GARAMITE-7305

Powdered rheology additive for polar solvent-borne and solvent-free systems to increase the 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-7305 is a rheology additive that offers benefits over conventional organophilic phyllosilicates (organoclays). Conventional phyllosilicates typically require incorporation at high shear forces and polar activators to support dispersion. In contrast, GARAMITE-7305 can be easily incorporated and activated in solvents and binders under moderate shear force. The additive has a highly pseudoplastic viscosity profile. GARAMITE-7305 makes it possible to produce formulations with high viscosity in the low shear range, which results in outstanding anti-settling and anti-syneresis properties. Applying shear force causes a strong reduction in viscosity which significantly improves the application properties.

Recommended Use
GARAMITE-7305 is ideally suited to medium-polar and polar systems in the following applications:

Architectural coatings	■
Protective coatings	■
Industrial coatings	■

■ especially recommended □ recommended

Recommended Levels
0.5-2 % 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-7305 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-7305 can be further increased by adding a booster or small quantities of a polar solvent or water.

Thermosets

Special Features and Benefits
GARAMITE-7305 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 epoxy-based, unsaturated polyester and vinylester-based resins.

GARAMITE-7305 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
- Greater bulk densities compared with fumed silica which means lower dust development 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-7305 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-7305 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 additive in these kind of resins to reduce the quantity of air bubbles.

PVC Plastisols

Special Features and Benefits

GARAMITE-7305 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-7305 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.

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

Incorporation and Processing Instructions

GARAMITE-7305 can be directly incorporated into the liquid phase or post-added under moderate shear stress. We recommend checking the influence of the product on haze, hue and thermal stability in a series of laboratory tests.

Detergents, Cleaning and Care Products

Special Features and Benefits

GARAMITE-7305 is a powdered rheology additive for medium-polar to highly polar solvent systems, which contain aromatics, alcohols, glycols, glycerin, esters, ketones etc. as solvents. It can also be used in liquid, non-ionic surfactants (alcohol ethoxylates). GARAMITE-7305 can be dispersed very easily and can even be processed at low shear forces. It does not require an activator to reach full effectiveness. GARAMITE-1958 produces outstanding sag resistance and effectively prevents settling and syneresis.

Recommended Use

GARAMITE-7305 is suitable for a wide range of solvent-borne systems, especially:

Industrial cleaning agents (polar)	■
Non-aqueous liquid detergents	■

■ especially recommendedn □ 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-7305 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-7305 (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-7305 whilst stirring
3. Mix for 15 minutes whilst stirring
4. Continue adding the other formulation components

It is also possible to post-add GARAMITE-7305 to a finished system. This requires higher shear forces and the batch temperature needs to be below 50 °C.

Adhesives and Sealants

Special Features and Benefits
GARAMITE-7305 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 at a high efficiency in various binder systems based on polyurethanes and silane-terminated polymers.

GARAMITE-7305 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 fumed 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-7305 can be incorporated directly into the formulation. It is important that for one-component moisture-curing systems GARAMITE-7305 is either pre-dried or dried using chemical water scavengers. In both cases, drying can be performed in combinations with standard fillers such as $CaCO_3$.

BYK-Chemie GmbH
P.O. Box 10 02 45
46462 Wesel
Germany
Tel +49 281 670-0
Fax +49 281 65735

info@byk.com
www.byk.com