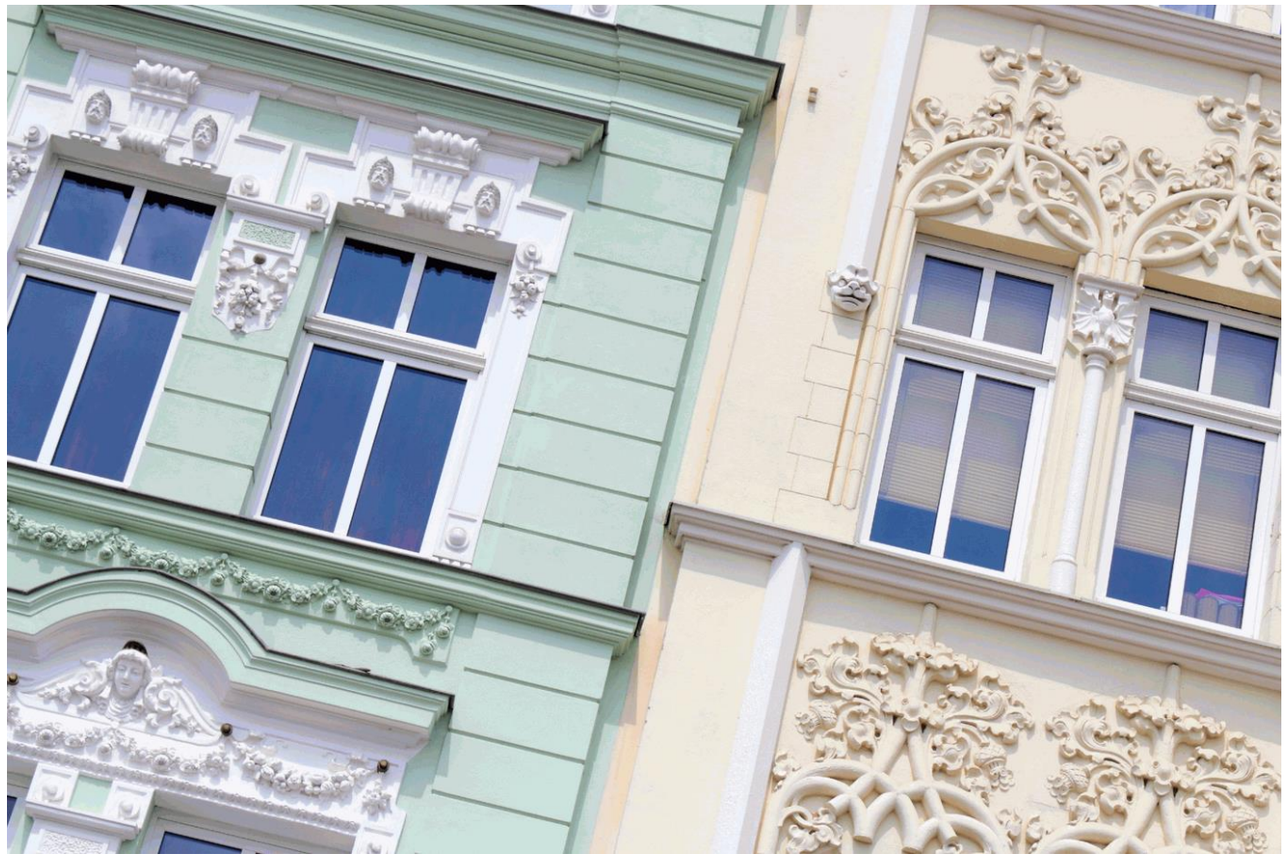
Protectosil® for masonry & facades

Basic introduction



Protectosil®

EVONIK
Leading Beyond Chemistry

Content

- **Description**
- Basic product recommendation
- Application-/ Testmethods
- What makes the difference in performance

