

SILLITIN Z 89 / SILLITIN Z 89 puriss

TECHNICAL DATA SHEET – Field of application: ELASTOMERS

<p>1. Description</p> <p>SILLITIN Z 89 and SILLITIN Z 89 puriss is a natural combination of corpuscular, crypto-crystalline and amorphous 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.</p> <p>Characteristics: Appearance: free-flowing powder Brightness Y DIN 53 163: 86 Brightness Z DIN 53 163: 86 Residue > 40 µm: 20 mg/kg Residue > 200 µm: 3 mg/kg Volatile matter at 105 °C: 0.5 % Density: 2.6 g/cm³ Particle size distribution d₅₀: 2.0 µm d₉₇: 8.5 µm Surface area BET: 10 m²/g Oil absorption: 55 g/100 g</p> <p>Puriss grade: As a result of a sophisticated manufacturing process the very low sieving residue is reduced even further from the values given above to the following: > 40 µm: 8 mg/kg > 200 µm: 1 mg/kg</p> <p>In addition the very good dispersion behavior is once more improved.</p> <p>Packaging: Paper bags* à 25 kg PE bags: ≤ 20 kg EVA bags: ≤ 15 kg Big Bags: 550 - 900 kg Bulk: ≤ 24 t</p> <p>The puriss-grade* is available in paper bags of 25 kilos only.</p> <p>Shelf life: Unlimited if stored properly under dry conditions.</p>	<p>2. Applications</p> <p>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.</p> <p>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.</p> <p>SILLITIN Z 89 puriss also has advantages in the following instances:</p> <ul style="list-style-type: none"> • 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) <p>Methods of processing: Any process commonly used in the rubber industry.</p> <p>Elastomers: BIIR, BR, CIIR, CR, HNBR, IIR, IR, NBR, NR, PNR, SBR; CM, CSM, EPM, EPDM, EVM.</p> <p>Metering: EPM, EPDM: 50 - 400 phr NBR: 50 - 250 phr NR: 50 - 250 phr SBR: 50 - 250 phr</p> <p>Comment: In high-filled peroxide-cured compounds it can be beneficial to add glycol.</p>	<p>3. Benefits</p> <ul style="list-style-type: none"> • 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 <p>Puriss also provides the following benefits compared with the base SILLITIN Z 89:</p> <ul style="list-style-type: none"> • extremely low sieving residue • excellent dispersion behavior, even in critical compounds <p>Properties:</p> <table border="1"> <thead> <tr> <th></th> <th>V</th> <th>N</th> <th>Z</th> <th>P</th> </tr> </thead> <tbody> <tr> <td>Viscosity</td> <td>*</td> <td>**</td> <td>***</td> <td>****</td> </tr> <tr> <td>Tensile strength</td> <td>*</td> <td>**</td> <td>***</td> <td>****</td> </tr> <tr> <td>Tear resistance</td> <td>*</td> <td>**</td> <td>***</td> <td>****</td> </tr> <tr> <td>Compression set</td> <td>*</td> <td>**</td> <td>***</td> <td>****</td> </tr> <tr> <td>Profile quality (Extrusion)</td> <td>*</td> <td>**</td> <td>***</td> <td>****</td> </tr> <tr> <td>Matting effect (Extrusion)</td> <td>****</td> <td>***</td> <td>**</td> <td>*</td> </tr> <tr> <td>Elasticity</td> <td>****</td> <td>***</td> <td>**</td> <td>*</td> </tr> <tr> <td>Abrasion</td> <td>****</td> <td>***</td> <td>**</td> <td>*</td> </tr> </tbody> </table> <p>* = low **** = high</p>		V	N	Z	P	Viscosity	*	**	***	****	Tensile strength	*	**	***	****	Tear resistance	*	**	***	****	Compression set	*	**	***	****	Profile quality (Extrusion)	*	**	***	****	Matting effect (Extrusion)	****	***	**	*	Elasticity	****	***	**	*	Abrasion	****	***	**	*
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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 S, 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.

