



**SmartSeal**  
Superior Surface Protection

## **SMARTSEAL MASONRY PROTECTION CREAM**

HYDROPHOBIC IMPREGNATION CREAM FOR BRICKWORK, STONE AND  
MASONRY

# SMARTSEAL MASONRY PROTECTION CREAM - HYDROPHOBIC IMPREGNATION CREAM FOR BRICKWORK, STONE AND MASONRY

- Thixotropic white Cream
- Ready to use based on Silane/Siloxane
- Water and solvent based
- Very high storage stability
- One-step application
- Excellent beading effect
- Excellent water repellency
- Excellent penetration depth and speed
- No visible change of the surface
- No tacky finish
- Reduced dirt pickup
- Reduction of salt blooming

**SMARTSEAL MASONRY PROTECTION CREAM**



# SMARTSEAL MASONRY PROTECTION CREAM – SUITABLE FOR HYDROPHOBIC IMPREGNATION AND PRIMING



# SMARTSEAL MASONRY PROTECTION CREAM – EFFECTIVENESS AFTER 3 YEARS OUTDOOR WEATHERING ON A CONCRETE GARDENWALL (WEATHER SIDE)



# SMARTSEAL MASONRY PROTECTION CREAM – APPLICATION – FOR BRICKWORK, STONE AND MASONRY SUBSTRATES

- Ready to use product for the use as a Hydrophobic Impregnator and Primer
- One step application saves time and money
- Application by sprayer, roller or brush
- No trickling or dripping off – easy coverage of e.g. windows
- 50 to 200 g/m<sup>2</sup> dependent on the porosity of the substrate
- Enhanced contact time enables an outstanding penetration depth
- Substrates should be dry and dust free at the surface
- Outside Temperature: 5 – 25 °C, better 10 – 20 °C
- Application 24h after facade had direct water contact from raining
- The surface remains re-coatable with a good adhesion of paints and coatings
- Test area before starting general application to ensure desired results and coverage rates