Protectosil® upgrades your facades in durability

Protectosil® to preserve and sustain your structure

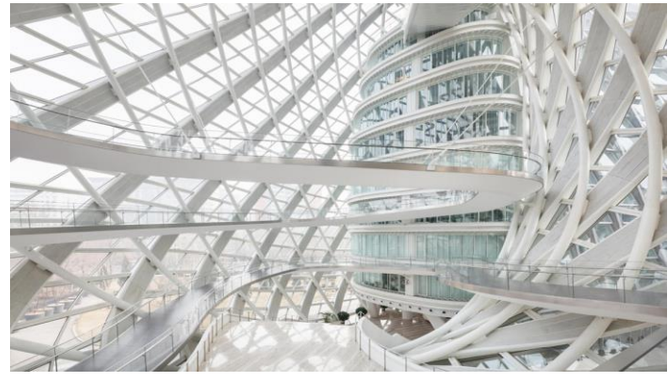
Building protection leads to:

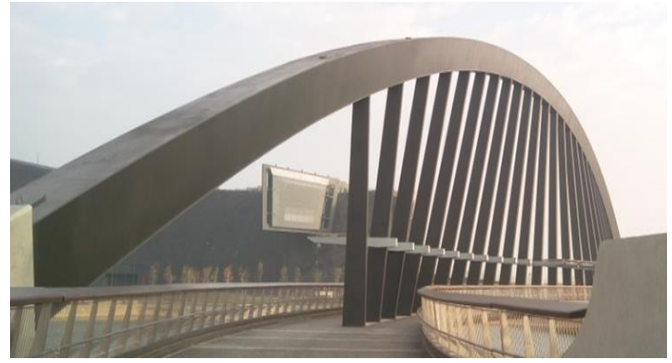
- permanent representative appearance
- efficient energy management
- elongated maintenance cycles
- longer service life
- less maintenance costs

The wide spectrum of Protectosil® products allows to choose the optimal product …

…for many types of mineral substrates:

- Concrete
- Brick
- Natural stone
- Split-face block
- Sand Limestone
- Marble
- Granite
- ….





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Product recommendation
Masonry & facades

	Protectosil® grade	Typical area of application				Effect			
		mineral plaster	clinker brick	natural/ sand stone	fair faced concrete	water repellent		Easy to Clean	Antigraffiti
						w/o beading effect	w/ beading effect		
pure silane systems	**BHN**				✓	✓			
	100 NK				✓		✓		
	BHN PLUS				✓		✓	✓	
solvent based	**40 S**		✓	✓		✓			
water based	**WS 340**	✓	✓	✓	✓	✓			
	WS 410				✓	✓			
	WS 602	✓	✓	✓		✓			
	WS 610	✓	✓	✓			✓		
	SC Concentrate*	✓	✓	✓	✓			✓	
	AG				✓				✓
	AG SP				✓				✓

*SC 30 available

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Application methods for Protectosil® and possible tests

Application methods

Airless spraying

- Suitable for water repellents
- Amount according to our guideline in Product Information

Available testing methods

- Reduction of water uptake with RILEM tube
- Penetration depth
- Surface properties
- QUV accelerated weathering

Performance testing

HVLP spraying

- Suitable for easy-to-clean and graffiti protection products
- Amount according to our guideline in Product Information

Available testing methods

- Surface properties, staining & graffiti test
- QUV accelerated weathering
- Outside weathering test (e.g., prevention of algae growth)

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- **What makes the difference in performance**

