

CLAYTONE-AF

Rheology additive in powder form based on an organophilic phyllosilicate for non-polar to medium-polarity systems to generate thixotropic flow behavior.

Product Data

Composition

Organophilic phyllosilicate

Typical Properties

The values indicated in this data sheet describe typical properties and do not constitute specification limits.

Loose bulk density: 300-400 kg/m³

Water content: 2 %

Specific weight: 1.5 g/cm³

Food Contact Legal Status

For the current food contact legal status, please contact our product safety department or visit www.byk.com for further information.

Storage and Transportation

CLAYTONE-AF should be transported and stored dry in the unopened original container at temperatures between 0 °C and 30 °C.

Applications

Coatings Industry

Special Features and Benefits

Due to its special organic modification, CLAYTONE-AF is ideally suited to influencing the flow behavior of non-polar to medium-polarity coating systems. Using the additive produces thixotropic flow behavior, and therefore results in significant improvement to the anti-sagging properties while at the same time maintaining good leveling. This also optimizes storage stability, and prevents pigments and fillers from settling.

Recommended Use

| | |
|-----------------------------|---|
| Architectural coatings | ■ |
| Industrial coatings | ■ |
| Protective coatings | ■ |
| Wood and furniture coatings | ■ |
| Printing inks | ■ |
| Powder coatings | ■ |

■ especially recommended □ recommended

Recommended Levels

0.3-2 % additive (as supplied) based on the total formulation.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive is incorporated while stirring, and is preferably dispersed in the mill base at high shear forces for at least 10 minutes. Alternatively, it can also be incorporated using a 10 % paste.

The effect of CLAYTONE-AF can be increased by adding a booster or small quantities of a polar solvent or water.

Powder Coatings**Special Features and Benefits**

CLAYTONE-AF is a rheology additive used to increase the melt viscosity of powder coatings. Even at low dosages, the viscosity of the melt during extrusion and during the cross-linking reaction is increased. The resulting coating brings about a fine surface texture. At higher dosages, the gloss level is also reduced. Areas of application are fine structure systems in which CLAYTONE-AF can be used to modify the surface texture and improve the edge covering by increasing the viscosity.

Recommended Use

The additive is recommended for powder coatings based on epoxy, polyester, polyurethane and acrylate resins as well as polyester/epoxy combinations.

Recommended Levels

0.5-2 % additive (as supplied) based on the total formulation.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive is mixed with resin, hardener, pigments and other raw materials in a mixer and then extruded.

Detergents, Cleaning and Care Products**Special Features and Benefits**

CLAYTONE-AF is a rheology additive used to thicken solvent and oil systems. It is also used to stabilize water-in-oil emulsions. The additive is self-activating and easily dispersible for low-polarity systems based on mineral oils, isoparaffins, mineral spirits and silicone oils. It requires no additional activator for gelling, or only a small amount in the case of aliphatic systems. Polishes with CLAYTONE-AF are easy to apply, and any abrasive materials do not settle.

Recommended Use

| | |
|----------------------------------------|-------------------------------------|
| Furniture polishes | <input checked="" type="checkbox"/> |
| Car polishes | <input checked="" type="checkbox"/> |
| Industrial cleaning agents (non-polar) | <input type="checkbox"/> |

☒ especially recommended ☐ recommended

Recommended Levels

0.5-3 % additive (as supplied) based upon the total formulation, depending on the properties of the formulation to be achieved.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

To achieve optimum effectiveness, CLAYTONE-AF should be incorporated at high shear forces. The additive is effective in a multitude of organic liquid systems and requires no specific processing temperature. CLAYTONE-AF can be dispersed using a high-speed mixer. CLAYTONE-AF can be incorporated either as a pregel or in situ.

Pregel can be produced as follows:

1. Place the organic solvent in the dispersion vessel
2. Slowly add the CLAYTONE-AF (10 % based on the pregel) while stirring
3. Stir for 15 minutes at high speed

It can be incorporated directly during production as follows:

1. Place the organic solvent or oil in the dispersion vessel
2. Slowly add the CLAYTONE-AF while stirring
3. Stir for 15 minutes at high speed
4. Continue to add the other formulation components

When post-adding to the finished system, ensure that CLAYTONE-AF is well dispersed. Adding to a hot base can cause a very rapid external wetting of the powder. These wetted particles with a "dry" core are very difficult to disperse completely. CLAYTONE-AF should therefore be used in a system at a temperature below 50 °C. The use of a high-speed mixer or a low shear dissolver is required for a later dispersion. Surfactants and emulsifying agents may be added only after CLAYTONE-AF has been activated, otherwise the effect of the additive could be reduced or completely eliminated. When using emulsions, CLAYTONE-AF should be incorporated into the oil phase.

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Data Sheet
Issue 10/2018



Additive Guide



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This issue replaces all previous versions – Printed in Germany