BYK-MAX CT 4270

Additive based on an organo-modified phyllosilicate to provide ultra-efficient reinforcement to thermoplastic compounds.

Product Data

Composition
Organophilic phyllosilicate

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

Density (25 °C):	1.5-1.7 g/ml
Moisture content:	< 6 %
Supplied as:	Free flowing powder
Typical dry particle size D_{50}:	< 40 µm
Color:	Off white

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 below 50 °C. Store dry.

Applications

Thermoplastics

BYK-MAX CT 4270, when added at < 10% and preferably < 6% by weight to a TPO or polyolefin composite, allows for a lower total mineral content, lower final density, improved surface appearance, improved mold flow, improved dimensional stability and improved scratch resistance. The high reinforcement dramatically increases physical properties such as tensile strength. Target application areas are TPO-based automotive properties and traditional mineral or glass-filled composites. Unlike other clays on the market, the BYK-MAX CT 4270 is based on mixed morphology clay technology, which dramatically aids in compounding and dispersion. The BYK-MAX CT 4270 organic modification is designed to have greater thermal stability during processing.

Special Features and Benefits
The unique mixed morphology clay provides an improved dispersion and mixing. It also changes the melt rheology, culminating in improved mold flow and cycle times. Often a resin-rich surface is observed in composite formulations. While increasing tensile strength, BYK-MAX CT 4270 can decrease impact strength. To avoid this, a total formulation strategy is required. Impact modifier blends with base resins are critical for specifically achieving the final performance outcome. Our technical service team is set up to assist in this process.

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Recommended Use
Use with all thermoplastic resins. The product is particularly suited for use with polyolefins and TPOs.

Recommended Levels
3-6 % additive (as supplied) based on 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
To achieve an optimum dispersion and exfoliation of the additive, the use of co-rotating twin-screw extruders or a BUSS continuous kneader is recommended when compounding thermoplastics materials. When compounding, it is beneficial to select the longest possible processing unit (> 40 L/D) and a screw geometry with a high dispersion performance. To avoid compaction of the additive, if possible, it should be added via a side feeder or an inlet screw to the already melted polymer.

Special Note
When dispersing the BYK-MAX CT 4270 in a twin-screw extruder, care should be taken to not "over shear" the clay, which can cause re-agglomeration. Mixing screw elements that are distributive are best. Excessive heat can lead to reduced product performance and odor formation. Extreme heat can potentially lead to smoke generation at the die. Ultra high shear rates in the extruder can also cause re-agglomeration and reduced performance.

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