

Efka® RM 1900

Product description Rheology modifier

Rheology modifier for solvent-based systems

Key benefits

- Thickening agent in micronized, solid form for non-aqueous coatings
- Very strong thixotropic effect in solvent-based coatings, particularly recommended for use in paint manufacturing processes involving relatively high working temperatures

Chemical nature

Modified hydrogenated castor oil

Properties

Physical form White, microfine powder

Technical data

(not supply specification)

Solid content $\geq 99 \%$ Particle size distribution $\sim 5 - 9 \mu m (99 \% \leq 32 \mu m, 100 \% \leq 44 \mu m)$

Application

Efka® RM 1900 is an excellent rheology modifier for solvent based and solvent-free systems such as epoxy resin paints, plastisols, caulking compounds, putties and knifing fillers.

The advantage of Efka® RM 1900 is that it tolerates relatively high working temperatures which are particularly evident wherever the solvent mixture consists mainly of white spirit.

The type of solvent is decisive to the thixotropic behavior of Efka® RM 1900. The solvents should mainly consist of mineral spirits and aromatics, but a combination with esters, ketones and alcohols is possible up to certain limits.

It shows optimum temperature stability in coatings based on air-drying alkyd resins. However, temperature stability is slightly lower in systems formulated mainly with aromatic hydrocarbons, such as paints based on chlorinated rubber, polyvinyl copolymers, chlorinated polyethylene, etc.

Formulation guideline

Efka® RM 1900 is preferably processed in high-speed grinders. The addition is usually made in powder form, where it is beneficial to predisperse the thickener for approximately five minutes in the solvent-binder mixture, prior to pigment addition.

It is essential that certain temperature limits are kept and that stirring alone is not sufficient to achieve adequate homogenization, even if the thickener is added in a pre-gelled form. Thus sufficient shear forces are required to ensure adequate incorporation.

Shear forces generated in dissolvers, pearl mills or similar grinding equipment, are usually sufficient to obtain the degree of dispersion required.

When using Efka® RM 1900 in white spirit based paints, a working temperature of 50 - 60 °C is required. In conjunction with adequate shear, these paints - especially alkyd resin paints - develop an excellent thixotropy. Short-time exposure to temperatures of approx. 80 - 90 °C will not cause a negative effect. In systems formulated with Efka® RM 1900, containing aromatic hydrocarbons such as chlorinated rubber paints, the optimum temperature range is lower (~ 40 - 60 °C). Short-time exposure to a temperature of approx. 80 °C will not cause any negative effect. These properties may vary in individual paint systems and should be tested beforehand.

Although Efka® RM 1900 should preferably be used as a powder, it may also be processed in the form of a gel. The use of these so-called "pre-gels" can facilitate the dispersion process, but still requires high shear to be applied, as well as the above-mentioned temperatures have to be maintained.

A pre-gel can be obtained by the following method:

One part by weight of Efka® RM 1900 and three parts by weight of xylene (or other higher aromatic solvents) are stirred intensively until a thick paste is obtained. After adding further four parts by weight of xylene, intensive stirring is continued for approximately 10 minutes.

After a maturing time of approx. 12 hours, a transparent and homogeneous paste has developed which is also stable after prolonged storage.

Usual dosages of this "pre-gel" are 0.2 - 2.0 %, based on the finished paint. The correct amount depends on the desired thickening effect and the general requirements for the coating.

Storage

Efka® RM 1900 should be stored in a cool, dry place.

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Validity

This Technical Data Sheet is valid for all versions of the Efka® RM 1900.

Safety

When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note

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