Sharp distinction between coatings and Protectosil®

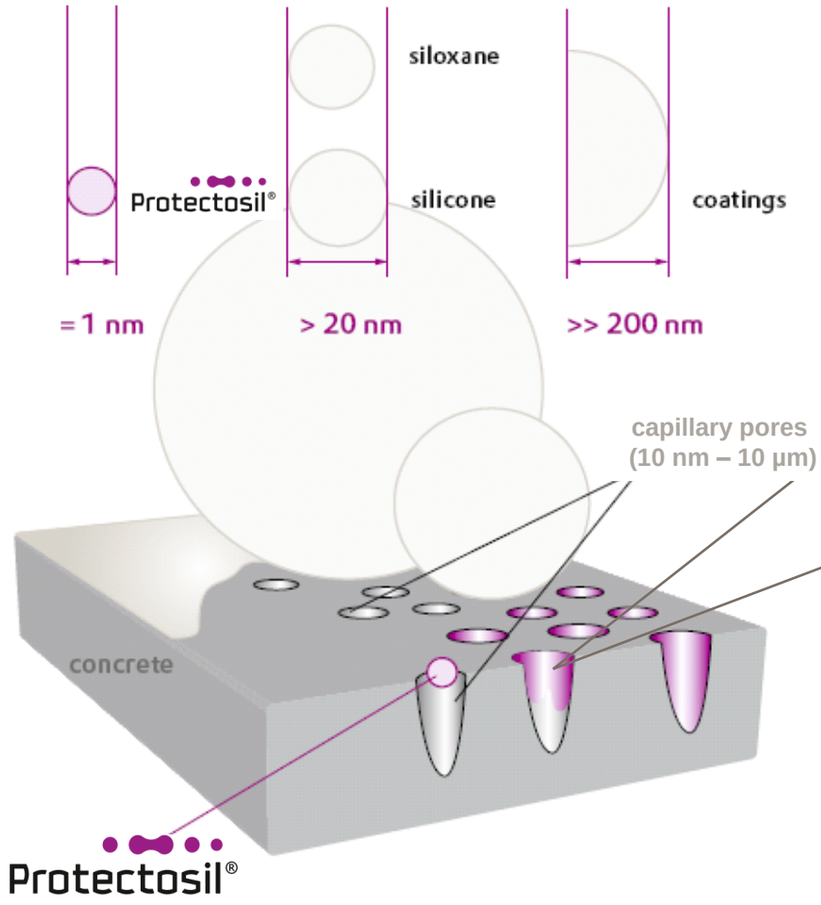
Coating

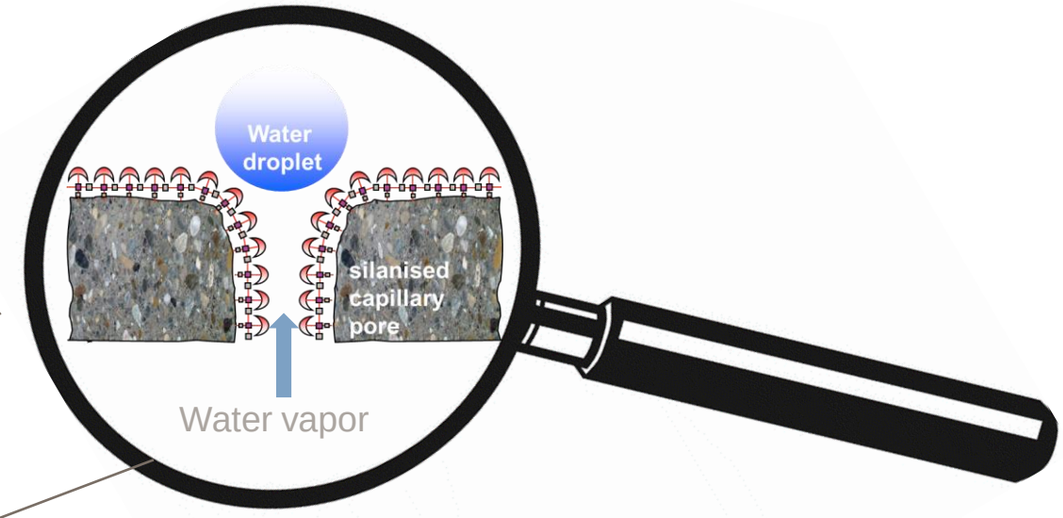
- \+ initial protection against water
- – low water vapor permeability
- – UV degradable
- – subject to scratching, cracking, and abrasion
- – optical changes of the surface

