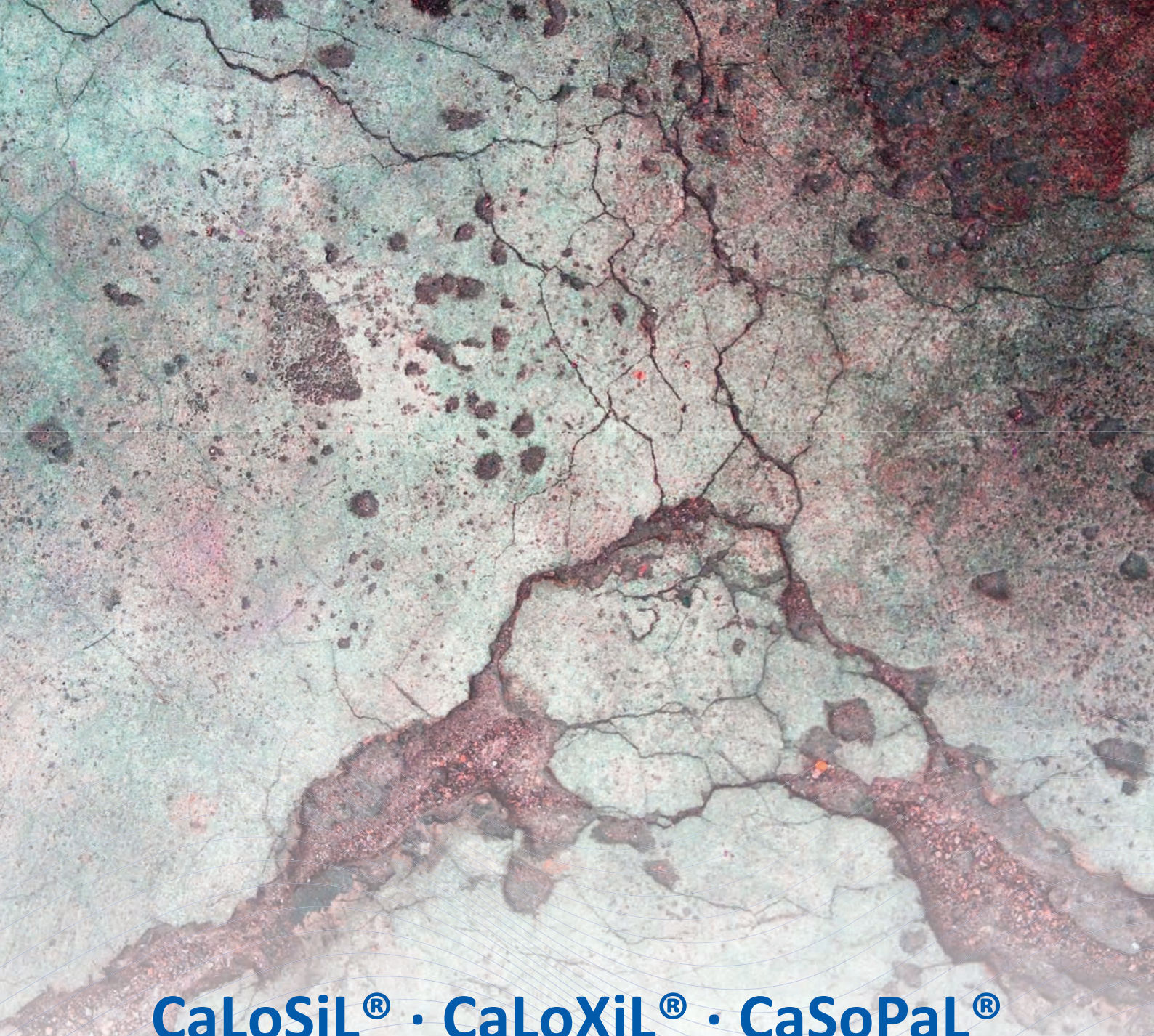


CaLoSiL® · CaLoXiL® · CaSoPaL®

A toolbox of compatible materials for the conservation of stone, mortar and plaster

IBZ - Salzchemie GmbH & Co. KG

Schwarze Kiefern 4 · D-09633 Halsbruecke (Germany) · Tel.: +49 3731 200-155 · Fax: +49 3731 200-156
info@ibz-freiberg.de · **www.ibz-freiberg.de**

CaLoSiL® Calcium hydroxide nano-sols for structural consolidation

CaLoSiL® is a ready to use stone consolidant, which contains calcium hydroxide nano-particles stably dispersed in different alcohols. The particle sizes range from 50 to 250 nm, which guarantees good penetration, even in materials with low porosity. Solid calcium hydroxide layers are formed after evaporation of the alcohols. These convert into calcium carbonate by reaction with atmospheric carbon dioxide.

CaLoSiL® can be combined with silicic acid esters. For that, in a first step the damaged areas are pre-treated with CaLoSiL®. After evaporation of the alcohol, silicic acid esters can be applied. The formed fine calcium hydroxide particles act as adhesive, promoting the connection of the generated silicic acid gels with the subsurface. Additionally, the nano-lime particles catalyse the hydrolysis of the silicic acid esters.

All CaLoSiL® products are fully compatible. They are intermixable and can be diluted by alcohols.

CaLoSiL®-E
Contains ethanol as solvent and nano-lime in concentrations up to 50 g/L.

CaLoSiL®-IP
Contains iso-propanol as solvent and nano-lime in concentrations up to 25 g/L.

CaLoSiL®-paste like
Suspension of up to 100 g/L calcium hydroxide nano-particles in ethanol. It is used for filling of cracks or joints as well as for the production of special binders.

