

SILLITIN Z 89 (PURISS)

Field of application: Elastomers

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* a* b*	96.1 0.2 4.2
Residue > 40 µm		20 mg/kg
Volatile matter at 105 °C		0.5 %
Density		2.6 g/cm ³
Particle size distribution	D ₅₀ D ₉₇	1.9 µm 9.0 µm
Surface area BET		11 m ² /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: In addition the good dispersion behavior is once more improved.	> 40 µm	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 elastomer applications SILLITIN Z 89 and SILLITIN Z 89 puriss can be used as a functional filler either on its own or in combination with other non-reinforcing or reinforcing fillers.

Fields of application

In general **SILLITIN Z 89** is suitable for any rubber products used for technical applications.

Its particular properties are that it provides a balanced relationship between compression set, tensile strength, tear resistance and has very good extrusion properties.

It is particularly suitable for white or very bright compounds.

SILLITIN Z 89 puriss also has advantages in the following instances:

- products with extremely thin walls (membranes)
- if surface quality requirements are very high (roller coverings and offset blankets)
- if dispersion requirements are very high (compounds with a high oil content or automotive profiles with very high surface defect rate)

Methods of processing:

Any process commonly used in the rubber industry.

Elastomers:

BIIR, BR, CIIR, CR, HNBR, IIR, IR, NBR, NR, PNR, SBR;
CM, CSM, EPM, EPDM, EVM.

Metering:

EPM, EPDM: 50 - 400 phr
NBR: 50 - 250 phr
NR: 50 - 250 phr
SBR: 50 - 250 phr

Comment:

In high-filled peroxide cured compounds it can be beneficial to add glycol.



3. Benefits

- good, fast incorporation
- very good dispersion behavior
- good rheological properties
- excellent surfaces
- very good extrusion properties
- good heat conductivity
- no negative influence on curing rate
- low tensile and compression set
- high electric insulation resistance
- good aging properties
- high chemical resistance
- complies with the standards on basic foodstuffs of the BfR and FDA
- matting effect

Puriss also provides the following benefits compared with the base material SILLITIN Z 89:

- extremely low sieving residue
- excellent dispersion behavior, even in critical compounds

Comparison of properties

	SILLITIN V	SILLITIN N	SILLITIN Z	SILLIKOLLOID P
Viscosity	•	••	•••	••••
Tensile strength	•	••	•••	••••
Tear resistance	•	••	•••	••••
Compression set	•	••	•••	••••
Profile quality (Extrusion)	•	••	•••	••••
Matting effect (Extrusion)	••••	•••	••	•
Elasticity	••••	•••	••	•
Abrasion	••••	•••	••	•

• = low •••• = high



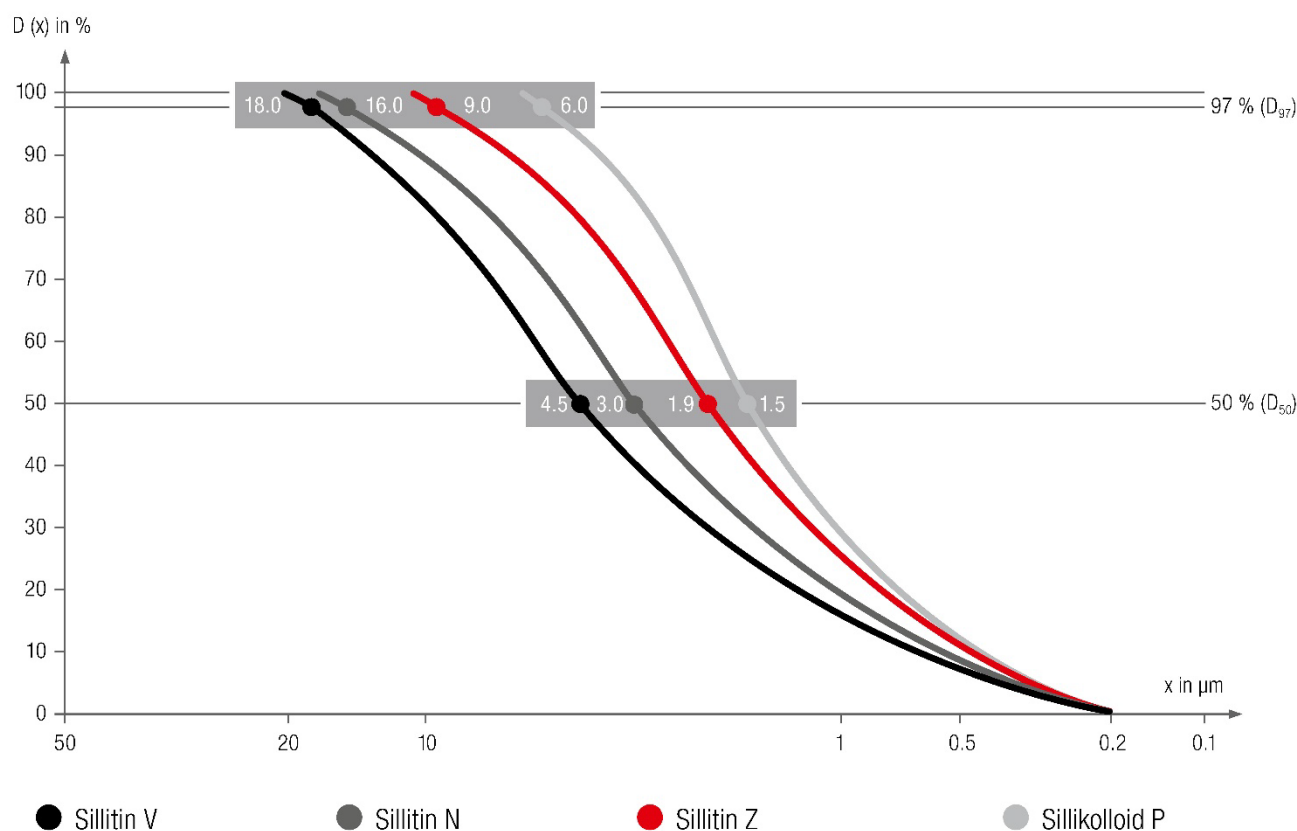
4. Particle size distribution

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.



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