

BENTONE® CRS

Rheological Additive for Ceramic Products Applications

GENERAL INFORMATION

BENTONE CRS rheological additive is an easy dispersible powder designed for tiles, glazes, ceramic inks and advance ceramic production. With a base of smectite hectorite clay and low magnetics content.

CHEMICAL & PHYSICAL PROPERTIES

Composition	Refined and beneficiated Hectorite clay
Color / Form	milky-white, soft powder
Apparent (bulk) density	approx. 0.4 g/cm ³
Particle Size	min 94% through 200 mesh (74 microns)

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

APPLICATIONS

- Ceramic compounds
- Ceramic glazes
- Ceramic primary blends
- WB systems

KEY PROPERTIES

Rheological properties:

- Imparts pseudoplastic flow and thixotropy.
- Excellent anti-settling performance.
- Improves workability/application of high solid systems.
- High effectiveness as emulsion stabilizer
- Minimizes floating/flooding of pigments.
- Enhances texturing and stippling effects.

Additional benefits:

- Provides thermostable aqueous phase viscosity control.
- Promotes fast water release.
- High fusion temperature
- No adverse effect on white firing characteristic

INCORPORATION

BENTONE CRS additive can be incorporated as powder or as an aqueous 3 - 4 wt% (Bentone CRS) pregel. No increased temperature is required.

1. Incorporation of powder in powder mixes:

- ✓ Mix the powder ingredients intensively for 20 minutes. Ensure good mixing quality.

2. Incorporation powder to a liquid matrix:

- ✓ Add **BENTONE CRS** to a vessel containing only water, pH 7.0 - 8.0. If necessary, adjust pH level*.
- ✓ Mix for 15 min at ca. 16 m/s.
- ✓ After sufficient hydration time, continue adding remaining ingredients of the formula.

3. Aqueous Bentone CRS pregel to liquid mixes:

- ✓ Disperse 3 – 4 % of BENTONE CRS in water.
- ✓ Shear for minimum 15 min at ca. 16 m/s to get fully dispersed pregel. If there are still particles continue dispersing.
- ✓ Pregel incorporation to other liquid matrix can be done as initial step, in between or as letdown. But always at lower speed (min 4 m/s) for 10 min.

- **BENTONE CRS** additive is stable within the range pH 6 - 11.
- Addition of Wetting & Dispersing Agents should be done only after dispersing properly **BENTONE CRS** – otherwise there is a high risk of low FOG.

LEVELS OF USE

Typical addition levels are 0.1 - 1.0 % **BENTONE CRS** additive by weight of total formulation.

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.

*(pH can be adjusted with appropriate alkali but triethanolamine can cause degelling. High or low pH during dispersion can lead to in homogeneous gel formations and reduced efficiency).

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STORAGE RECOMMENDATIONS

Store in a dry place. **BENTONE CRS** additive will absorb moisture in high humidity conditions.

SHELF LIFE

BENTONE CRS has a shelf life of 4 (four) 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 standard.

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North America

Elementis
469 Old Trenton Road
East Windsor
NJ 08512, USA
Tel.: +1 609 443 2500
Fax: +1 609 443 2422

Europe

Elementis UK Ltd.
c/o Elementis GmbH
Stolberger Strasse 370
50933 Cologne, Germany
Tel.: +49 221 2923 2066
Fax: +49 221 2923 2011

Asia

Deuchem (Shanghai) Chemical Co., Ltd.
99, Liyang Road
Songjiang Industrial Zone
Shanghai, China 201613
Tel.: +86 21 5774 0348
Fax: +86 21 5774 3563