Protectosil®

- \+ long lasting protection against water
- \+ excellent water vapor permeability
- \+ UV stable
- \+ microcracks still protected
- \+ resistant to abrasion
- \+ invisible

Small silane molecules penetrate deep into the substrate and provide effective protection against the ingress of water





- form stable chemical bonds with mineral substrates
- penetrate deeply even in dense substrates
- provide UV-stable protection

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Key performance parameter for water repellents

High penetration depth prevents protection failure through

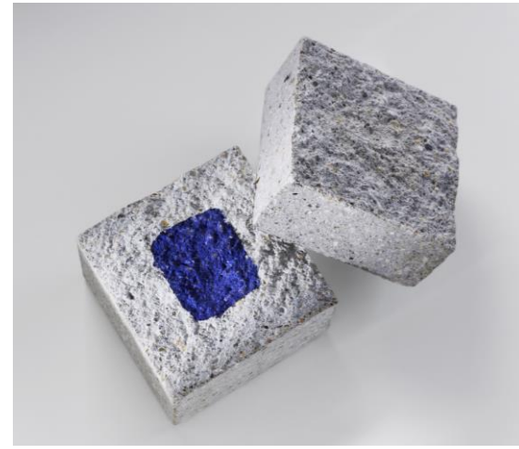
- abrasion
- microcracks
- UV exposure

Chemical bonding prevents failure through

- leaching
- weathering

Easy and simple application on

- existing structures and
- new buildings



Protectosil®

Surface protection

Combination of durable water repellents with antigraffiti and easy-to-clean systems

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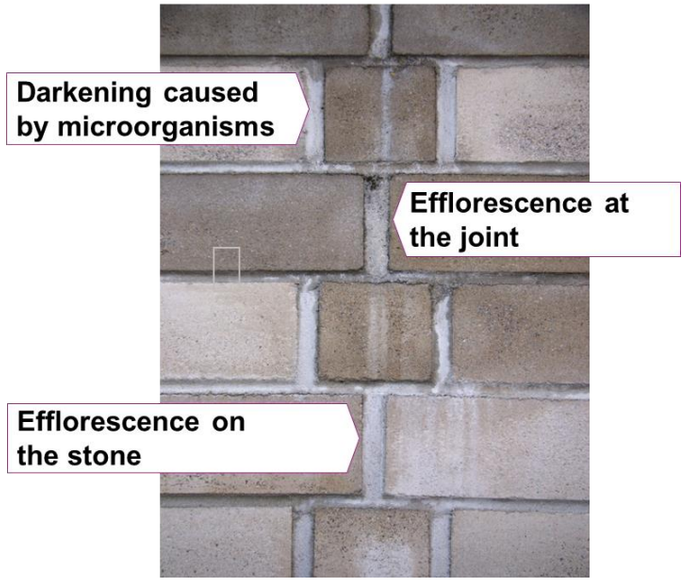
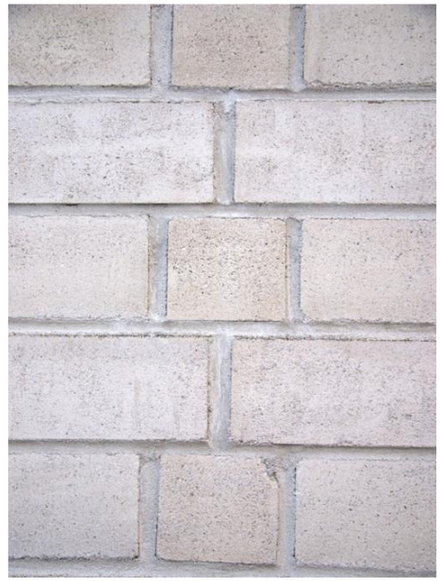
Functionalized silanes provide effective protection against soiling, staining and graffiti attacks