# SMARTSEAL MASONRY PROTECTION CREAM – APPLICATION – FOR BRICKWORK, STONE AND MASONRY

**Suitable for silicate based mineral substrates (pH < 12) like:**

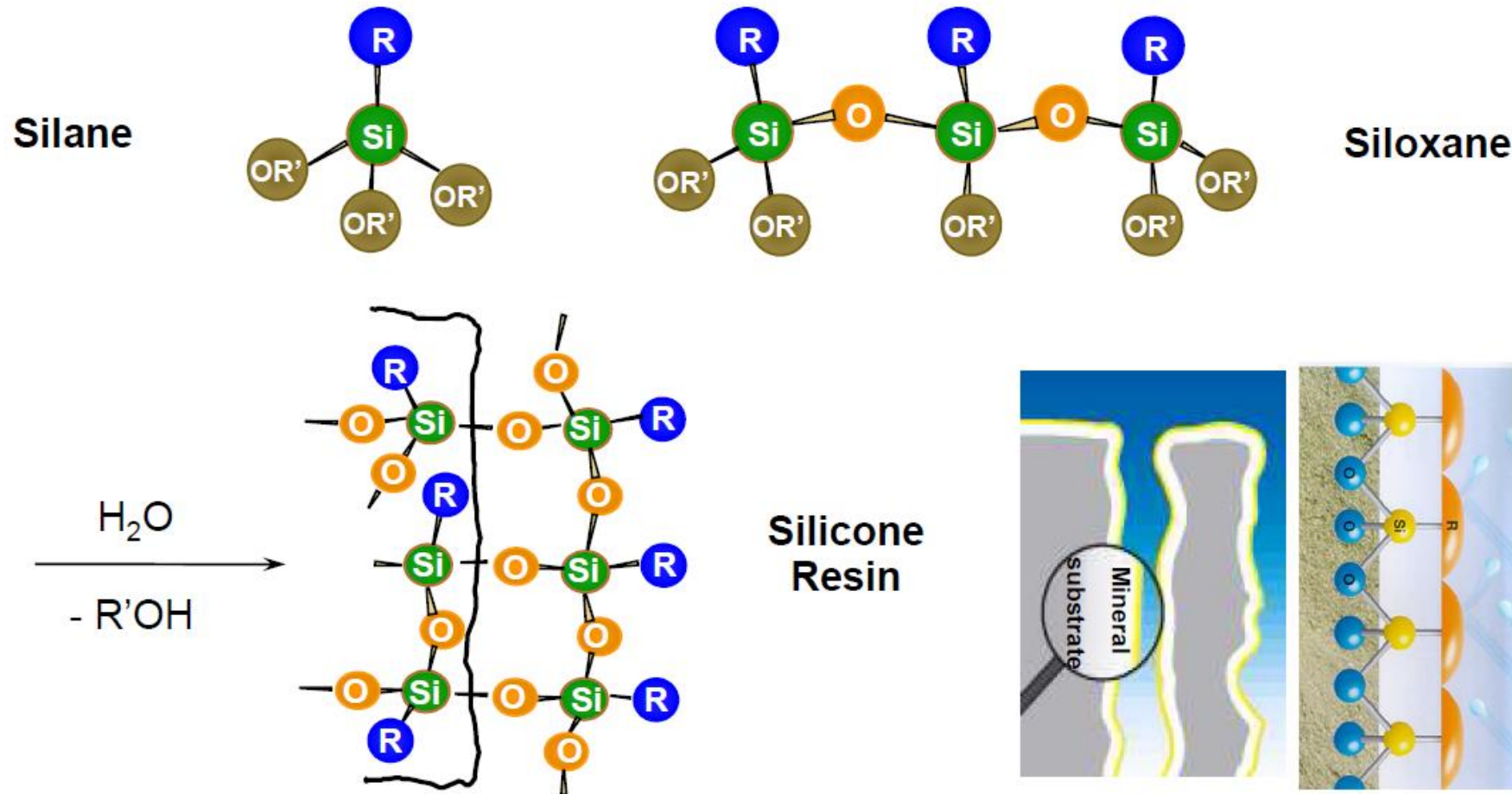
## Artificial mineral materials

- Brick, clinker, roofing tile, expanded clay
- Stone and Masonry
- Mineral plaster
- Mortar

