GARAMITE-1958

Powdered rheology additive for solvent-borne and solvent-free systems to increase storage stability and sag resistance.

Product Data

Composition
Organophilic phyllosilicates

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

Bulk density: approx. 130 kg/m³
Water content: < 6 %
Specific weight: 1.5-1.7 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
To be stored and transported at a temperature below 40 °C.

Applications

Coatings Industry

Special Features and Benefits
GARAMITE-1958 is a unique rheology additive with a very broad compatibility with all solvent-borne and solvent-free coating systems.

GARAMITE-1958 has the following properties and benefits:
- Pseudoplastic flow
- Improved sag resistance
- Improved anti-settling behavior
- Supports orientation of effect pigments

As a result of its high bulk density, it is easy to use and displays no shear sensitivity.

Recommended Use
GARAMITE-1958 is recommended for the following applications:

Protective coatings	■
Industrial coatings	■
Architectural coatings	□

■ especially recommended □ recommended

Recommended Levels
0.3-2 % additive (as supplied) based upon 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 can be incorporated in different ways. Either disperse GARAMITE-1958 directly in the millbase or add it as a 10-15 % paste in solvent to the millbase or letdown. The additive should be incorporated into the solvent at sufficient shear force. When adding during the milling process, we recommend pre-dispersing in the binder and solvent at moderate shear force before adding the pigments and fillers.

The effect of GARAMITE-1958 can be further increased by adding a booster or small quantities of a polar solvent or water.

Thermosets

Special Features and Benefits
GARAMITE-1958 is a powdered rheology additive based on a composition of organically modified phyllosilicates. The combination of various morphological structures in the mineral components results in it being particularly easy to disperse and offering high efficiency in various unsaturated polyester and vinylester-based resins.

GARAMITE-1958 offers the following benefits compared with conventional rheology additives:
- Higher coating thicknesses
- Strong shear thinning effect
- Very low shear forces are required for incorporation, which reduces processing time by up to 50 %
- No heat or activators are needed for activation
- Higher bulk densities compared with pyrogenic silica which means lower dusting and less storage space required
- Greater efficiency and/or lower dosage

Recommended Levels
0.5-5 % additive (as supplied) based upon resin.

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

Incorporation and Processing Instructions
GARAMITE-1958 can be incorporated directly in the resin. To reach the full effectiveness, the additive should be premixed in styrene for UP/VE resins. In this case, 8-15 % GARAMITE-1958 is incorporated into styrene. At this concentration, the blend can still be pumped, flows easily, and can subsequently be added to the resin. It is advisable to use air-release additives in these kind of resins to reduce the quantity of air bubbles.

Detergents, Cleaning and Care Products

Special Features and Benefits

GARAMITE-1958 can be used in solvent systems within a broad range of polarity from low to highly polar. Suitable solvents include esters, vegetable oils, glycerin, aromatics, mineral oils and silicone oils. It can also be used in liquid, non-ionic surfactants (alcohol ethoxylates). GARAMITE-1958 can be dispersed very easily and can even be processed at low shear forces. It does not require an activator for gelling. GARAMITE-1958 produces outstanding sag resistance and effectively prevents settling and syneresis.

Recommended Use

GARAMITE-1958 is suitable for a wide range of organic systems, especially:

Industrial cleaning agents (solvents of varying polarity)	■
Non-aqueous liquid detergents	■

■ especially recommended □ recommended

Recommended Levels

0.5-3 % (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

GARAMITE-1958 can either be incorporated as a paste or in situ.

Pastes can be produced in the following way:
1. Place the organic solvent in the dispersion vessel
2. Gradually add GARAMITE-1958 (up to 20 %, based on the paste) whilst stirring
3. Mix for 15 minutes whilst stirring

The additive can be directly incorporated during manufacture as follows:
1. Place the organic solvent or oil in the dispersion vessel
2. Gradually add GARAMITE-1958 whilst stirring
3. Mix for 15 minutes whilst stirring
4. Continue adding the other formulation components

It is also possible to post-add GARAMITE-1958 to a finished system. This requires higher shear forces and the batch temperature needs to be below 50 °C.

