OPTIGEL-WX

Rheology additive based on a modified activated phyllosilicate to generate thixotropic flow behavior in aqueous systems.

Product data

Composition
Modified activated phyllosilicate

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

Bulk density:	500-800 kg/m³
Water content:	max. 13 %
Delivery form:	powder

Storage and transportation
Product shelf life in unopened original packaging: 24 months
Moisture sensitive. Store dry.

Applications

Coatings industry

Special features and benefits

- Creation of strong thixotropic flow behavior
- Improvement of
  - Storage stability by preventing the settling of solids
  - Processing properties
  - Sag resistance
  - In-can viscosity
- Enables higher film thicknesses
- Stable against diluted bases and common diluted acids

Recommended use
OPTIGEL-WX is suitable for a variety of aqueous systems, especially for pigment concentrates.

Architectural coatings	■
Wood and furniture coatings	■
Floor coatings	■
General industrial coatings	■
Marine and protective coatings	▢

■ especially recommended ▢ recommended

Recommended levels
0.3-2.0 % additive (as supplied) based on the total formulation, depending on the properties of the formulation to be achieved.

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

Incorporation and processing instructions
OPTIGEL-WX should be added to the millbase along with the pigments and fillers. This ensures optimal activation, dispersion, and development of the desired thixotropic flow behavior. If post-addition is necessary, a pregel can be prepared prior to incorporation. Preparing a pregel helps ensure proper swelling and avoids insufficient activation or formation of lumps when the product is added later in the process.

Construction chemicals

Special features and benefits
In self-leveling compounds (SLU/SLO) and screeds:

- Prevention of
  - Aggregate settling
  - Syneresis and bleeding

In high-solid construction systems:

- Improvement of
  - Workability properties
  - Sag resistance

Recommended use

Putties	■
Skim coats	■
Self-leveling screeds	■
Self-leveling compounds (SLU/SLO)	■

■ especially recommended ▢ recommended

Recommended levels
0.05-0.5 % additive (as supplied) based on the total formulation, depending on the properties of the formulation to be achieved.

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

Incorporation and processing instructions
OPTIGEL-WX is hydrophilic and can be added as supplied to the dry mix mortar formulation. In polymeric ready-to-use formulations, the additive must be added to water (20 °C ± 5 °C) slowly whilst stirring, and pre-dispersed at high shear forces for at least 20 minutes. OPTIGEL-WX should be fully hydrated before the remaining components of the formulation can be added to the dispersion. Alternatively, we recommend pre-blending the additive with the filler composition before adding this to the aqueous binder.

Home care and I&I

Special features and benefits

- Rheology additive for various aqueous systems:
  - Creation of thixotropic flow behavior
  - No excessive thickening

    - Improvement of
        - Storage stability by preventing the settling of abrasive materials and other particles
        - Adhesion to vertical surfaces
        - Cleaning action due to longer exposure time
        - Processing and application properties (e.g. spraying)
- Stable to acids and bases in a pH range of 2-13
- Excellent electrolyte resistance to sodium salts and surfactants

Recommended use
OPTIGEL-WX is particularly suitable for use in aqueous cleaning and care products in the pH range between 2 and 13.

Detergents	▢
Floor care products	▢
Cleaning agents (aqueous)	▢

■ especially recommended ▢ recommended

Recommended levels
0.5-2.0 % additive (as supplied) based on the total formulation, depending on the properties of the formulation to be achieved.

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

Incorporation and processing instructions
OPTIGEL-WX is hydrophilic and easy to incorporate into water. To ensure optimal distribution, effectiveness, and reproducibility, the additive must be added to water (20 °C ± 5 °C) slowly whilst stirring, and pre-dispersed at high shear forces for at least 20 minutes. For optimal incorporation, the concentration of OPTIGEL-WX in this pre-mix should be 3-5 %. The additive should be fully hydrated before adding the remaining water and formulation components to the dispersion. No wetting and dispersing additives are required to produce this dispersion.