Untreated

Treated with Protectosil® SC CONCENTRATE





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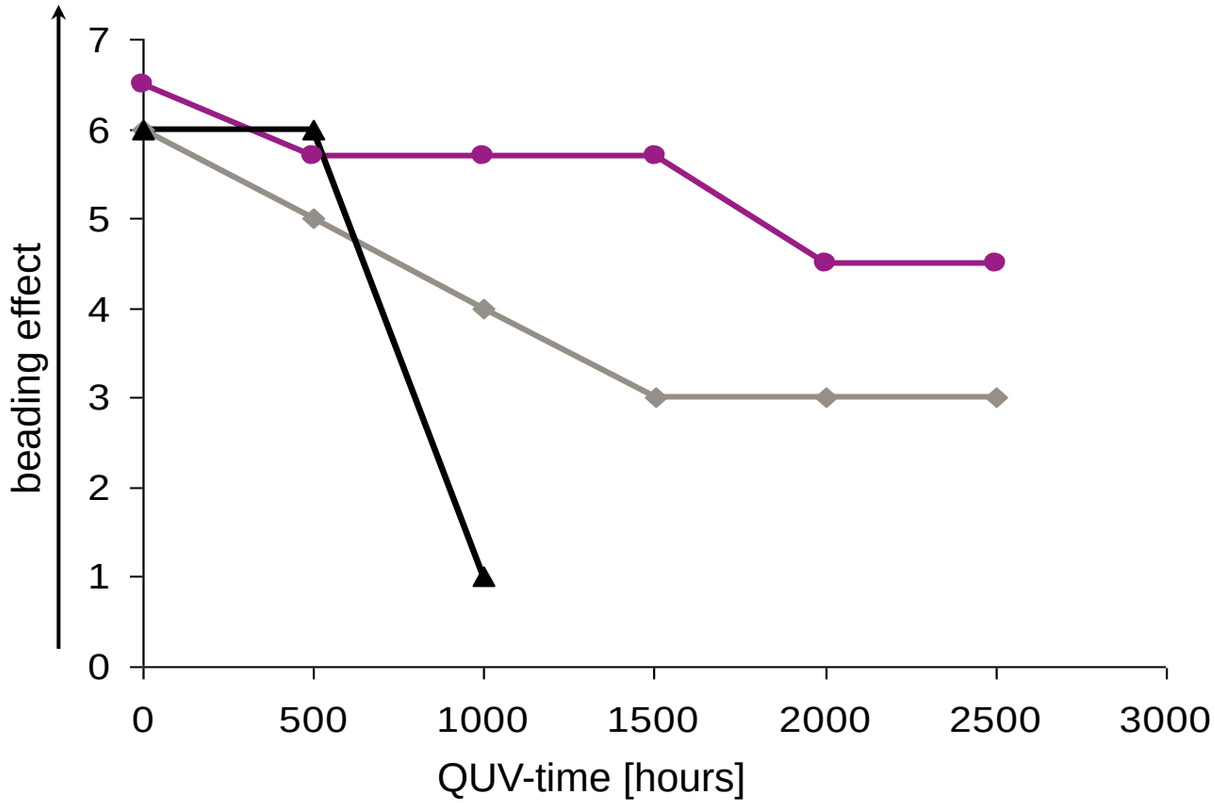
Protectosil® SC CONCENTRATE is the only system with long-term effectiveness for over 8 years



Consumption rate = 100 g/m²

- Protectosil® SC CONCENTRATE
- Protectosil® SC 30
- Fluoropolymer

300 hrs. artificial weathering correspond to about 1 year outside weathering (conditions South-West Germany)

There is a distinct difference between products for hydrophobation and product for surface protecting

