

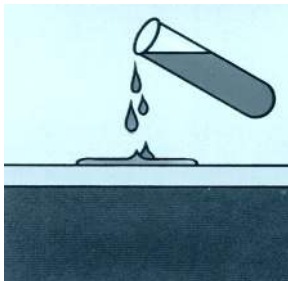
SiliBond®970/971

Reactive silicate dilution, used for chemical consolidation and strengthening of concrete surfaces.

SiliBond®970 and SiliBond®971 are colourless, water based dilutions of reactive silicates modified with special silane and silicate nanoparticles. These products react with fresh and hydrated cement. During this reaction develop siliciumdioxide and crystalline calcium and alumosilicate in sub-micron size inside of the pores and structure of the concrete stone.

These products doesn't create films. The reaction products act as additional high strength binding agent. They fill pores and fine cracks, seal and harden the concrete surface and the structure till 10 - 20 mm deepness. These SiliBond® materials doesn't contain any flighty substances - except water. They don't contain resins and they don't create crusts.

The modification of the diluted Silicates with Silane stabilises the products and avoids a to quick reaction with the fresh cement. Especially the deep penetration into the fresh concrete is much better compared with similar products available on the market.



Application

SiliBond®970 and SiliBond®971 are excellent chemical consolidation materials for fresh floors made of concrete or cement screed. They enhance significant surface strength. Abrasion and the associated fine dust won't occur. The consolidated pores are hardly no longer able to suck up liquid materials, therefore harmful substances are no longer able to attack the concrete.

Additionally the SiliBond® materials are efficient steam breaks and protect fresh concrete before rapid drying up without disturbing film creation on top of the surface.

SiliBond® consolidates and protects the structure of abrasion and harmful substances

Already cured concrete and screed, as well as concrete plates and concrete stones could be tempered and strengthened with a SiliBond® treatment.

Surfaces will be protected from abrasion. The compacting of the capillary structure reduces the sucking capacity of the building material. Harmful substances and pollution are no longer able to entry the building material easily.

Difference between both SiliBond®970 and SiliBond®971

SiliBond®971 is additionally hydrophobized which reduces the water absorption and increases the frost de-icing alteration.

SiliBond®970 and SiliBond®971 don't create films and won't change the natural appearance of the building surface.

The silicate reaction products and the Nanosphere (as well silica based) are chemically very similar to the typical ingredients of cementitious build materials.

With SiliBond® treated areas could be painted or coated - even after years - with all usual systems.

Processing

on fresh screed and concrete

The treatment of fresh concrete or fresh screed takes place after the setting until the material is walkable. Applied with low pressure spraying or pouring with watering can. Application must be done equally and without ponding but saturated.

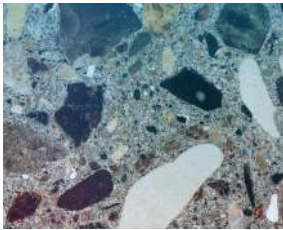
For top quality, machine smoothed concrete floors the application could be done with the last smoothing process - with a very good result. An afterwards equal overspray with SiliBond® is recommended even with this technique.

After complete setting and after reaching the aspired strength the surface is usable.

Even on used floors - and repair

For already used surfaces a treatment is possible after a thorough cleaning. Grease, oil, dust and dirt must be removed with suitable cleaners to gain a effective result. For equal soaking the surface must be wetted in advance.

SiliBond®970 and SiliBond®971 will be applied to the weak humid (non shining) surface. For a sufficient soaking the application should be done in two steps. First step SiliBond® will be diluted with clean water 1:1. Immediately after drying the second application will be done with pure SiliBond®.



A very effective method - even on rough undergrounds - is to brush in the tempering material. The material is applied with pouring can and immediately brushed in. Practically use a autoscrubber with a scrub brush.

After gel creation - SiliBond® creates a white weak mass - the spill-over will be mixed with water and removed with a rubber wiper or hovered the surface must be washed afterwards. The dried left over of this water material mixture is a fine crumbly material and easily removed by sweep of.

On stones and tiles made of concrete

The treatment of stones and tiles made of concrete is similar. Rough surfaces - such as blasted concrete tiles or plaster coverings - must be treated equally without pond creation in the cavities.

Concrete with smooth and closed surface such as polished concrete stones or Terazzo coverings must be swept with a rubber wiper app. 10 -15 minutes after treatment to remove material left over. Rewash it after 20 minutes with clean water.

Restrictions

SiliBond® is not suitable for natural stone, ceramic or washed-out concrete. After treatment (impregnation, painting, coating) with dissimilar materials a tempering treatment with SiliBond® is no longer possible.

The same appears on surfaces which are fresh but already treated with curing based on oil, wax or latex.

