

## SILLITIN Z 86 / SILLITIN Z 86 puriss

### TECHNICAL DATA SHEET – Field of application: ELASTOMERS

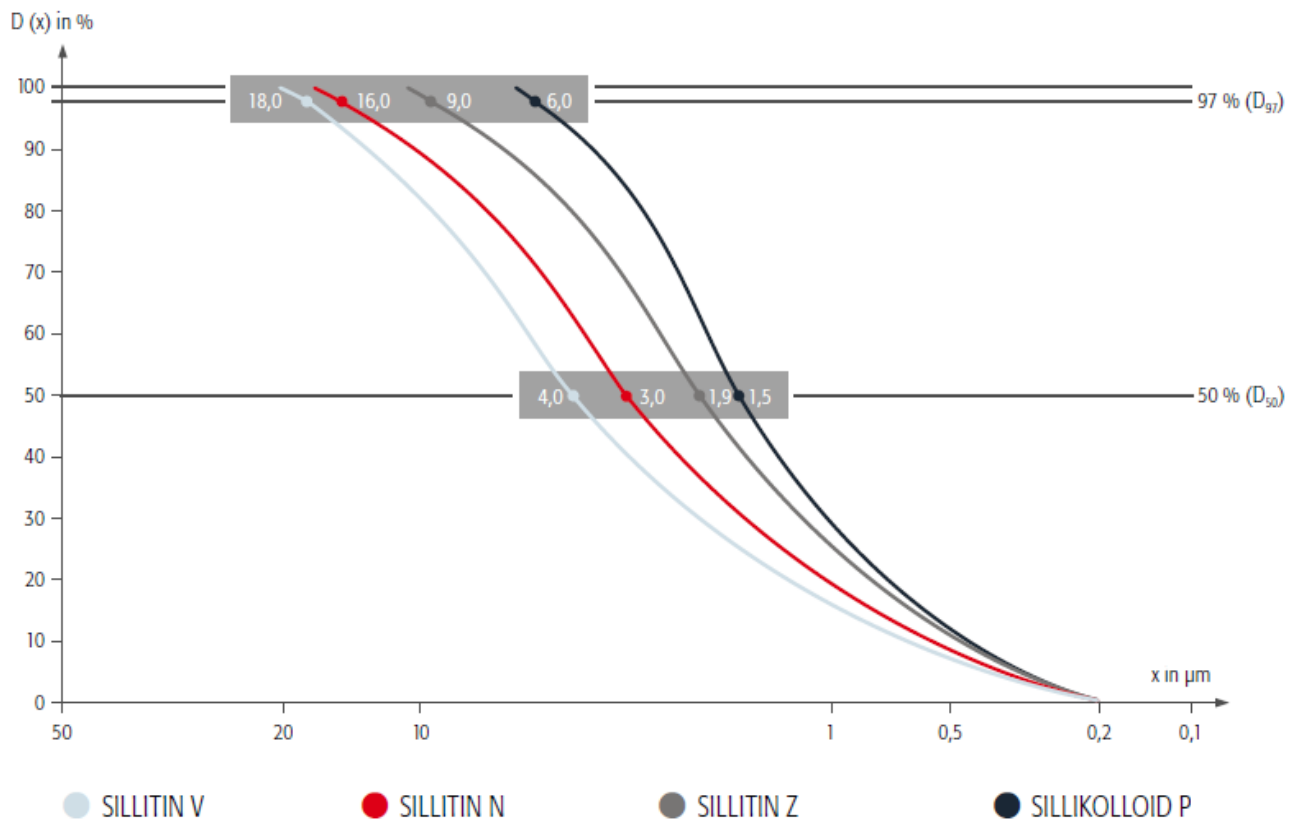
<p><b>1. Description</b></p> <p><b>SILLITIN Z 86</b> and <b>SILLITIN Z 86 puriss</b> is a natural combination of corpuscular silica and lamellar kaolinite. These two elements together form a loose structure which offers particular advantages in terms of application possibilities when used as a functional filler.</p> <p><b>Characteristics:</b>          Appearance: free-flowing powder          Brightness Y DIN 53 163: 82          Brightness Z DIN 53 163: 75          Residue &gt; 40 µm: 20 mg/kg          Residue &gt; 200 µm: 3 mg/kg          Volatile matter at 105 °C: 0.5 %          Density: 2.6 g/cm<sup>3</sup>          Particle size distribution          D<sub>50</sub>: 1.9 µm          D<sub>97</sub>: 9.0 µm          Surface area BET: 11 m<sup>2</sup>/g          Oil absorption: 55 g/100 g</p> <p><b>Puriss grade:</b>          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:          &gt; 40 µm: 8 mg/kg          &gt; 200 µm: 1 mg/kg          In addition the very good dispersion behavior is once more improved.</p> <p><b>Packaging:</b>          Paper bags* à 25 kg          PE bags: ≤ 25 kg          EVA bags: ≤ 20 kg          Big Bags: 600 - 1000 kg          Bulk: ≤ 22 t</p> <p>* The puriss-grade is available in paper bags of 25 kilos only.</p> <p><b>Shelf life:</b>          Unlimited if stored properly under dry conditions.</p>	<p><b>2. Applications</b></p> <p>In elastomer applications <b>SILLITIN Z 86</b> and <b>SILLITIN Z 86 puriss</b> can be used as a functional filler either on its own or in combination with other non-reinforcing or reinforcing fillers.</p> <p><b>Fields of application:</b>          In general <b>SILLITIN Z 86</b> is suitable for all 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.          Used in black profiles and hoses it has a slight matting effect.          It is suitable both for black and colored compounds.</p> <p><b>SILLITIN Z 86 puriss</b> also has advantages in the following instances:</p> <ul style="list-style-type: none"> <li>• products with extremely thin walls (membranes)</li> <li>• if surface quality requirements are very high (roller coverings and offset blankets)</li> <li>• if dispersion requirements are very high (compounds with a high oil content or automotive profiles with very high surface defect rate)</li> </ul> <p><b>Methods of processing:</b>          Any process commonly used in the rubber industry.</p> <p><b>Elastomers:</b>          BIIR, BR, CIIR, CR, HNBR, IIR, IR, NBR, NR, PNR, SBR; CM, CSM, EPM, EPDM, EVM.</p> <p><b>Metering:</b>          EPM, EPDM: 50 - 400 phr          NBR: 50 - 250 phr          NR: 50 - 250 phr          SBR: 50 - 250 phr</p> <p><b>Comment:</b>          In high-filled peroxide-cured compounds it can be beneficial to add glycol.</p>	<p><b>3. Benefits</b></p> <ul style="list-style-type: none"> <li>• good, fast incorporation</li> <li>• very good dispersion behavior</li> <li>• good rheological properties</li> <li>• excellent surfaces</li> <li>• very good extrusion properties</li> <li>• good heat conductivity</li> <li>• no negative influence on curing rate</li> <li>• low tensile and compression set</li> <li>• high electric insulation resistance</li> <li>• good aging properties</li> <li>• high chemical resistance</li> <li>• complies with the standards on basic foodstuffs in of BfR and the FDA</li> <li>• matting effect</li> </ul> <p><b>Puriss</b> also provides the following benefits compared with the base SILLITIN Z 86:</p> <ul style="list-style-type: none"> <li>• extremely low sieving residue</li> <li>• excellent dispersion behavior, even in critical compounds</li> </ul> <p><b>Properties:</b></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 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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