Special note
The choice of the best-suited rheology additive is determined by the rheological requirement profile, the physical properties (color, transparency, etc.), and the compatibility with the chemical environment of the respective detergent and cleaning agent.

Agricultural industry

Special features and benefits
- All-purpose rheology additive
- Creation of thixotropic flow behavior

Recommended use
OPTIGEL-WX is particularly suitable for aqueous crop protection formulations based on emulsions and emulsion concentrates as well as for suspensions/suspension concentrates and water-dispersible granulates.

Recommended levels
0.05-1.50 % additive (as supplied) based on the total formulation, depending on the properties of the formulation to be achieved.

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

Incorporation and processing instructions
OPTIGEL-WX is hydrophilic and easy to incorporate into water. To ensure optimal distribution, effectiveness, and reproducibility, the additive must be added to water (20 °C ± 5 °C) slowly whilst stirring, and pre-dispersed at high shear forces for at least 20 minutes. For optimal incorporation, the concentration of OPTIGEL-WX in this pre-mix should be 5-7 %. The additive should be fully hydrated before adding the remaining water and formulation components to the dispersion. No wetting and dispersing additives are required to produce this dispersion.

Adhesives and sealants

Special features and benefits
- Creation of thixotropic flow behavior
- Improvement of
    - Storage stability by preventing the settling of solids
    - Processing properties
    - Sag resistance
    - Ridge formation
- Stable against diluted bases and common diluted acids

Recommended use
OPTIGEL-WX is suitable for a variety of aqueous systems, such as flooring, tile, and wood adhesives and acrylate sealants. It is suitable for pH-neutral, acidic, and basic adhesives and sealants.

Recommended levels
0.5-2.0 % additive (as supplied) based on the total formulation, depending on the properties of the formulation to be achieved.

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

Incorporation and processing instructions
OPTIGEL-WX should be added to the formulation together with fillers. This ensures optimal activation, dispersion, and development of the desired thixotropic flow behavior. If post-addition is necessary, a pregel can be prepared prior to incorporation. Preparing a pregel helps ensure proper swelling and avoids insufficient activation or formation of lumps when the product is added later in the process.

Leather finishes and coated fabrics

Special features and benefits
- Creation of thixotropic flow behavior
- Improvement of
    - Storage stability by preventing the settling of solids (e.g. pigments, fillers, flame retardants)
    - Processing properties
- Reduces floating of low-density fillers
- Stable against diluted bases and common diluted acids
- The stability to diluted acids must be checked on a case-by-case basis

Recommended use

Leather finishes	■
Coated fabrics	■

■ especially recommended ▢ recommended

Recommended levels
0.1-3.0 % additive (as supplied) based on the total formulation, depending on the properties of the formulation to be achieved.

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

Incorporation and processing instructions
OPTIGEL-CK is hydrophilic and easy to incorporate into water. To ensure optimal distribution, effectiveness, and reproducibility in applications, the additive must be added to water (20 °C ± 5 °C) slowly whilst stirring, and pre-dispersed at high shear forces for at least 20 minutes. OPTIGEL-CK should be fully hydrated before adding the remaining formulation components to the dispersion. No wetting and dispersing additives are required to produce this dispersion.

Paper coatings

Special features and benefits

- Improvement of storage stability by preventing the settling of solids
- Increase of extensional properties of the coating

Recommended use
OPTIGEL-WX is suitable for a variety of aqueous paper coatings.

Recommended levels
0.2–1.0 % additive (as supplied) based on the total 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
OPTIGEL-WX can be added at any point in the formulation stage, however for best results it should be added prior to the solid components. The additive should be added into water slowly whilst stirring, and pre-dispersed at high shear for at least 20 minutes. No wetting and dispersing additives are required to produce this dispersion.

BYK-Chemie GmbH
Abelstraße 45
46483 Wesel
Germany
Tel +49 281 670-0
info@byk.com
www.byk.com