LAPONITE-7007

Rheology additive based on synthetic phyllosilicate for aqueous systems to improve the rheological properties in the low shear range and in particular for improved effect pigment orientation.

Product data

Composition
Synthetic (modified) phyllosilicate

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

Bulk density:	1,000 kg/m^3
pH value (2 % in H_2O):	10
Moisture content:	max. 10 %
Appearance:	free-flowing, white powder

Storage and transportation
LAPONITE-7007 is hygroscopic and 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
- Increases the viscosity in the low shear range with a low impact on the high shear range
  - To prevent sagging or mixing of different coating layers in wet-in-wet applications
  - For improved processability
- Longer storage stability by preventing the settling of pigments, fillers, matting agents and other solids
- Rapid structure recovery following application for ideal orientation of effect pigments, especially in (automotive) basecoats and topcoats
- Increased tolerance to water quality
- Insensitive to pH value and very versatile
- Also suitable for systems with higher organic cosolvent content or dissolved salts
- Can be combined with organic rheology additives for optimal adjustment of the respective rheology profile

Recommended use

Architectural coatings	■
Automotive OEM coatings	■
Automotive refinish coatings	■
General industrial coatings	■
Wood and furniture coatings	□

■ especially recommended □ recommended

Recommended levels

0.1–0.7 % additive (as supplied) based on the total formulation for use in automotive coatings.
0.1–2 % additive (as supplied) based on the total formulation, depending on the properties of the formulation.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions

To ensure optimum distribution and the best possible effectiveness and reproducibility in applications, LAPONITE-7007 must be fully hydrated in water with a low ion concentration (at 20 °C ± 5 °C). When using LAPONITE-7007, a 2 to 5 % dispersion in demineralized water is recommended. To do this, LAPONITE-7007 is slowly interspersed in the water while stirring. The dispersion can be used as soon as it is fully dissolved and no undissolved particles are visible. For higher dosages of up to 5 %, the use of glycols with a low molecular weight in the solution is recommended (after the LAPONITE is completely dissolved). In this case, the tried and tested ratio is one part polyethylene glycol to one part LAPONITE-7007. For an ideal flop effect, the rheology additive should be homogeneously incorporated in the coating system before the effect pigment slurry is added.

Special note

The LAPONITE-7007 dispersion should be used before an irreversible gel structure emerges, as this cannot be made liquid again even through shearing. In contrast to LAPONITE-RD, an increase in the solution's viscosity does not pose any problems.

Your local contact

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