***SiliBond® 970/971 is a very effective curing itself and could be used as after treatment.**

**Optical effect
coloured concretes-
ample areas**



SiliBond®970 and SiliBond®971 bind dust and change the light refraction of the treated surface, which therefore appear somewhat more colour intensive. With prolonged use - especially with frequent wet cleaning - smooth surfaces treated with SiliBond® will have a slight silky shine. This is caused by a polishing effect due to the mechanical stress on the hardened surfaces.

Stains may occur on surfaces of coloured concrete due to incompatibility between SiliBond® and certain colour pigments. For this reason, test areas should always be created on coloured concrete floors. This recommendation also applies to surfaces where high demands are placed on the visual effect and colour fidelity, e.g. polished cast stone slabs and terrazzo.

Consumption

The material consumption is low and depends on the condition of the surface and the application technique. For impregnation of a smoothed fresh concrete and for set, smooth concrete surfaces, approx. 0.15 - 0.20 kg of SiliBond® per m² are required, for concrete slabs with a sanded surface and for terrazzo the consumption is even lower.

In the case of highly absorbent concrete or screed surfaces or floors with a greater surface roughness (concrete paving, finely sandblasted concrete slabs), the material requirement can be up to 0.5 kg/ m² and can only be determined by laying a test surface

Properties

Name	SiliBond®970 SiliBond®971
Composition	Colloidally dissolved silicic acids, modified with silanes
Appearance	Practically colourless, slightly turbid liquids
Density	Approx. 1,15 gr/ml
pH	10,5 - 11,5
Viscosity	20 cStk (approx. 11,5 sec / DIN-cup, 4 mm)
Odour	Hardly noticeable, typical
Thinner	Water

Test results*

	Zero test	SiliBond®
Compressive strength after 7 days	35 N/mm ²	40 N/mm ²
Abrasion (Taber, 1000gr/1000 U)	0,16 g	0,03
Water absorption	0,55 ml	< 0,1 ml
Salt absorption by capillary suction	0,79 g	0,43 g

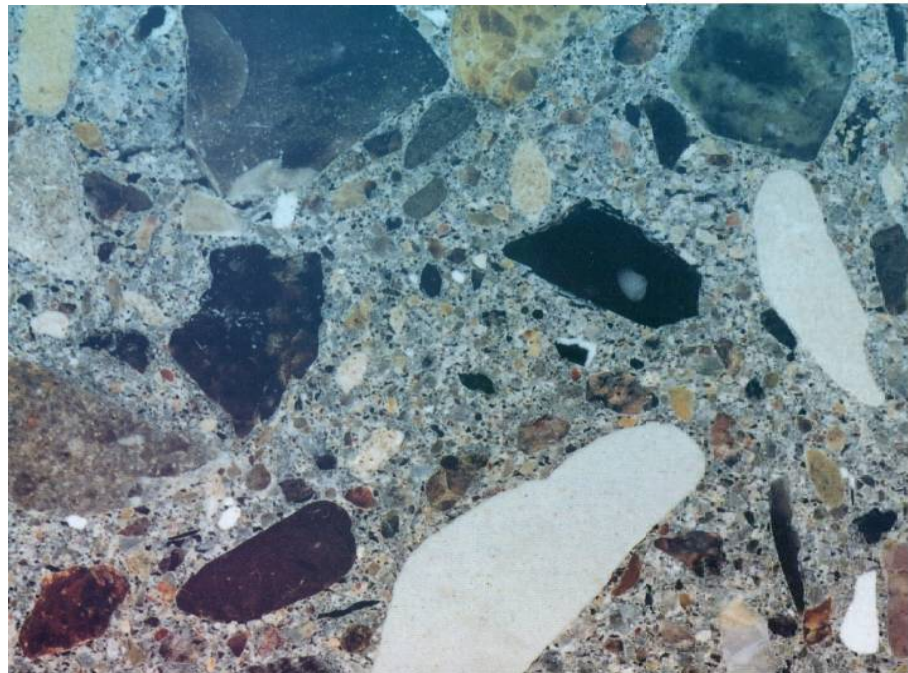
*Test sample concrete DIN EN 206 with 300 kg CEM 32,5/m³

Safety • Storage • Disposal

SiliBond®970 and SiliBond®971 are similarly alkaline as building lime and cement. Contact with skin and mucous membrane must be avoided. Wear protective goggles and gloves during application. Avoid aerosol formation during application by spraying.

The products contain no solvents, no toxic ingredients and are not flammable. These products do not pose any particular danger to the environment. However, they should be stored in such a way that they are not accessible to children and unauthorised third parties. The products contain water and are sensitive to frost, freezing will render them unusable.

Small material residues and freshly soiled SiliBond® can be removed by rinsing with plenty of water. Larger amounts of material can be diluted with water, then hardened by mixing with cement or lime and disposed of like building rubble.



These technical information describe the present-day state of knowledge these product. They should only inform about the possibilities of application and could not release the applicator of his commitment to check the possibility to use the product for the required application. Information for processing can be found in processing instructions of our product. Information about safe handling can be found in our current safety data sheet.

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passion to invent 