SILLITIN Z 89 (PURISS)

Field of application: Thermoplastics

1. Description

SILLITIN Z 89 and SILLITIN Z 89 puriss is a natural combination of corpuscular silica and lamellar kaolinite. These two elements together form a loose structure which offers particular advantages in terms of application possibilities when used as a functional filler.

Characteristics

Appearance		free-flowing powder
Color CIELAB scale:	L*	96.1
	a*	0.2
	b*	4.2
Residue > 40 µm		20 mg/kg
Volatile matter at 105 °C		0.5 %
Densitiy		2.6 g/cm³
Particle size distribution	D_{50}	1.9 µm
	D_{97}	9.0 µm
Surface area BET		11 m²/g
Oil absorption		55 g/100 g
Puriss grade: As a result of a sophisticated manufacturing process the very low residue is reduced even further from the values given above to the following: > 40 µm In addition the good dispersion behavior is once more improved.		8 mg/kg

Packaging

Paper bags	á 25 kg
EVA bags	≤ 20 kg
Big Bags	550 - 900 kg
Bulk	≤ 22 t

The puriss-grade is available in paper bags of 25 kilos only.

Shelf life

Unlimited if stored properly under dry conditions.

2. Applications

In the thermoplastics, SILLITIN Z 89 and especially its puriss version is used in films as a functional filler and antiblock additive for thin and very thin films, primarily in the (L)LDPE area.

Fields of application

As an antiblock additive, SILLITIN Z 89 puriss achieves very good results in films with a low thickness, usually less than 30 µm. It is characterized by very good optical properties: high gloss, low haze with high transmission and high clarity. In contrast to synthetic silicas, SILLITIN Z 89 and Z 89 puriss hardly cause any adsorption of slip additives due to their comparatively low surface area. Cost advantages are another positive aspect.

For optimal color neutrality, we recommend Silfit Z 91 or the hydrophobic, alkyl silane-functionalized Aktifit PF 111.

In addition, SILLITIN Z 89 and especially its puriss version have very little sieve residue compared to natural mineral additives and can also be used for products that come into contact with food.

SILLITIN Z 89 and Z 89 puriss are also suitable as functional fillers in greenhouse and agricultural films. Here it achieves IR absorption with high light transmission in the visible wavelength range with only minimal haze and high gloss.

Dosages:
- Antiblocking in LDPE: depending on requirements, from 1000 ppm to 1 %
- IR-Absorber in greenhouse and agricultural films: depending on requirements and film thickness, from 5 to 15 %

3. Benefits

- very low residues
- good dispersion behavior
- puriss: very good dispersion behavior
- low coefficient of friction
- high gloss
- low haze
- high clarity
- good transparency
- high light transmission
- high IR absorption
- no consumption of slip additives
- complies with the standards on articles in contact with foodstuffs of the BfR and FDA
- cost-effective

SILLITIN Z 89 (PURISS)
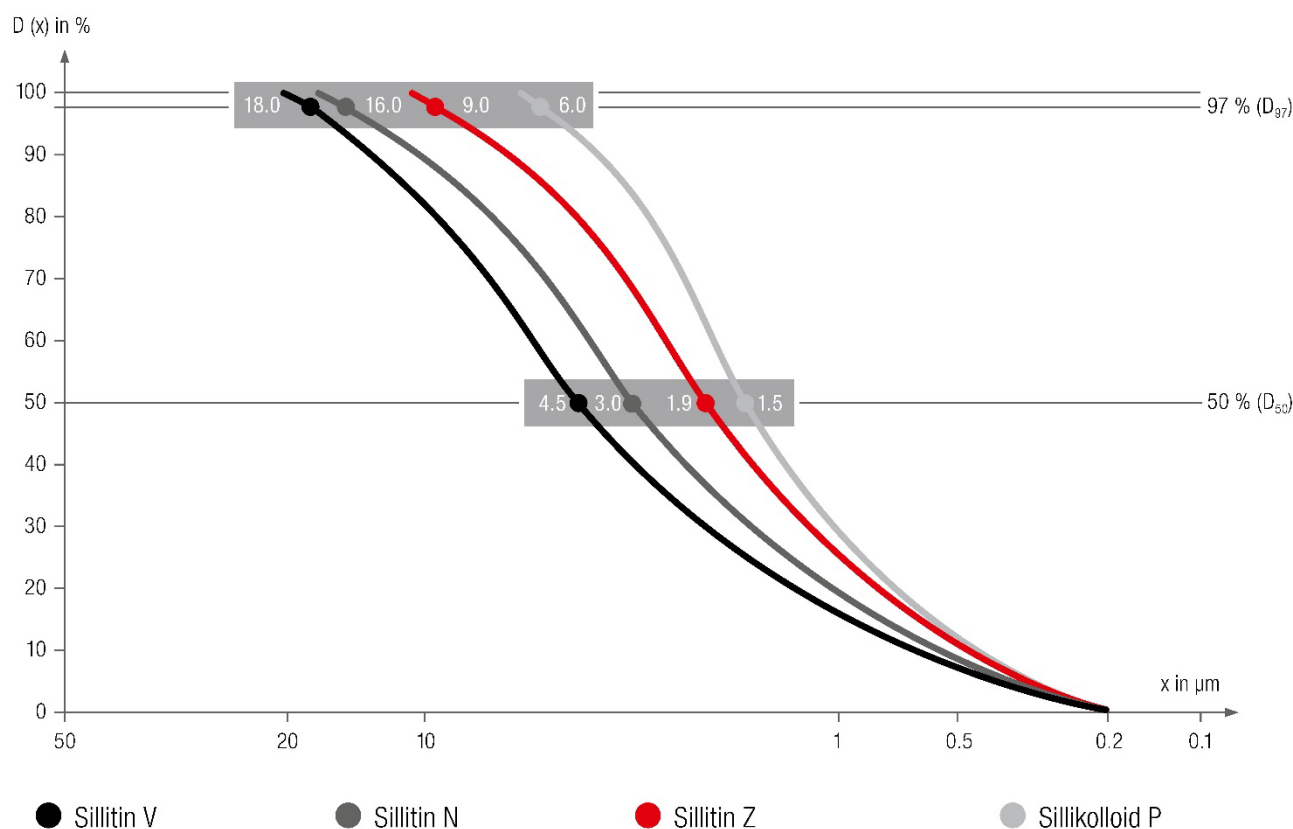Field of application: Thermoplastics

4. Particle size distribution

The measurement method for these particle size distributions is based on the Fraunhofer diffraction spectrum. The analyses were carried out with Mastersizer 3000, a laser apparatus of Malvern.

Important:
The data on particle size distribution is highly dependent upon the method used, test preparations and the measuring device itself. As a result the values given may not be directly comparable with those provided by another manufacturer.

If you have any queries please contact us direct.

● Sillitin V   ● Sillitin N   ● Sillitin Z   ● Sillikolloid P

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