Solvent-free polyurethane rheological modifier and thickener

RT-3628SF

Features and Advantages:

RT-3628SF is a brand-new, solvent-free, high-performance polyurethane thickener that combines high in-can viscosity with excellent pigment compatibility. It is suitable for a wide range of water-based industrial coatings and emulsion paint formulations, and is particularly well-suited to high-end coating formulations requiring zero or low VOC levels.

Compared with traditional products, RT-3628SF rapidly establishes system viscosity, which remains stable after thickening. It delivers excellent thickening performance in general water-based industrial coating formulations with higher solvent content, such as water-based epoxy primers, hydroxypropyl dispersions and water-based alkyd resins. RT-3628SF has a moderate viscosity and can be diluted directly with water in a 1:1 ratio, making it convenient to use.

In water-based architectural and industrial coatings, RT-3628SF offers high thickening efficiency, along with excellent flow and levelling properties, superb film-forming uniformity and gloss development; it is particularly suitable for high-end zero-VOC and low-VOC formulations. When used in conjunction with the RT-3629 product, which provides high shear viscosity, an ideal balance of viscosity can be achieved across different shear rates.

When RT-3628SF is used in industrial paint systems based on hydroxypropyl dispersions with a high co-solvent content, it delivers excellent thickening performance and stable viscosity; as the product contains no organotin components, it does not affect the pot life of the system.

- Solvent-free and directly dilutable with water: convenient to use, highly effective thickening agent with excellent environmental performance.

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- Thickening characteristics: provides superior and more stable viscosity compared to traditional products; exhibits excellent high-shear viscosity thickening effects and outstanding levelling properties in formulations containing large-particle emulsions, enhancing the fullness of the coating.
- Outstanding application performance: Excellent pot life and thickening efficiency, as well as superb water resistance, alkali resistance, scrub resistance, stain resistance, corrosion resistance and resistance to water bleed.
- Exceptional finished film appearance: Good flow, levelling and hiding power, with uniform film thickness and film fullness, whilst preserving the gloss characteristics of the coating.
- Simple method of addition: Can be added directly or diluted 1:1 with water before addition, rapidly establishing viscosity balance within the system.
- Excellent environmental credentials: Solvent-free, free from organotin compounds and APEO, and safe to use.
- Wide pH range: As a non-ionic associative thickener, its properties are largely unaffected by pH, allowing it to be used across a wide pH range.
- Reliable biostability: Resistant to microbial and enzymatic degradation.

Product parameter:

Appearance	Slightly cloudy milky white or translucent liquid
Solid Content	50%
Density	1.05 g/cm^3 (25°C)
Viscosity	6,000 – 12,000 mPa • s (25°C)
Composition	Nonionic associative HEUR type

Usage and dosage:

This product can be used directly after dilution with water in a 1:1 ratio. The quantity of this product to be used is determined by the customer's formulation design; the recommended addition rate is 0.3% ~ 2.0% of the total formulation weight. Customers may also use this product in combination with other thickeners to meet the rheological performance requirements of the formulation, depending on specific requirements relating to production, storage, application and film formation.

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Precautions for use:

1. Use in conjunction with RT-3629, which provides high shear viscosity, to achieve an optimal balance of viscosity at different shear rates. When used together with RT-3629, it is recommended to add RT-3629 first, followed by RT-3628SF;
2. Use with fine-particle, oil-compatible emulsions to achieve a more responsive thickening effect and better results;
3. When used on its own, avoid using it in combination with polycarboxylic acid homopolymer dispersants.

Packing:

25KG or 200KG /drum.

Storage:

The product should be stored in a sealed container in a cool, dry and well-ventilated warehouse. Appropriate measures should be taken to prevent freezing during storage and transport in winter (if the product freezes, it may be used again after thawing and stirring thoroughly). The recommended storage temperature is 1–49 °C, Shelf life: 24 months (under the specified storage and transport conditions).

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