Hydrophobation

Protectosil®

Easy to Clean

Deep penetration is a requirement

- → abrasion resistance
- → UV resistance

Product remains in upper layer of the substrate

→ UV resistance through chemical functionalization

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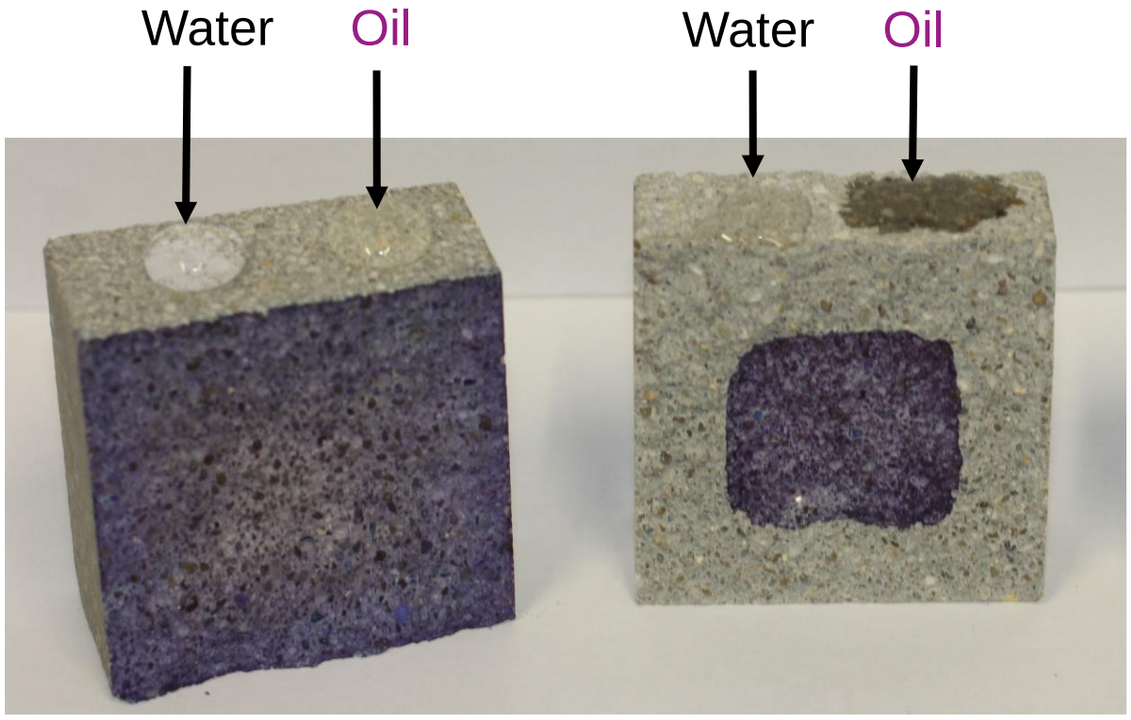
Building materials can be upgraded by a perfectly matched combination of functionalized silane systems



