



Lithium silicate



Through our partner PQ Corporation, we have now expanded our product portfolio in the field of silicates and are proud to introduce our **lithium silicate**:

Similarly to potassium or sodium silicates, lithium silicates can be employed as multifunctional additives, but they boast additional properties that manifest, for example, in improved adhesion and higher melting points. Lithium silicates can offer further advantages for the application due to their lithium content:

- Lithium silicates form a stable, low-viscosity solution even at a high molar ratio
- After drying, lithium silicates are relatively insoluble (compared to potassium silicates or sodium silicates)
- They mitigate the alkali-silicate reaction: $Li < K < Na$
- Adhesion: adding lithium silicates to potassium or sodium silicates can improve adhesion on various surfaces

The use of LITHISIL 25 is especially of interest in construction chemicals for protecting concrete: processed concrete is exposed to a multitude of external attack factors such as weathering, chemicals, and daily physical wear.

Alkali-silicate reaction responsible for concrete damage

Due to the abovementioned attack factors, concrete is often particularly at risk in watery environments. In real-world situations, it undergoes an alkali-silicate reaction familiarly known as “concrete cancer”, in which a reaction takes place between the alkaline substances and the oxyacids of silicon (silicic acid/silica). This produces a gel, which then expands in volume as it absorbs water, exerting pressure on the surrounding concrete structure. When the pressure becomes too great, cracks form in the surface, making it more susceptible to further attack.

LITHISIL 25 not only prevents the penetration of water into concrete, but also mitigates the alkali-silicate reaction. In addition, it hardens the concrete and increases its chemical resistance, making it especially good for niche applications where the concrete is exposed to exceptional loads (bridges, car parks, warehouses).

Due to its low viscosity, LITHISIL penetrates rapidly into the concrete, reducing the curing time. Residues on the surface can be easily brushed off. If necessary, a second treatment with a higher concentration can be performed already after 6 hours.

LITHISIL 25 is to be worked into a hardened, cleaned surface at an application concentration of 10–15%. 1 litre of dilute solution covers approximately 15 m². d.

LITHISIL® 25

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| Appearance | Colourless liquid |
| Li ₂ O | 2,5% |
| SiO ₂ | 20,5% |
| Solids content | 23,0% |
| Weight ratio | 8,0 |
| pH-Wert (1% sol.) | 10,8 |

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