

BENTONE® 27 rheological additive

for lubricating grease manufacture

BENTONE 27 rheological additive is an organic derivative of hectorite clay. It is specifically designed to improve thickening efficiency in synthetic and other organic fluids of medium- to high-polarity.

Applications

BENTONE 27 is an effective gellant for esters, vegetable oils, polyalkylene glycols and certain silicone fluids.

Attributes

BENTONE 27 rheological additive

- Ease of manufacturing
- Resistance to melting
- Resistance to oil separation
- Excellent worked stability
- Wide range of temperature applications

Chemical and Physical Data

Composition - organically modified hectorite clay

Color – creamy white

Form - finely divided powder

Density - 1.80 g/cm³

Moisture – 3% Maximum

Incorporation

Equipment

BENTONE 27 rheological additive can be readily blended into oils and fluids using normal grease equipment. The product produced must be sheared through a colloid mill or homogenizer to obtain maximum yield.

Process

Grease is generally manufactured at room temperature and requires no heat for the gelation of the oil. The normal process briefly is:

1. mix the **BENTONE 27** into a portion or all of the base fluid
2. add a suitable polar activator* such as propylene carbonate, methanol or acetone
3. mix until a significant increase in viscosity occurs
4. add the remaining base fluid (if less than the total amount was used initially) and any other desired additives
5. mill

*Polar Activators

Below are common polar activators with typical starting point use levels. Polar activator level should be optimized for each grease formulation.

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Use range based on

Weight of Organoclay

Acetone	25 - 40%
Methanol/H ₂ O 95/5	7 - 20%
Ethanol/ H ₂ O 95/5	12 - 28%
Propylene Carbonate	8 - 25%

Also consult the Elementis Specialties Grease Handbook for additional information on how to optimize the use of organoclay thickeners.

Levels of Use

Typically 5 - 8 % **BENTONE 27** rheological additive is required. A concentration loading study is recommended to optimize the level of addition.

Health and Safety

Before using this product please consult our Material Safety Data Sheet.

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