VD 10	very quick	0,12
VD 20	quick	0,2
VD 30	quick	0,22
VD 40	quick	0,25
VD 50	medium	0,6
VD 60	**medium**	**1**
VZ 05	medium	1,15
XVH	medium	2
VZ 10	medium	2,3
VZ 20	slow	5
VZ 25	slow	5
VZ 30	extremely slow	9
VZ 35	slow	5
VZ 40	very slow	7

SOLVENTS FOR PAD PRINTING

Product	Evaporation	Factor**
Additive C	very quick	0,25
Additive B	quick	0,5
Additive D	quick	0,5
VD 10	quick	0,6
Additive A	**medium**	**1**
Additive U	medium	1
VD 40	medium	1
Additive R	medium to slow	3
VD 60	medium to slow	5
XVH	slow	10
TPD	very slow	25
VZ 35	very slow	25
TP/V	extremely slow	50