

RHEOLOGY CONTROL

QK4200 Liquid Rheological Agent

Positioned against BYK 420

Liquid polyurea rheology additive for waterborne and water/glycol-ether systems, dosed for anti-settling or anti-sag.

Overview

QK4200 is a liquid polyurea rheology additive for waterborne, dispersion and emulsion systems. Stirred into the coating it builds a three-dimensional network that gives strongly shear-thinning flow, so pigment stays in suspension and film build holds on vertical surfaces without flattening out the levelling. It works in water, water/glycol-ether and alcohol-solvent blends, and can be post-added to correct a batch that has already been let down.

Typical Data

Property	Value
Chemical composition	Modified polyurea solution
Appearance	Light yellow to brownish yellow liquid
Non-volatile content	50%
Density	1.05-1.15 g/cm ³
Viscosity (25C)	300-1600 cps
Solvent	N-methylpyrrolidone
Storage	Dry conditions, temperature sensitive
Shelf life	12 months maximum
Packing	25 kg / 180 kg

Recommended Dosage

Basis	Addition level
Anti-settling	0.2-1% on total formulation
Anti-sag	0.5-2% on total formulation

Dispersant figures are percentages on pigment weight, not on the total batch. Published values are empirical; confirm the optimum with a dosage ladder in your own system.

Use Guide

- Add under moderate shear so the additive mixes evenly and disperses quickly.
- No special temperature control is needed. It can go in at the mill base stage or be post-added to adjust viscosity.
- Allow 2-24 hours after mixing before judging the rheology; build-up depends on time and system polarity.
- If a drier is used in the same formulation, watch for discoloration from metal complex formation and re-check the rheology.

Applications

- Waterborne industrial topcoats sprayed on vertical steelwork
- High-pigment-load primers that separate during long storage
- Emulsion systems where a pre-gel paste would need extra grinding equipment
- Correcting viscosity on a finished batch before filling

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Typical values are indicative of the product and are not release specifications. Data reproduced from the manufacturer data sheet.