SILLITIN N 85 (PURISS)

Field of application: Elastomers

1. Description

SILLITIN N 85 and SILLITIN N 85 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*	93.5 1.0 9.0
Residue > 40 µm		25 mg/kg
Volatile matter at 105 °C		0.5 %
Densitiy		2.6 g/cm³
Particle size distribution	D_{50} D_{97}	3.5 µm 17.0 µm
Surface area BET		11 m²/g
Oil absorption		45 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	750 - 1200 kg
Bulk	≤ 25 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 N 85 and SILLITIN N 85 puriss can be used as a functional filler either on its own or in combination with other non-reinforcing or reinforcing fillers.

Information on compliance with certain regulations/recommendations and other safety-related aspects: Product safety information

Fields of application

In general **SILLITIN N 85** is suitable for any rubber products used for technical applications.

Its particular properties are low compression set and high rebound resilience.

Used in black profiles and hoses it achieves a good matting effect.

As well as black compounds it is equally suitable for colored compounds.

SILLITIN N 85 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

3. Benefits

- good, fast incorporation
- very good dispersion behavior
- good rheological properties
- excellent surfaces
- good extrusion properties
- good heat conductivity
- no negative influence on curing rate
- very 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 N 85:
- extremely low sieving residue
- excellent dispersion behavior, even in critical compounds

Comparison of properties

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

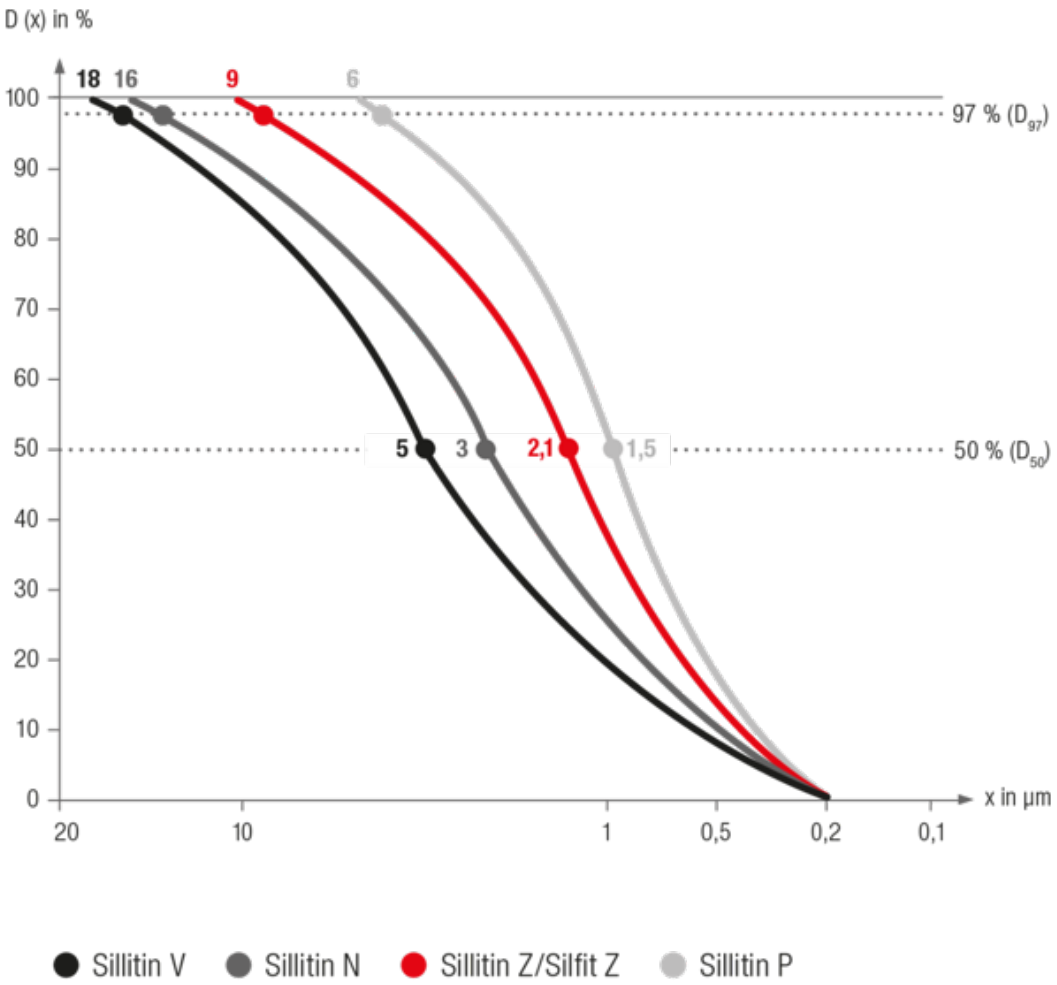
● = low ●●●● = high

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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