CaLoSiL®-micro
Contains fine calcium hydroxide particles (< 3 µm) in ethanol. It is used for filling of cracks and joints as well as for the production of special binders with well-defined particle size distributions.

Consolidation of wall paintings: ALL SAINTS´CHURCH; LITTLE KIMBLE; Realisation: Amanda White, Hirst Conservation (UK)

CaLoXiL® Lime based systems for surface treatments

All CaLoXiL® products are based on well-defined mixtures of conventional white lime hydrate ($Ca(OH)_2$), different marble flours and nano-lime (CaLoSiL®). They are produced by a special dispersion process, which gives excellent processing properties. All materials are ready to use.

The exactly defined particle size distribution of all components results in excellent mechanical properties of the formed masses. All products are free of any additional organic binders. High water vapour permeability and capillarity as well as excellent water suction capacity are typical. CaLoXiL® products exhibit good adhesion on all mineral surfaces. Low shrinkage and high freeze-thaw resistance are typical.

Due to their high pH-value, all materials are antibacterial and prevent the growth of fungi and algae.

Filling of cracks

Backfilling with injection grout

CaLoXiL®-Repair mortar
High capillarity and excellent water suction capacity. No shrinkage.

CaLoXiL®-Injection grout WF
Nearly water free, highly flowable injection grout on the basis of nano-lime in ethanol.

CaLoXiL®-Lime injection grout classical
Classical lime based injection grout for filling of fine fractures, joints and openings.

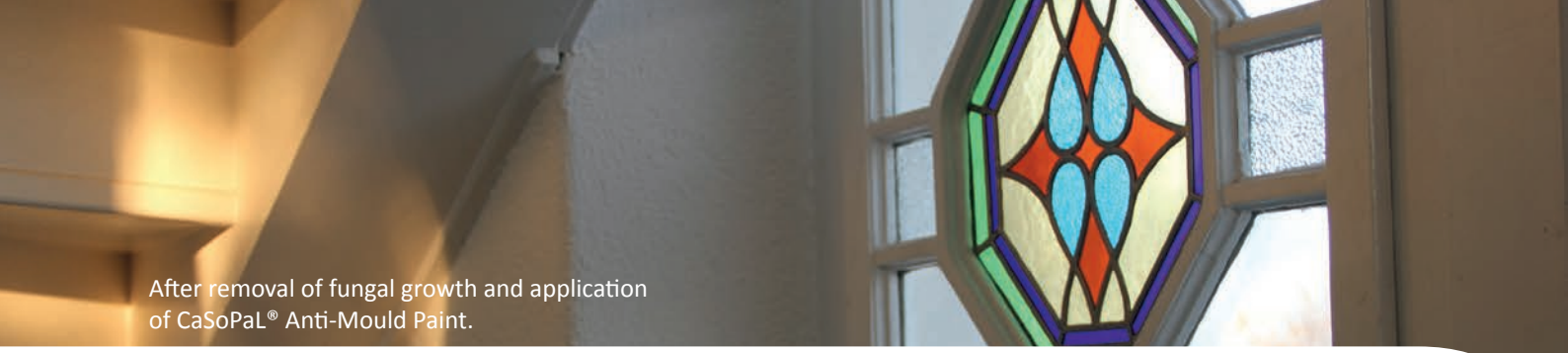
CaLoXiL®-Lime Filler
Fine material for levelling and smoothing of rough substrates, repairing of missing areas and filling of cracks and voids.

CaLoXiL®-Lime slurry fine
Is based on a synergistic mixture of conventional white lime hydrate (CL 90-S) and nano-lime particles from CaLoSiL®. Selected marble powders with defined particle size distributions and a maximum particle size of 100 µm guarantee an excellent adhesion to mineral substrates.

CaLoXiL®-Lime slurry coarse
A synergistic mixture of conventional white lime hydrate (CL 90-S) and nano-lime particles from CaLoSiL® serves as binder. Selected marble powders with defined particle size distributions serve as filler. The maximum particle size is 300 µm.

CaLoXiL®-Lime glaze
Milky, aqueous suspension on the basis of white lime hydrate ($Ca(OH)_2$). It is used for the creation of aesthetic wall surfaces and for the protection of stone, mortar and plaster surfaces, for example by the deposition of sacrificial layers.

CaSoPaL®-Lime paint brilliant
Ready to use coating on the basis of pure white lime hydrate with TiO_2 as pigment. Excellent whitening power.



After removal of fungal growth and application of CaSoPaL® Anti-Mould Paint.

CaSoPaL® Safe removal of microbiological growth

CaSoPaL®-plus is a white to opal liquid containing extremely fine calcium hydroxide (lime hydrate) particles stably dispersed in ethanol. It is the first product that combines the favourable characteristics of alcohol and lime hydrate, which kills fungal and algal growth and creates conditions under which microbiological growth is prevented. Apart from the disinfecting action, the application of CaSoPaL® plus results in a structural consolidation of treated areas.

CaSoPaL®-active is based on the use of active oxygen (hydrogen peroxide) as disinfectant. It is used mainly to remove biological growth from plastics, tiles and ceramics.

CaSoPaL®-Anti-Mould Paint gives a healthy indoor climate and protects against the growth of mould. Treated surfaces are characterised by a matt white colour. CaSoPaL®Anti-Mould Paint is suitable for new buildings, renovations and historic objects under preservation orders. Inside and outside applications are possible. Without any additional organic biocides and without titanium dioxide.

Surface treated with CaSoPaL®-plus

Growth of fungi around a window