

# RHEOLATE<sup>®</sup> FX 1100

## Powdered Thickening Agent

### GENERAL INFORMATION

**RHEOLATE FX 1100** is a high efficiency polyether polyurethane thickener developed for use in aqueous systems. The product is supplied as a white free-flowing powder and enables formulations of odourless paints free of organic solvent.

### CHEMICAL & PHYSICAL PROPERTIES

Appearance 20 °C	white powder
Active content	99 - 100 %
Density (bulk) 20 °C (ISO 2811-2)	approx. 500 kg/m <sup>3</sup>
Solubility	soluble in water and water/glycol mixtures
Composition	hydrophobic urethane polymer
Melting point	53 - 63 °C

These are typical properties not to be used for specification purposes.

### APPLICATIONS

- **RHEOLATE FX 1100** is readily soluble in water and water/organic solvent mixtures. It has been specially designed for use in powdered formulations, such as adhesives and in aqueous coatings.
- The unique composition of **RHEOLATE FX 1100** allows its use in formulations for odourless aqueous coatings free of organic solvents.

### KEY PROPERTIES

- Although **RHEOLATE FX 1100** may be used in pure aqueous systems without any organic solvent it is compatible with glycols, glycol derivatives and various coalescing agents that may be used in the coating formulation. As a rule, water-soluble organic solvents reduce the low-shear viscosity and non-soluble organic solvents and coalescing agents (e.g. DAPRO FX 511) will increase the low- and high-shear viscosity.
- Nonionic thickeners such as **RHEOLATE FX 1100** play a significant role in controlling rheology before, during and after the application of dispersion paints.
- Compared to conventional thickeners **RHEOLATE FX 1100** increases the high shear viscosity which means:

- improved brushability
- higher film build
- improved edge covering
- alkyd-like appearance

Elasticity at low shear is reduced, resulting in:

- improved flow and levelling
- improved appearance

- **RHEOLATE FX 1100** is a hard urethane-based polymer. The hardness as well as the water resistance of the dry coating may be positively influenced when using **RHEOLATE FX 1100** instead of cellulosic, polyacrylic or other urethane thickeners.
- **RHEOLATE FX 1100** reduces the roller spattering properties of the paint, even when the product is used in combination with cellulosic thickeners.
- **RHEOLATE FX 1100** is applicable to many aqueous systems or water dispersable powders. It is compatible with most dispersion paints based on polyacrylic-, polyvinylacetate homopolymers, polystyrene acrylic-, polystyrene butadiene copolymers and most terpolymers. The product may be used in combination with cellulosic thickeners however, the effect on paint stability should be thoroughly checked.
- The product is also totally compatible with pigment dispersing agents NUOSPERSE FX 504 and NUOSPERSE FX 605.

Feature	Consequence
<ul style="list-style-type: none"> <li>• based on a polyether polyurethane</li> </ul>	<ul style="list-style-type: none"> <li>- provides long-term viscosity stability</li> <li>- improves weathering</li> <li>- less sensitive to hydrolysis</li> <li>- decreased water sensitivity</li> </ul>
<ul style="list-style-type: none"> <li>• increases mid and high shear viscosity</li> </ul>	<ul style="list-style-type: none"> <li>- more attractive flow</li> <li>- higher film build and opacity</li> <li>- improved flow and levelling characteristics</li> </ul>
<ul style="list-style-type: none"> <li>• 100% active powder</li> </ul>	<ul style="list-style-type: none"> <li>- can be used in NO-VOC, low odour systems</li> <li>- frost proof</li> </ul>

*continued...*

## RHEOLATE® FX 1100

### INCORPORATION

Usually, **RHEOLATE FX 1100** is added as an aqueous pre-gel or is added directly to the milling paste prior to the addition of the pigments and extenders. However, in some cases it will be possible to add **RHEOLATE FX 1100** as a powder under careful mixing.

In formulations where it is added as a dry powder, **RHEOLATE FX 1100** is just mixed with the various other components. This procedure enables the formulation of coatings with high solids contents.

**RHEOLATE FX 1100** dissolves quickly in water or in water/organic solvent mixtures.

We suggest the following pre-gel:

97% water

3% **RHEOLATE FX 1100**

(Add **RHEOLATE FX 1100** carefully under mixing)

100% **RHEOLATE FX 1100**-gellingredients.

The viscosity of the aqueous solution increases rapidly with concentration.

### LEVELS OF USE

In dispersion paints a concentration between 0.2 and 1.0 % **RHEOLATE FX 1100** will generally be sufficient when used as the sole thickening agent. However, it is recommended to determine the optimum dosage for each case individually.

### HEALTH AND SAFETY

Before using this product please consult our Safety Data Sheet (SDS) for information on safe handling and storage. The SDS can be found on the company website.

### STORAGE RECOMMENDATIONS

Store away from excessive heat or open flame. Keep container closed when not in use.

### SHELF LIFE

**RHEOLATE FX 1100** has a shelf life of 3 (three) years from date of manufacture.

### QUALITY ASSURANCE

Since 1992 the company is a holder of the ISO 9001 / ISO 9002 certificates, which guarantees that all operations are conducted according to the stipulated standards.

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