Construction Industry

Special Features and Benefits

GARAMITE-1958 is a unique rheology additive with a very broad compatibility with all solvent-borne and solvent-free binder systems for construction applications.

GARAMITE-1958 has the following properties:
- Pseudoplastic flow
- Increased application thickness
- Improved anti-settling
- Greater bulk density than pyrogenic silica, making it easier to use with significantly reduced dusting

Recommended Use

GARAMITE-1958 is suitable for a wide range of organic binder systems, especially:

Jointing compounds	■
Tile adhesive	■
Smoothing mortars	■

■ 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

GARAMITE-1958 can be incorporated as a paste or in situ. It is important that for one-component moisture-curing systems GARAMITE-1958 is either pre-dried or dried using chemical water scavengers. In both cases, drying can be performed in combination with standard fillers such as $CaCO_3$.

Pastes can be produced in the following way:
- Place the organic solvent in the dispersion vessel
- Gradually add GARAMITE-1958 (up to 20 %, based on the paste) whilst stirring
- Mix for 15 minutes whilst stirring

The additive can be directly incorporated during manufacture as follows:
- Place the organic solvent in the dispersion vessel
- Gradually add GARAMITE-1958 whilst stirring
- Mix for 15 minutes whilst stirring
- Continue adding the other formulation components

It is also possible to post-add GARAMITE-1958 to a finished system. This requires higher shear forces and the batch temperature needs to be below 50 °C.

PVC Plastisols

Special Features and Benefits
GARAMITE-1958 is a powdered thixotropy additive based on a composition of organically modified phyllosilicates. It is particularly suited to formulating PVC plastisols. The combination of a variety of morphological structures in the mineral components makes dispersion in the liquid phase particularly easy.

The use of GARAMITE-1958 offers the following benefits:
- Pseudoplastic flow
- No impact on the VOC content
- Easy to incorporate
- Broad compatibility with various plasticizers
- Greater effectiveness than precipitated fillers

Recommended Levels
1-5 % 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
GARAMITE-1958 can be directly incorporated into the liquid phase or post-added under moderate shear force. We recommend checking the influence of the product on haze, hue and thermal stability in a series of laboratory tests.

Adhesives and Sealants

Special Features and Benefits
GARAMITE-1958 is a powdered rheology additive for use in adhesives and sealants, and contributes to improving sagging stability whilst enabling easy processing. The additive is characterized by particularly easy incorporation with a high efficiency in various binder systems based on polyurethanes, epoxides and silane-terminated polymers.

GARAMITE-1958 offers the following benefits compared with conventional rheology additives:
- Higher sagging stability
- High shear thinning effect
- Very easy incorporation
- Tolerant to high shear forces
- No heat or activators are needed for activation
- Greater bulk density than pyrogenic silica, making it easier to use with significantly reduced dusting
- Greater efficiency and/or lower dosage

Recommended Levels
0.5-5 % additive (as supplied) based upon 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
GARAMITE-1958 can be incorporated directly into the formulation. It is important that for one-component moisture-curing systems GARAMITE-1958 is either pre-dried or dried using chemical water scavengers. In both cases, drying can be performed in combination with standard fillers such as $CaCO_3$.

Agricultural Industry

Special Features and Benefits
GARAMITE-1958 is a self-activating additive with an increased impact on viscosity in the low-shear range. It is used as a universal thickener.

Recommended Use
GARAMITE-1958 is particularly suitable for use in oil-based crop protection formulations (oily solutions and oily dispersions).

Recommended Levels
0.1-2 % 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 ensure optimum distribution and the best possible effectiveness and reproducibility in applications, GARAMITE-1958 must be added to the oil slowly whilst stirring and dispersed at high shear forces for at least ten minutes. Once incorporated, this pre-mixture should be stirred for 15-20 minutes before all the other components of the formulation are added into the dispersion.

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