

STRUKTOSIL 45 AM

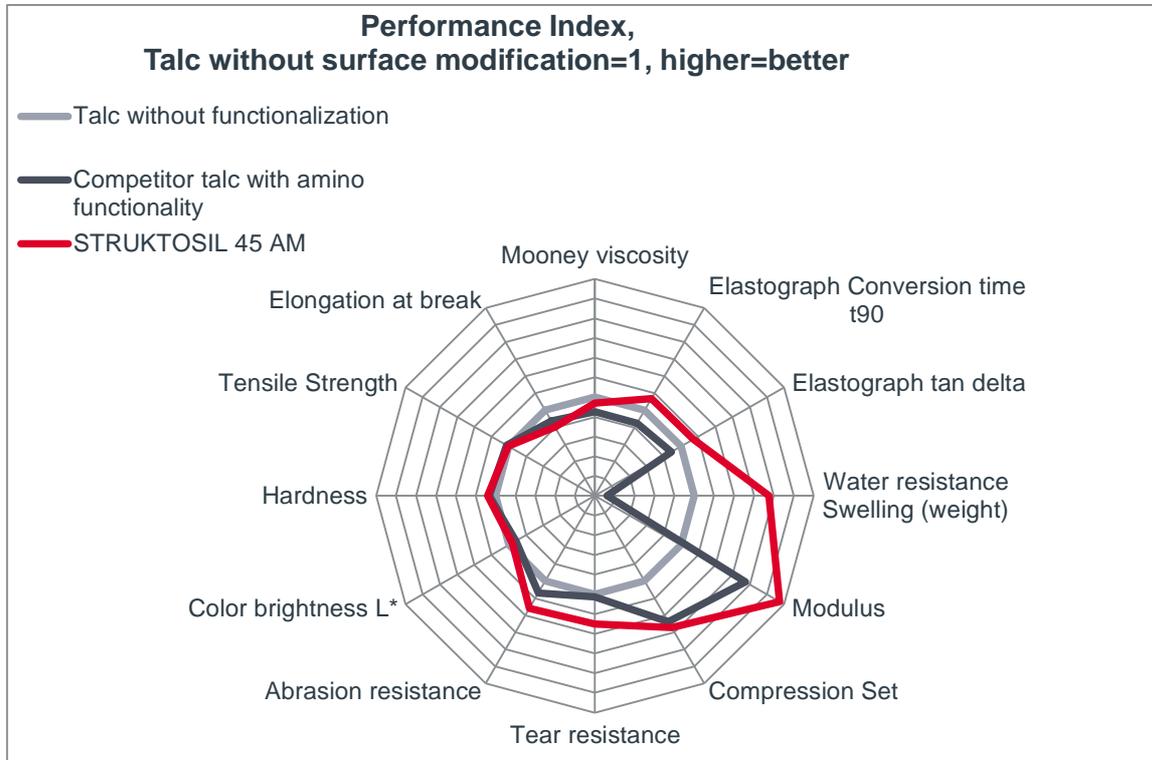
TECHNICAL DATA SHEET

<p>1. Description</p> <p>STRUKTOSIL 45 AM is a talc which surface is modified with a special amino functional group. The process parameters are selected in such a way that, on the one hand, anchoring to the surface takes place and, on the other hand, released by-products are removed as far as possible during production. Undesirable by-products, such as occur during in-situ mixing (i.e. during the direct addition of the additives), are therefore practically completely prevented.</p> <p>During compounding, the amino groups of STRUKTOSIL 45 AM provide good wetting and very good dispersion in the matrix polymer. Furthermore, it achieves high bond strengths in polymers with suitable functional group by hydrogen bonding or covalent bonding.</p> <p>Characteristics: Color CIELAB scale: $L^* = 98 / a^* = 0 / b^* = 0.6$ Air-jet screening >125 μm 0 % Volatile matter at 105°C RT 20°C/ RH 50: 0.2 % pH-value 9.5 True density: 2,95 g/cm³ Bulk density: 0,21 g/cm³ Particle size distribution D_{50}: 4 μm D_{97}: 11 μm BET-Surface: 9 m²/g Oil absorption 55 g/100g</p> <p>Lieferformen: Paperbag 12.5 kg</p> <p>Shelf life: 24 months if stored properly in a dry place.</p>	<p>2. Applications</p> <p>The main areas of application for STRUKTOSIL 45 AM are elastomers, thermoplastics and thermosets as well as paints and varnishes, reactive resins and adhesives.</p> <p>Within elastomers, the main application are compounds for gaskets with very good compression set, very low swelling in hot water with as well a very good barrier behavior to gases.</p> <p>Due to the modification with the amino functionality, a better integration of the platy filler into the polymer matrix is possible, which leads to an improvement of the compound properties.</p> <p>STRUKTOSIL 45 AM is suitable for the following applications:</p> <p>Elastomers: All standard rubber types and cross-linking types.