## Natural stones

- Sandstone
- Tuff
- Limestone

# SILANES – SILOXANES – SILICONE RESINS



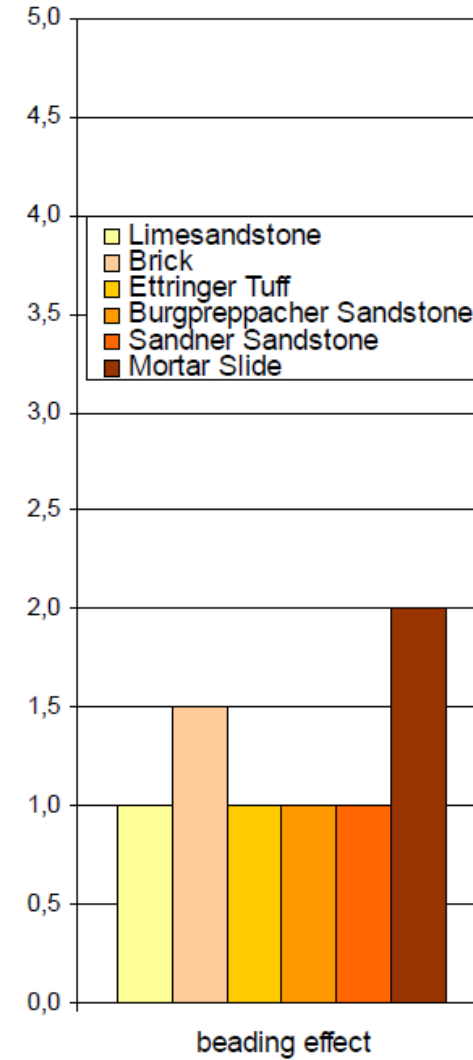
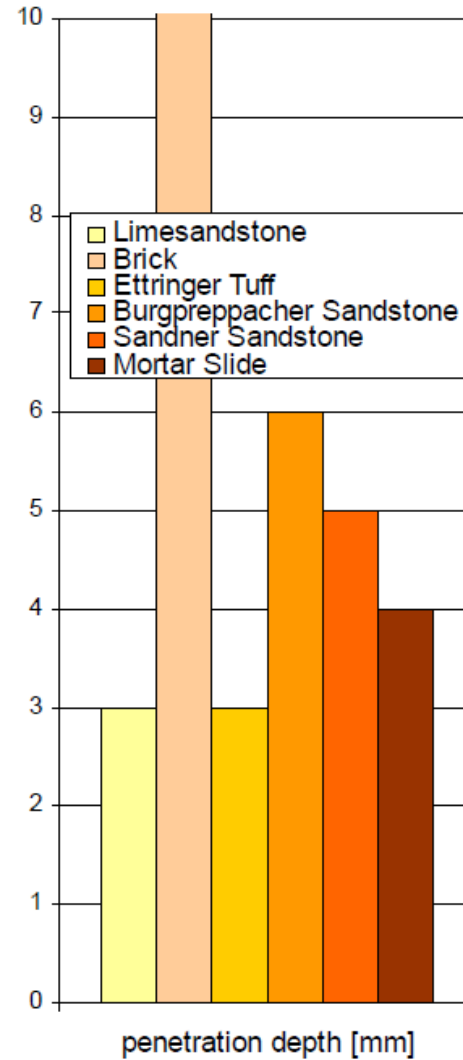
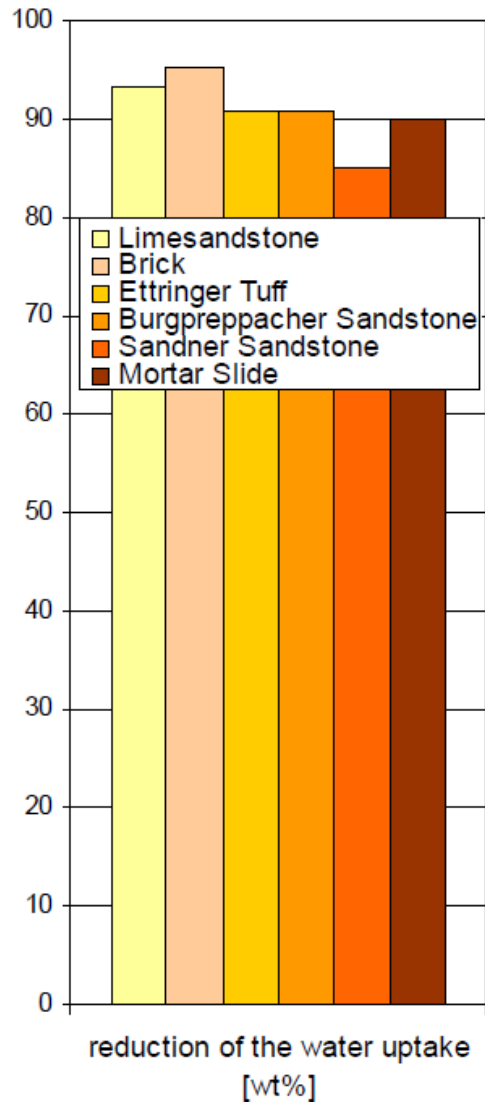
Silanes and Siloxanes (= oligomeric Silanes) form a hydrophobic silicone resin network.

