

Rheological Additive

with Improved Dispersibility for Non-Polar to Medium-Polarity Media

GENERAL INFORMATION

BENTONE SD-3 rheological additive is an organic derivative of a hectorite clay. It is highly efficient and designed for use in coating systems with a wide range of solvent polarities.

BENTONE-SD 3 must be dispersed in the pigment milling stage. BENTONE SD-3 does not require pre-gelling or a chemical activator. Post correction with BENTONE SD-3 is not recommended.

BENTONE SD-3 rheological additive provides stable viscosity, controls sag and suspends pigments.

PHYSICAL PROPERTIES

Composition	organic derivative of a smectite clay (hectorite)
Color / Form	very light cream, finely divided powder
Density	1.6 g/cm ³
Bulk density	0.305 g/cm ³
Particle size (dispersed)	less than 1 micron

APPLICATIONS

Optimum performance is obtained from this product in systems containing aromatic solvents or blends of aromatic/aliphatic solvents that range from non-polar to medium-polarity.

- Acid-curing systems
- Acrylic paints
- Adhesives
- Alkyd systems
- Anti-corrosion maintenance paints
- Automotive finishes/primers
- Bituminous coatings
- Chlorinated rubber paints

- Decorative coatings
- Epoxy systems
- Gravure printing inks
- Hammer finishes
- Industrial finishes
- Marine paints
- Oil paints
- Polyester paints and fillers
- Primers
- PU two-pack systems
- Sealants, putties
- Vinyl paints (high-build)

KEY PROPERTIES

BENTONE SD-3 rheological additive

- is a cost-effective alternative to other organoclay rheological additives and fumed silica
- disperses readily when added directly at the pigment-grinding stage
- does not need pre-gelling
- requires no chemical activator
- is highly efficient, thus reducing raw materials cost
- enables fast plant throughput
- can be used over a wide range of solvent polarities
- improves batch-to-batch consistency

INCORPORATION

BENTONE SD-3 rheological additive for non-polar to medium-polarity organic systems. It eliminates the need to make costly pregels and the use of chemical activators. Full rheological development and fineness of grind can be obtained by adding dry BENTONE SD-3 directly to the pigment grind during production. In the grind, shear forces typically required to fully disperse pigments are sufficient for the full dispersion and gelation of BENTONE SD-3 rheological additive. Regardless of the total solvent polarity in the system, BENTONE SD-3 rheological additive will not require a pregel or a chemical activator.

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Typical order of addition for BENTONE SD-3 rheological additive: take a portion of the total solvent/resin system (in proper balance) and begin to mix; add BENTONE SD-3 and mix for five minutes; then add pigments and grind on high-shear equipment.

BENTONE SD-3 rheological additive is not sensitive to high pigment grind temperatures and no minimum temperature is required for dispersion and gelation.

Although there is no need to pregel BENTONE SD-3 to achieve full development of rheology, BENTONE SD-3 rheological additive will develop a good gel structure when dispersed under shear in solvent alone. A chemical activator is required to achieve a good fineness of grind.

LEVELS OF USE

The level of BENTONE SD-3 rheological additive to be used in a specific system depends on the degree of rheological thickening, sag control and pigment suspension desired. Use levels are typically 0.2 % - 1.0 % by weight on the entire formula.

A good starting point when re-formulating a system is the replacement of the currently used additive by an equal weight of BENTONE SD-3. Use of a loading ladder is recommended to determine the optimum loading of BENTONE SD-3 rheological additive actually needed.

The high efficiency of BENTONE SD-3 rheological additive often allows a reduction of use level in comparison with conventional organoclays.

HANDLING AND SAFETY

More detailed information on handling and safety for each product is included in the relevant material safety data sheet, available for each product.

STORAGE RECOMMENDATIONS

Store in a cool, dry location.

PACKAGING

BENTONE SD-3 rheological additive is available in multi-ply paper bags. Please contact your local Elementis Specialties representative for the packaging available in your region.

SHELF LIFE

BENTONE SD-3 has a shelf life of 4 (four) years from date of manufacture.

PRODUCT NUMBER

10801

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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