

Protectosil® 851

Highly efficient, powdery water repellent based on Multifunctional Silane Systems™ for cementitious building materials.

Technical Data

Properties and test methods	Value	Unit	Method
SiO ₂ -content	22-24	%	
Appearance	White free flowing powder		
bulk density	250-450	g/l	DIN EN ISO 60

Registration

Protectosil® 851

AICS (Australia):	No
DSL/NDSL (Canada):	*
PICCS (Philippines):	Yes
TSCA (USA):	Yes
IECS (P.R. China):	*
ENCS (Japan):	No
ECL (South Korea):	Yes
EINECS/ELINCS (EU):	Yes
* = Information upon request	

Highly efficient, powdery water repellent based on Multifunctional Silane Systems™ for cementitious building materials.

Protectosil® 851 is especially suited for

- repair mortars
- shotcrete
- tile grout

Safety and Handling

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

Packaging and Storage

Protectosil® 851 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 strongly recommended. The shelf life is at least 12 months. Bags which are stored under pressure, are damaged or left open over longer periods of time tend to contain agglutinated material.

Processing

Protectosil® 851 can be handled in all standard compulsory mixers for powdery cement based products. Potential interactions with further additives have to be tested. The recommended dosage of **Protectosil® 851** is in the range of 0.25-2 wt% based on the cement weight (equal to appr. 0,1-0,5% based on dry weight). **Protectosil® 851** formulations are smoothly miscible with water. It is recommended to stir the **Protectosil® 851** containing end formulation into the mixing water using the appropriate vessel and mixer. Too intensive mixing can cause unwanted air insertion. The exact quantity to be applied should be determined by trial application. The water repellent effect develops during curing of the concrete. As soon as a constant residual humidity in the concrete is reached the hydrophobizing silane can fully crosslink und develops its full efficiency.

The use of **Protectosil® 851** as additive in concrete causes a slight decrease in compressive strength. The loss in compressive strength shows a maximum after approx. 28 days of curing and disappears almost completely after 90 days.

Properties and Use

Protectosil® 851

- is a free flowing powder which is easily dispersible in concrete mixtures
- is qualified as admixture in cement based mixtures for mass hydrophobation
- chemically bonds to the cement phase and other siliceous material present in the concrete
- reduces effectively the water absorption of concrete
- creates water vapour permeable protection
- shows no problems with penetration depth
- is easily applied without depending on weather conditions

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