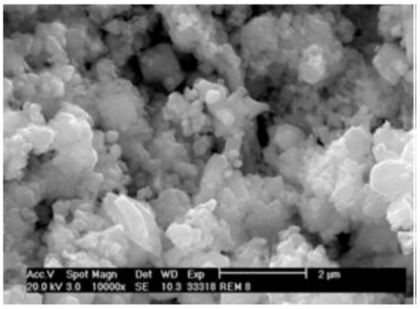
NANOCALCE CaLoSiL®

IP5 - Art.25701 **IP25 - Art.25703**



Colloidal nano-lime particles for the consolidation of stone and plaster

Properties

CaLoSiL® contains lime hydrate [$Ca(OH)_2$] nanoparticles suspended in isopropanol alcohols. Typical concentrations are 5 g/L and 25 g/L. The average particle size is 150 nm. The extremely fine, synthetic nano-lime results from its preparation based on chemical synthesis. Due to the small particle size, stable sols are formed that do not sediment for long periods.

CaLoSiL® is a ready-to-use consolidant for stone and plaster. Treatment of stone, mortar, or plaster with CaLoSiL® results in the formation of solid calcium hydroxide after the alcohol evaporates, which then reacts with atmospheric carbon dioxide and turns into calcium carbonate, similar to traditional lime mortars. The alcohol evaporates without leaving residues and therefore does not damage the stone or plaster. No chemicals or residues are formed that could deteriorate the stone or mortar.
CaLoSiL® can be applied by a flow-coating procedure using immersion, spraying, or injection. It is important that the completely deteriorated zone of the stone is treated through to the sound material.
Properties of the formed calcium hydroxide / calcium carbonate
After the evaporation of the alcohol, the calcium hydroxide particles formed coat the surfaces of the cracks, pores, or joints that have been treated. Depending on the number of treatment cycles and the concentration of the sols used, dense calcium hydroxide films are formed. Typical particle sizes are in the range of several hundred nanometres. They may be difficult to detect using standard optical microscopy; therefore, the use of SEM is recommended.

The formation of calcium carbonate through reaction with atmospheric carbon dioxide requires the presence of moisture. Depending on the conditions and on the amount of calcium hydroxide introduced into the stone, mortar, or plaster, carbonation occurs within several days to weeks. The carbonation process can be accelerated by spraying water onto the treated materials.

For professional use only

BRESCIANI-TÜRKİYE – Seyrantepe mh.Nato cd.Dilek sk. no:31 Kağıthane/İstanbul
tel. 0212 324 26 31 – cep: 0542 668 64 40 – e-mail: bresciani.tr@gmail.com
www.bresciani-tr.com – www.onlinebresciani-tr.com