

## BYK-MAX CT 4275

Reinforcing additive based on organophilic phyllosilicate for use in multiple polyamides (PA) and other medium to high polar thermoplastic compositions to improve various physical properties

### Product data

#### Composition

Organophilic phyllosilicate

#### Typical properties

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

Bulk density: 120–160 kg/m<sup>3</sup>

Color: off-white

Supplied as: powder

#### Storage and transportation

Store in sealed containers in a cool, dry, and well-ventilated location.

### Applications

#### Thermoplastics

##### Special features and benefits

BYK-MAX CT 4275 is a specially designed mixed-morphology clay for use as a reinforcing additive in polyamides (PA) and other medium-high polar engineering thermoplastics. The unique mixed-morphology clay provides improved dispersion and mixing capability in the thermoplastic matrix. At the same time, the special surface treatment ensures an almost perfect exfoliation in polar resins such as polyamide 6 and polyurethane.

The highly reinforcing mechanism of the additive improves various physical properties such as flexural modulus, yield strength, tensile strength, and heat deflection temperature while simultaneously ensuring excellent flow behavior of the composite.

In mineral- and glass-filled thermoplastic composites, BYK-MAX CT 4275 allows a lower total mineral/glass fiber content, which results in a lower final density of the part without compromising any mechanical properties. This makes the mixed-morphology clay an ideal solution for light-weight applications, which are often requested in transportation applications.

Additionally, the additive also has a positive impact on the surface appearance, scratch resistance, and mold flow in such material systems.

## Recommended use

Weight reduction	<input checked="" type="checkbox"/>
Physical property enhancement	<input checked="" type="checkbox"/>
Flame retardant synergist	<input type="checkbox"/>
Viscosity modification	<input type="checkbox"/>

especially recommended    recommended

## Recommended levels

3–7 % 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

For optimum exfoliation and dispersion of this product, the use of a co-rotating twin-screw extruder or a BUSS kneader is recommended when compounding it with thermoplastic materials. For compounding, it is beneficial to select the longest possible process unit (> 40 L/D) and a screw design with high dispersion performance. To avoid compaction of the additive, it is strongly recommended to add it via a side feeder so that it can be dispersed in the molten polymer. When dispersing the BYK-MAX CT 4275 in a twin-screw extruder, care should be taken not to “over-shear” the clay, which can sometimes cause agglomeration and loss of aspect ratio. Use of distributive mixing elements is preferred, as these work in conjunction with the chemical affinity of the clay to provide exfoliation without creating excessive heat generation.



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This issue replaces all previous versions.