</p> <p>Thermoplastics:</p> <ul style="list-style-type: none"> • Polyamides (PA) • Aliphatic polyketone (PK) • PP (with addition of PP-g-MAH) • ABS, PPS, TPU, PE/EVA <p>In addition, further surface functionalizations for elastomers and thermoplastics are available, which are suitable especially for peroxide cured elastomer compounds as well as PC, PC blends and PBT.</p> <p>Paints and varnishes: Primarily suitable for corrosion protection coatings based on epoxy or polyurethanes.</p> <p>Thermosets, reactive resins and adhesives: Primarily for epoxy and polyurethane resins</p> <p>Dosage: Depending on usage up to 150 phr or 50 % (m/m).</p>	<p>3. Advantages</p> <p>Advantages of STRUKTOSIL 45 AM compared to talc without any surface functionality, based on an EPDM formulation for molded parts:</p> <ul style="list-style-type: none"> • Shorter conversion time t_{90} = faster vulcanization in Sulphur cured environment • Lower tan delta at the end of the vulcanization • Highly increased modulus 100% • Highly decreased compression set • Increased tear resistance • better abrasion resistance • Lower absorption of water after storage in hot water <p>Advantages of STRUKTOSIL 45 AM compared to a competitor's talc with an amino functionality modified surface, based on an EPDM formulation for molded parts:</p> <ul style="list-style-type: none"> • Lower viscosity • Elastograph: lower torque minimum • Shorter conversion time t_{90} = faster vulcanization in sulfur cure • Lower tan delta at the end of the vulcanization • Increased modulus 100% • Improved compression set (peroxide cured) • Increased tear resistance • Improved abrasion resistance • Color with higher brightness • Significantly lower absorption of water after storage in hot water <p>Also see back of this page, respectively page 2, number 4.</p>
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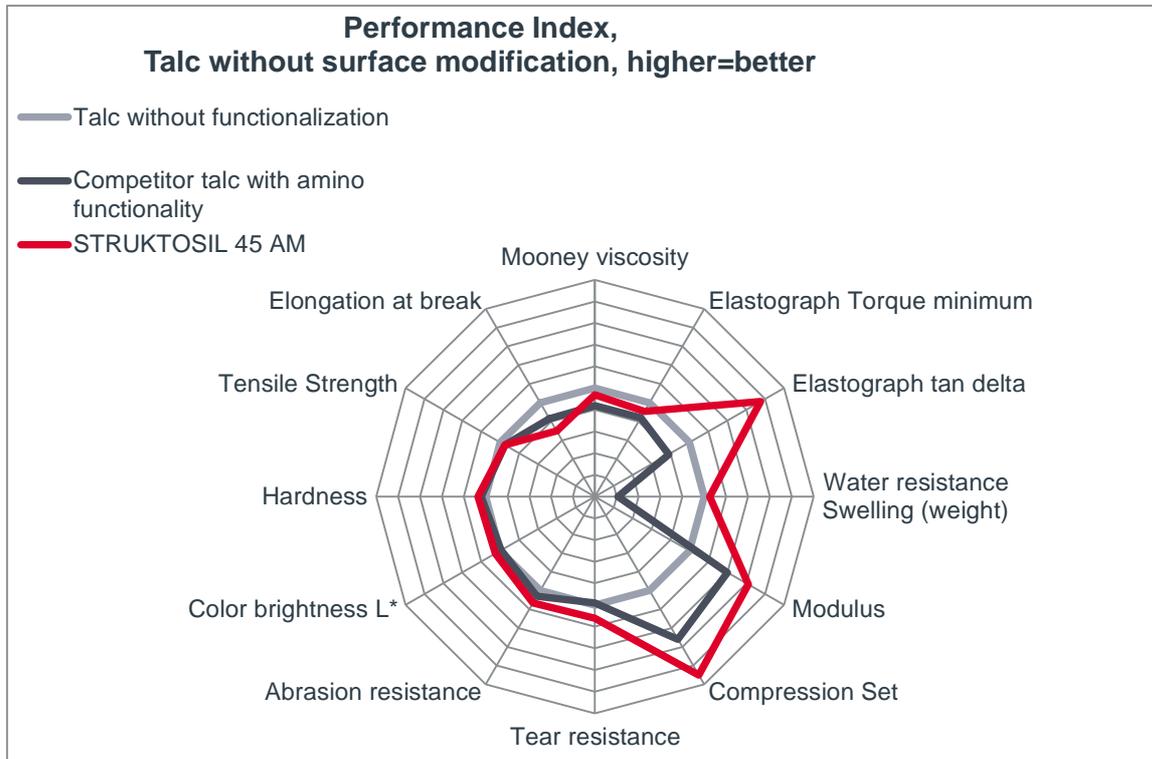
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4. Effects of STRUKTOSIL 45 AM

Example in an EPDM formulation for molded parts, 120 phr filler, sulfur cured



Example in EPDM formulation for molded parts, 120 phr filler, peroxide cured



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