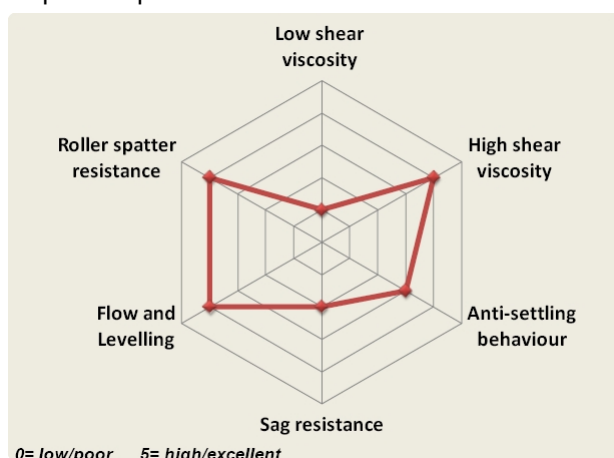


RHEOLATE® FX 1070

Associative Thickening Agent

GENERAL INFORMATION

RHEOLATE FX 1070 is a no-VOC liquid rheology modifier for aqueous coatings. **RHEOLATE FX 1070** increases primarily the high-shear viscosity, resulting in a nearly Newtonian flow behaviour for e.g. dispersion paints.



CHEMICAL & PHYSICAL PROPERTIES

Appearance 20 °C	clear liquid
Active content	40 %
Density 20 °C (ISO 2811-2)	approx. 1070 kg / m ³
Viscosity, 23 °C (ASTM D 2196)	approx. 10 - 20 mPa.s
Color, 50 % in 50 % IPA (DIN-EN 1557)	max. 250 Alpha
Solubility	soluble in water and water / glycol mixtures
Composition	hydrophobic urethane polymer in water

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

APPLICATIONS

- **RHEOLATE FX 1070** is a typical “high-shear thickener”. This results in optimized rheological properties. Film-build, brushing characteristics, edge covering and appearance are improved compared to conventionally-thickened aqueous coatings.
- The low- and medium-shear viscosity is less influenced. This means that the “appearance viscosity” of the paint changes little, as do the anti-sagging properties as such, after the addition of **RHEOLATE FX 1070**. Excellent results have been obtained using **RHEOLATE FX 1070** in conjunction with our low shear PUR-thickeners like **RHEOLATE FX 1070** or 655. In this way the right balance between medium- and high-shear viscosity can be reached.
- **RHEOLATE FX 1070** belongs to the class of associative polyurethane thickeners. Unlike the first generation of these thickeners, **RHEOLATE FX 1070** forms strong polymeric associations with the surface of the polymeric binder particles. It is assumed that these interactions are not destroyed even when applying high mechanical forces, for example during brush or roller application of the paint. The unique structure of **RHEOLATE FX 1070**, however, avoids the building of a rigid network, even if no or low shear forces are being applied. Therefore **RHEOLATE FX 1070** has only a limited influence on the low- and medium-shear viscosity of the paint.
- **RHEOLATE FX 1070** is applicable in a wide variety of aqueous paints based on e.g. polymeric dispersions, alkyd emulsions, hybrid emulsions. The thickening properties being obtained are a result of the interaction of **RHEOLATE FX 1070** molecules and the binder particle surfaces, therefore the efficiency is largely determined by, and is dependent upon, the binder surface characteristics.

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RHEOLATE® FX 1070

KEY PROPERTIES

FEATURE	CONSEQUENCE
<ul style="list-style-type: none"> based on polyether polyurethane 	<ul style="list-style-type: none"> provides long term viscosity stability improves weathering less sensitive to hydrolysis decreased water sensitivity
<ul style="list-style-type: none"> does not contain organic solvents 	<ul style="list-style-type: none"> ideal for NO-VOC and low odour paints
<ul style="list-style-type: none"> increases high shear viscosity without affecting low shear viscosity 	<ul style="list-style-type: none"> improved brushability higher film build improved flow and leveling
<ul style="list-style-type: none"> low poly-dispersibility 	<ul style="list-style-type: none"> less syneresis effects

INCORPORATION

RHEOLATE FX 1070 is preferably added to the milling paste. However, good results are obtained with post-addition of **RHEOLATE FX 1070** during the let-down stage. In this case the compatibility with the paint system should be checked carefully. The high affinity of **RHEOLATE FX 1070** to the surface of the polymeric particles might result in a local too aggressive inter-action followed by coagulation or flocculation. If this effect occurs, we recommend to predilute **RHEOLATE FX 1070** with water, e.g. to a 10 % solids solution.

The increase of the high-shear viscosity is in relation to the amount of **RHEOLATE FX 1070** used. The quantity of **RHEOLATE FX 1070** to be used is also strongly dependent on the required rheology for the particular paint.

In most formulations **RHEOLATE FX 1070** will be used in combination with a second thickener (e.g. **RHEOLATE 655**) to obtain the desired balance for the total rheology profile. In those cases, **RHEOLATE FX 1070** should be added to the paint as a second thickener to reach the desired high-shear viscosity (ICI-viscosity).

LEVELS OF USE

In most cases a concentration of 0.5 - 3.0 % **RHEOLATE FX 1070** is sufficient. However, it is recommended to check the optimum dosage and compatibility 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.

SHELF LIFE

RHEOLATE FX 1070 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.

NOTE: The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchasers will be subject to a separate agreement which will not incorporate this document.

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