

Protectosil® SC POWDER

Highly efficient, water redispersible powdery admixture for cementitious building materials to impart easy-to-clean properties.

Registration

Protectosil® SC POWDER

EINECS/ELINCS (EU):	Yes
TSCA (USA):	Yes; for professional or industrial use only. It is a violation of federal law for this product to be distributed to or used by consumers (40CFR721.3)
IECS (P.R. China):	*
ENCS (Japan):	*
ECL (South Korea):	No
AICS (Australia):	No
PICCS (Philippines):	No
DSL/NDSL (Canada):	*
*= information upon request	

Protectosil® SC POWDER

- is a white, free flowing powder
- is an admixture for cement based mixtures
- is used to achieve easy-to-clean properties on the surface of cured cementitious materials
- chemically bonds to the cement phase and other siliceous material present in concrete
- does not influence the colour and the surface appearance of concrete
- leaves the concrete water vapour permeable
- reduces capillary water and oil absorption significantly
- is easy to mix and does not change the wetting properties of a modified mix
- is especially suitable for the modification of facing concrete of concrete pavers

Highly efficient, water redispersible powdery admixture for cementitious building materials to impart easy-to-clean properties.

Safety and Handling

Before considering the use of Protectosil® products please read its Safety Data sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use. The Safety Data Sheet is available after registration on our website www.protectosil.com or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

Packaging and Storage

Protectosil® SC POWDER is supplied in standard package: 15 kg paper bag with polyethylene inliner or palette with 36 paper bags at 15 kg each. Other packages such as Big Bags or silo transport vehicles are available upon request. Storage under dry conditions at temperatures below 30 °C is recommended. Protectosil® SC POWDER has a shelf life of at least 12 months if stored in originally sealed containers. Bags which are stored under pressure, that are damaged or left open over longer periods of time tend to contain agglutinated material.

Reactivity

Protectosil[®] SC POWDER can be handled in all standard compulsory mixers for powdery cement based products. Potential interactions with further additives have to be tested. Information concerning the use of Protectosil[®] SC POWDER together with other additives (e.g. air-entraining agents) is available upon request. The recommended dosage of Protectosil[®] SC POWDER is in the range of 2 - 5 % based on the cement weight in the end formulation. Protectosil[®] SC POWDER containing formulations are smoothly miscible with water. It is recommended to predispers Protectosil[®] SC POWDER in the mixing water and subsequently add this dispersion to the dry mix. Alternatively, Protectosil[®] SC POWDER can be mixed with the dry mix and water can be added subsequently. In this case, it should be ensured that Protectosil[®] SC POWDER is homogeneously distributed prior to the addition of the water.

Too intensive mixing of the final mix can cause unwanted air insertion. Usual ripening times can be foreseen prior to casting.

Properties and Use

Effectiveness of Protectosil[®] SC POWDER

The addition of Protectosil[®] SC POWDER reduces significantly the coefficients of capillary water and oil absorption. The following table 1 gives an overview over the possible reductions.

	coefficient of capillary water uptake [kg/m ² h ^{1/2}]	reduction	coefficient of capillary oil uptake [kg/m ² h ^{1/2}]	reduction
untreated reference concrete	3,85		0,855	
addition of 2 w% Protectosil [®] SC POWDER	0,049	99 %	0,051	94%
addition of 5 w% Protectosil [®] SC POWDER	0,035	99 %	0,034	96%

Table 1: Coefficients of capillary water and oil uptake as measured following DIN EN 13057.

Application

Protectosil[®] SC POWDER might have an influence on the consistency and workability of modified mixes. If the workability is reduced, liquifiers (e.g. PCE) can be added to counteract this effect. Protectosil[®] SC POWDER might have an influence on compressive strength. When casting a concrete using CEM II A-M (S-L) 42,5 and a w/c = 0,38, the compressive strength as shown in figure 1 was obtained.

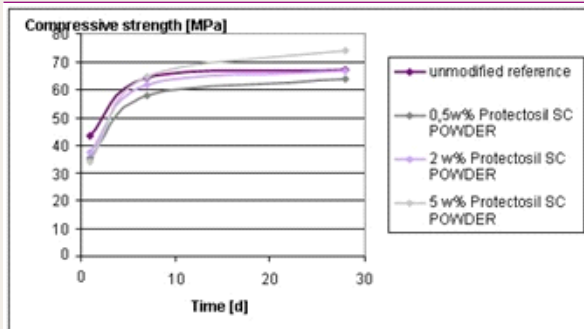


Figure 1: Influence of Protectosil® SC POWDER on compressive strength.

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