



SiliBond® Si-720

Stone hardener; stabilisation of weathered building materials

SiliBond®Si-720 is a reactive silicate binding agent ready to use. Through climatic influences affected mineral building substances receive new and similar (silica based) binding agents. The natural structure of the original substances will be preserved.

Chemically SiliBond®Si-720 is a modified silicic acid ethyl ester. During application, the (low viscosity) product is absorbed through the capillaries of the building material and transported into the pore structure. Due to a highly effective accelerator reacts SiliBond® Si-720 with the air humidity or the natural moisture of the building material. The reaction product is silica gel (SiO_2aq) a glass-like, pure inorganic substance and (as a by-product) ethyl alcohol, which volatilises

The silica gel - a non-crystalline form of quartz - is a natural, highly effective, mineral binder.







Most of the SiliBond®Si-720 is converted into the silica gel under normal conditions (20° C / 50% relative humidity) in a short time (about two weeks). The final strength is thus achieved in this time.

Important!

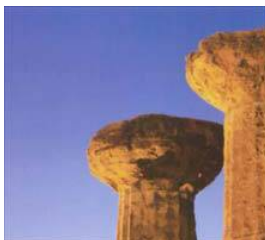
SiliBond®Si-720 doesn't create a film on top of the surface! Pores won't be blocked. If handled professionally a shell or crust creation is impossible.

SiliBond® Si-720

All advantages at one glance:

	1 component system- easy application
	Ideal penetration power based on low mole weight
	Dries absolutely non-adhesive and without film creation - no staining
	Pure mineral binding agent - related with building material
	Silicates are acid-proof - resists also acid rain
	And - the treated building material remains permeable to water vapour

SiliBond®Si-720 doesn't contain any other additives, no hydrophobic materials and no materials which attack or damage the building material. The natural damp diffusion ability of the building material won't be influenced by the treatment with SiliBond®Si-720.



Until the hardening process is not fully completed the surface treated with SiliBond®Si-720 will show a slight bouncing effect which could be mistaken for hydrophobic effect. These bouncing effect will disappear after a short while.

SiliBond®Si-720 is absolutely colourless. The natural colour of the building material won't be changed or intensified through the treatment with the impregnation material.

SiliBond®Si-720 is preferably used for the restoration of natural stone, stucco and frescoes destroyed by weathering. Also other building materials, like bricks, terracotta or mineral plasters can be consolidated. By impregnating with SiliBond®Si-720 the natural strength and porosity could be regained mostly.

Processing Consumption

The application and processing depends of the damage intensity of the substrate. For a successful repair we recommend to analyse the condition of the undergrounds which needs strengthening. Such as stone type, binding agent, salt content, humidity and porosity. This enables to plan the working steps and material consumption. A good sized sample area is recommended to calculate in advance the success of the repair.

Polluted areas must be cleaned before impregnation. In principle all cleaning methods are suitable but mind that the cleaning don't damage the substrate any further. To avoid substance losses meanwhile cleaning a pre-impregnation with SiliBond®Si-720 is possible.

After cleaning follows strengthening. The surface must be air dry and absorbent to guarantee the complete saturation of the weathered substrate with SiliBond®Si-720. The treated surface must be protected from rain for minimum 2 - 3 days. The surfaces shouldn't be heated up by direct sunlight before impregnation, because this will cause burning up. On warm surfaces evaporates water to quick and the product can't penetrate deep enough.

Ideal processing conditions are temperatures between 10 and 20°C, relative humidity > 40%

Consumption

SiliBond®Si-720 will be applicated through saturated spraying or flooding, painting and dip coating. This is the only way to guarantee that the material penetrates sufficient deep enough and won't stabilise only a thin layer on top of the surface.

In case of big area application and intense sucking undergrounds we recommend to work in several steps - wet in wet until the underground stops sucking. If necessary, a second impregnation can be carried out after a waiting period of 2-3 weeks, whereby a complete impregnation of the damaged layers of the building material must also be achieved.



Important:! The second application must wait until the silica gel separation is fully stopped otherwise the building material can't absorb the fresh SiliBond®Si-720 and the surface will turn grey!

Precondition for a successful strengthening is the complete saturation of the damaged substrate till the healthy core. This is the only way to avoid a binding agent saturated and strengthened layer without any connection to a stable underground. The intermediate layer between strengthened and healthy core is the weak point and will cause spalling because of thermal tension.

The necessary amount for a perfect stabilisation depends on the substrate and the grade of the damage. The consumption depends on these factors and could be between 0,5 - 15 kg/m². The specific material requirement could be only identified with a sample field.

After treatment Painting Hydrophobising

To avoid a colour change of the surface which is a result of the over saturation, wash the surface with HydroSolv®721 (aliphatic hydrocarbon) immediately after reaching the saturation point.

The strengthened surfaces can be reworked with stone replacement compounds after the silica gel deposition has subsided, coated with mineral silicate paints and made hydrophobic. If SiliBond®Si-720 is only applied after the application of the stone replacement compounds or the mineral-silicate paint, a waiting period of at least 4 weeks is necessary.

The impregnation may cause an pearl off effect which makes it more difficult to apply stone replacement materials or mineral silica colours, the surface must be washed with a 5% solution of ammonia and water. If treated surfaces should be moulded with silicon caoutchouc we recommend to treat the surface in advance with a mixture made of dish-washing agent and water. This avoids the adhesion of the silicon caoutchouc.

Hydrophobising

The conclusion of any restoration should be a hydrophobic treatment, a protection against rain. We recommend HydroBloc®Si 741 - which is extremely good compatible with SiliBond®Si-720.

Properties

Composition	Silicic acid ethyl ester, neutrally activated
Active ingredients	100 %
Density	~ 1,0 gr/ml at 20°C
Viscosity	Water-like, thin-bodied
Colour	Colourless to slightly yellowish, clear liquid
Flash point	40°C

**Ecology
Storage
Work safety**

SiliBond®Si-720 is not toxic but flammable. This fact must be taken into account during storage. The product must be protected from fire and radiant heat and stored in such a way that it is inaccessible to children and unauthorised third parties. It must not be stored together with food or feed.



Ensure good ventilation in the case of high workplace concentrations, e.g. for applications in closed rooms. For spray application, respiratory masks with combined gas-hydrogen filters should be used. Always wear protective clothing, gloves and safety goggles during application!

Adjacent components, window panes and non-solvent-resistant plastics etc. must be protected from soiling with SiliBond®Si-720. When applying by spraying, the risk of wind transport must be taken into account!

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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ARCAN Waterproof

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