VINNOL® E 18/38

A Tailor-Made Binder for Solvent-Based Digital Printing

Digital printing technologies are growing quickly, since they allow for small-run printing jobs and short turn-around times. They also make printing plates as required for analog technologies unnecessary. With VINNOL® E 18/38, WACKER is introducing a binder for the segment of solvent-based inkjet inks with benefits in pigment dispersion and, especially, printing performance characteristics – making for high-quality results.

VINNOL® E 18/38: Typical Properties

VINNOL® E 18/38 is a thermoplastic, physically drying binder that forms a film when the solvent contained in the formulation has evaporated. Like most VINNOL® resins, VINNOL® E 18/38 adheres well to numerous different substrates and interacts favorably with many pigment surfaces. It is also highly resistant to oil, grease, dilute aqueous acids, alkalis and saline solutions, as well as to aliphatic hydrocarbons and alcohols.

VINNOL® E 18/38: Polymer Composition	
Vinyl chloride [wt%]	82
Vinyl acetate [wt%]	18
VINNOL® E 18/38: Other Data	
K value [EN ISO 1628-2]	37 – 39
Viscosity, DIN 53015 [mPa*s]*	11 – 19
Molecular weight [M_W]**	33,000 – 43,000
T_g (DSC) [°C]	~ 70
FDA §175.300	Yes

*20% solution in methyl ethyl ketone, dissolved at 50 °C
**Method: SEC (size exclusion chromatography)

Application Range of VINNOL® E 18/38

- Printing inks, especially inkjet inks for drop-on-demand (DOD) and continuous processes
- Pigment preparations
- Plastic coatings
- Paper and film coatings
- Protective paints

Benefit from Excellent Pigment Dispersion

Prior to the printing process, the pigments need to be ground and dispersed into small particles in order to achieve optimum processing properties and maximum brilliance and gloss. Compared to other polymeric binder classes, VINNOL® E 18/38 frequently shows improved interaction with pigment surfaces. A fine-particle dispersion saves costs and ensures an excellent printing result. Inkjet printing requires the lowest possible viscosities. Under these conditions, avoiding pigment settling while achieving optimum printing performance is a challenge that VINNOL® E 18/38 helps customers to master.

Perfectly Suited for Printing on Flexible PVC Substrates

VINNOL® E18/38 shows excellent performance in inkjet inks for graphic arts applications such as wide-format printing on flexible PVC for banners, signs, vehicle wrapping, etc. Further applications of VINNOL® E 18/38 include inkjet inks for marking and coding on various substrates.

VINNOL® is a registered trademark of Wacker Chemie AG.

WACKER

CREATING TOMORROW'S SOLUTIONS

Improved Solubility in Mild Solvents

Ketones and esters are the most suitable solvents for VINNOL® E 18/38. The binder accommodates the current trend toward milder solvents. Among such solvents of lower odor, various glycol esters (e.g. butyl glycol acetate) and glycol ethers can be used.

Filterability

The favorable solubility characteristics have a positive influence on the filterability of varnishes and inks based on VINNOL® E 18/38. The product can be plasticized with many common monomeric and polymeric plasticizers.

Compatibility

VINNOL® E 18/38 is fully compatible with all other VINNOL® surface coating resins. It also combines well with many acrylic polymers and ketone resins, as well as with some epoxides. Our recommendation is to always check the compatibility of VINNOL® E 18/38 with potential blending partners.

Food Contact

VINNOL® E 18/38 can be used for applications with food contact in compliance with FDA 21 CFR §175.105 and §175.300.

Solubility of VINNOL® E 18/38

Solvent Name	CAS Number	Substance Class	Suitability
Cyclohexanone	108-94-1	Ketones	Soluble
Methyl ethyl ketone	78-93-3	Ketones	Soluble
Acetone	67-64-1	Ketones	Soluble
N-Methyl-2-pyrrolidone	872-50-4	Others	Soluble
Butyl glycol acetate	112-07-2	Glycol esters	Soluble
1-Methoxypropyl acetate	108-65-6	Glycol esters	Soluble
Dipropylene glycol methyl ether acetate	88917-22-0	Glycol esters	Soluble
γ-Butyrolactone	96-48-0	Esters	Soluble
Ethyl acetate	141-78-6	Esters	Soluble
n-Butyl acetate	123-86-4	Esters	Soluble
tert-Butyl acetate	540-88-5	Esters	Partially soluble
Diethylene glycol diethyl ether	112-36-7	Glycol ethers	Partially soluble
Diethylene glycol methyl ethyl ether	1002-67-1	Glycol ethers	Soluble

Part of a Comprehensive Portfolio

VINNOL® E 18/38 rounds out the wide range of copolymers and terpolymers that WACKER markets under the VINNOL® brand. VINNOL® grades consist mainly of vinyl chloride and vinyl acetate, with or without functional groups, and accordingly have a wide variety of industrial applications. Furthermore, all VINNOL® grades can be combined with each other – a fact that allows the coating or printing ink to be customized to the requirements of the application.

With Individual Technical Support

Should you have any questions or need assistance, our technical support team will be happy to advise you. Simply contact us and/or visit **www.wacker.com/vinnol**

VINNOL®

Wacker Chemie AG, 81737 München, Germany, Tel. +49 89 6279-0,
Fax +49 89 6279-1770, info@wacker.com, www.wacker.com/socialmedia

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