Protectosil®
SC CONCENTRATE

Protectosil® BHN

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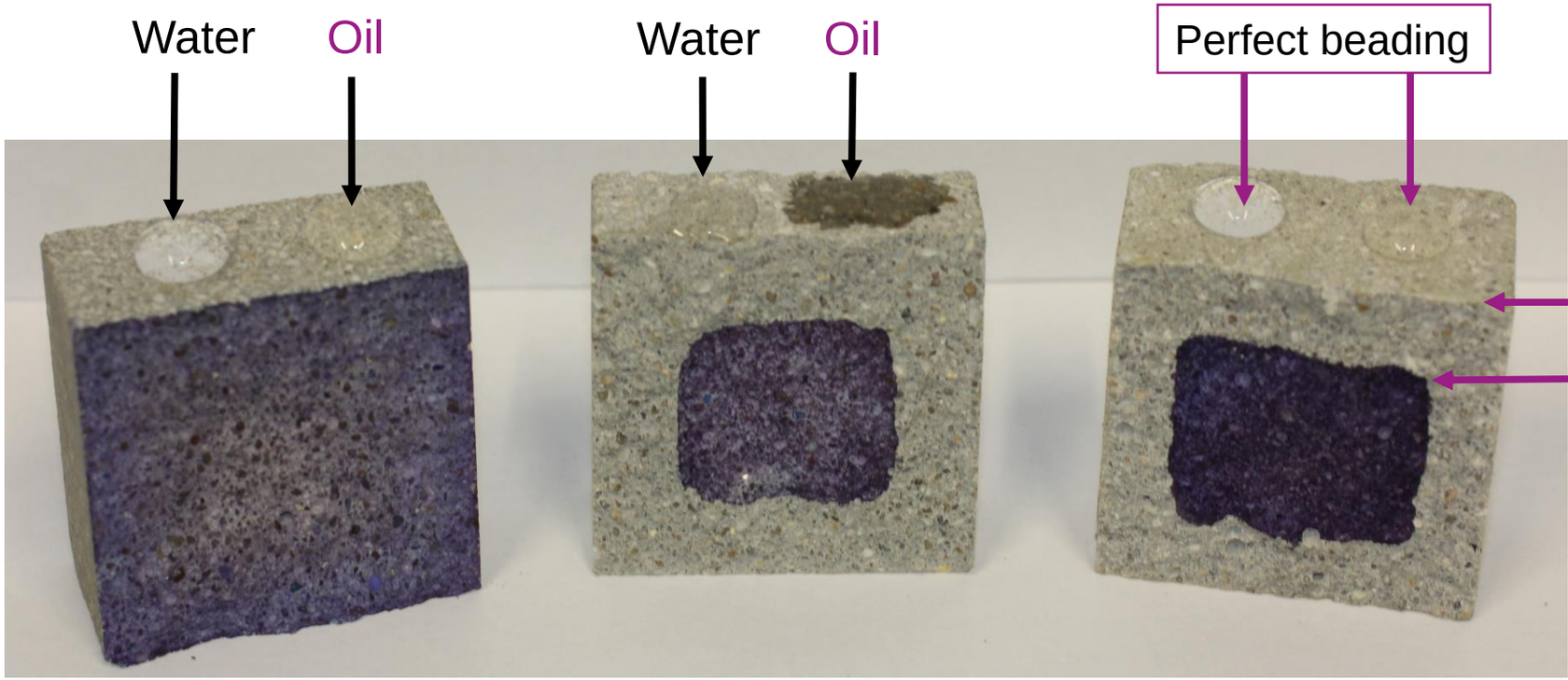
Building materials can be upgraded by a perfectly matched combination of functionalized silane systems



Protectosil® SC CONCENTRATE

Protectosil® BHN

Protectosil® BHN & Protectosil® SC CONCENTRATE

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More than 25 years around the globe…


1989 – Münster in Thann (FR) / PS 300


1990 – Princeton Univ. (US) – CT 40


1991 – Sydney Opera (AU) - BHN


1992 – Railway sleepers (ZA) - BHN


1993 – Zeebrugge Harbour (BE) - BHN


1994 – Bridge Attinghausen (CH) - BHN


1995 – Storebelt Bridge (DK) - BHN


1996 – Monroe County Gar.(US) - CIT


1997 – „Christo de los Faroles“ (ES)-PAG


1998 – Highway Utah (US) – AT 40


1999 – Bahai Temple (IN) - BHN


2000 – Shop. Centre Hawaii (US)– BHN


2001 – Commodore Barry (US) - CIT


2002 – Theme park (US)–BHNplus


2003 – Louvre (FR) - PAG


2004 – Holocaust memorial (DE) PAG


2005–Weltstadthaus Cologne(DE)-PAG


2006 – Beylerbeyi Palace(TR) – SC60


2007–Transamerica Pyramid (US) – 400


2008 – Royal Castle Buda (HU)–WS630


2009 – Hangzhou Bay Bridge (CN) - CIT


2010 – Schloss Moyland (DE) - BHN


2011 – Darmstadium (DE) - PAG


2012 – Town hall Wesel (DE) – SCC


2013 – Times Square (US), BHN PLUS

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Talk to our experts to receive your individualized product recommendation

We are happy to support you

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