

SILLITIN Z 89 (PURISS)

Field of application: Paint & Varnish

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 |
| Electrical conductivity | | 80 µS/cm |
| Refractive index n | | 1.55 |
| 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 paint and varnish applications SILLITIN Z 89 and SILLITIN Z 89 puriss can be used as functional fillers either on their own or combined with extenders or flattening agents.

Fields of application

- emulsion and silicate paints (exterior and interior emulsion paints)
- industrial paints
- wood and foil coatings
- anti-corrosion coatings
- primers and fillers also for the automobile industry
- sealing and embedding compounds
- electrophoretic paints

It stands out for its excellent dispersion properties, moderate yield point and pseudoplasticity with a high solids content and high abrasion resistance.

In unpigmented coatings it achieves good transparency with a minimal yellow tinge.

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

- extremely high requirements on dispersion behavior (paint production without grinding)
- very low coating thickness

Formulation principle:

solvent-based, solvent-free, water-based

Hardening principle:

all conventional reaction types, also UV-curing

Minimum film thickness:

> 10 µm, less in special cases

Metering:

up to 50 % depending on intended application



3. Benefits

- high filling ratio
- outstanding dispersion behavior
- good pigment dispersion (spacer effect)
- low abrasiveness
- very low tendency to settle
- soft sediment
- good wet edge strength
- quick drying
- weathering resistance
- breathability
- scratch resistance
- high abrasion resistance
- very good transparency
- slight flattening effect
- complies with the standards on basic foodstuffs of the BfR and FDA

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

- extremely low sieving residues
- excellent dispersion behavior

Comparison of properties

| | SILLITIN V | SILLITIN N | SILLITIN Z | SILLIKOLLOID P |
|---------------|------------|------------|------------|----------------|
| Viscosity | • | •• | ••• | •••• |
| Yield point | • | •• | ••• | •••• |
| Sedimentation | •••• | ••• | •• | • |
| Flattening | •••• | ••• | •• | • |

• = low •••• = high



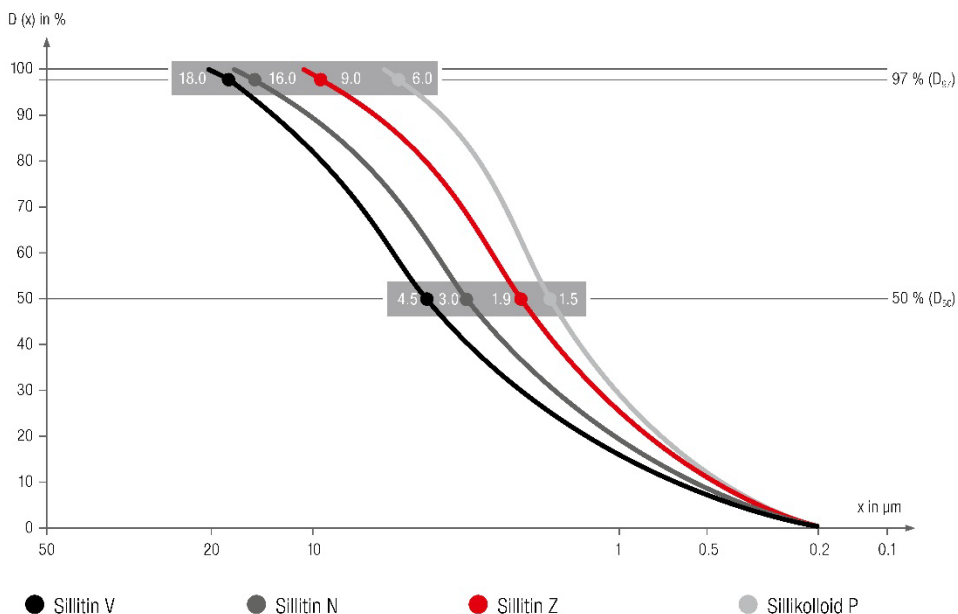
4. Particle size distribution

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.

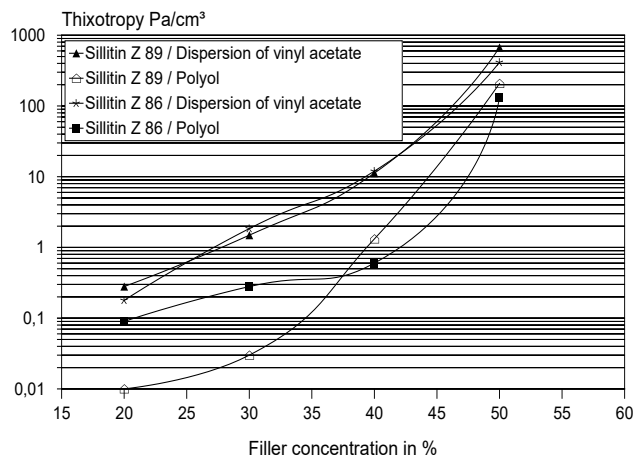
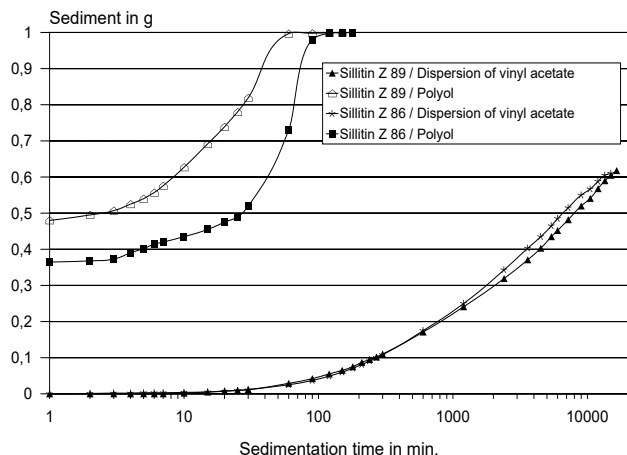
Important:

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.



5. Sedimentation and Rheology



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