# SMARTSEAL MASONRY PROTECTION CREAM – OUTPERFORMS ALL HYDROPHOBIC IMPREGNATION AGENTS ON THE MARKET

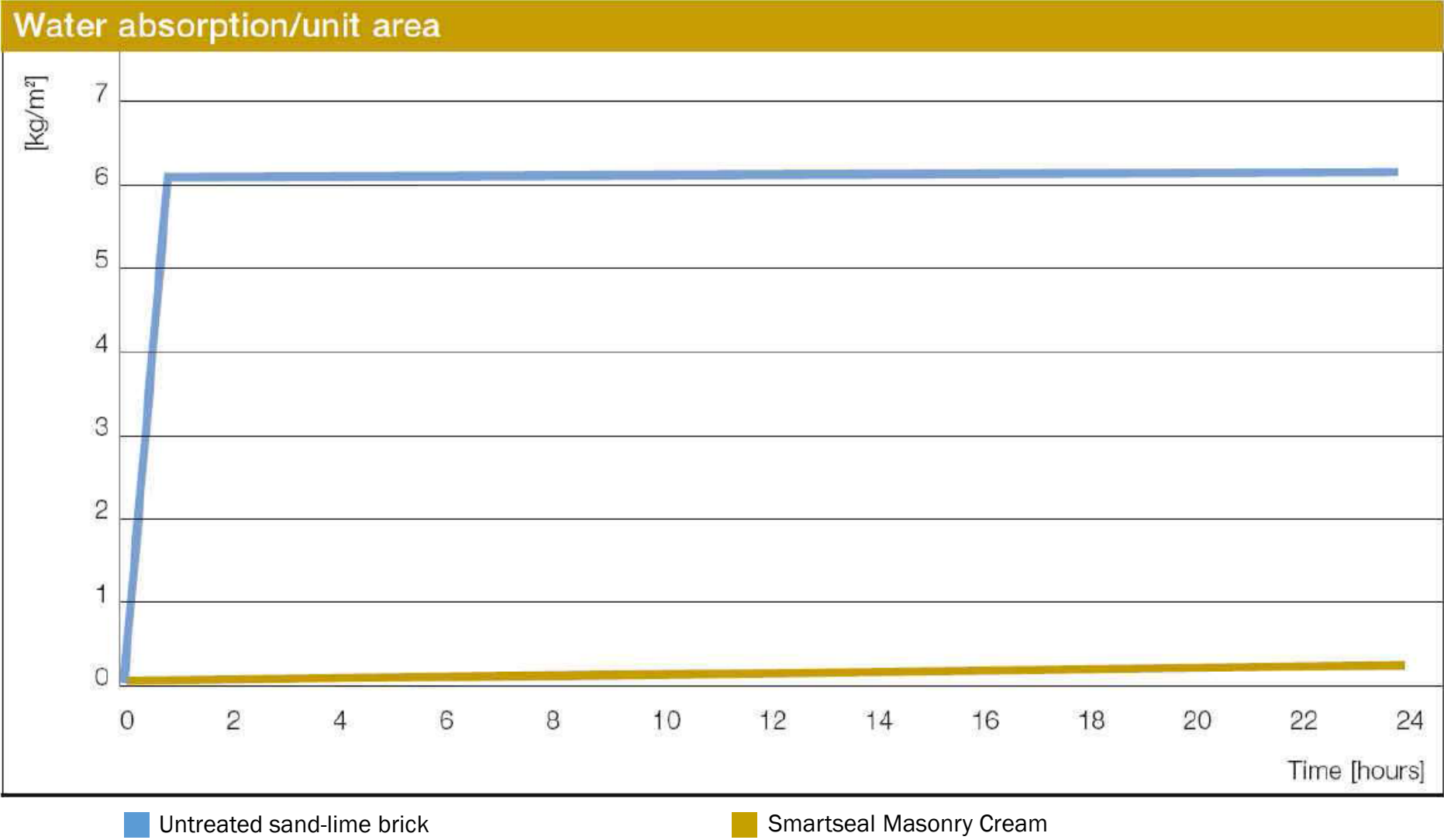
Substrate	Cream	Impregnation Agent uptake [g/m <sup>2</sup> ]	Beading Effect (after)	Water uptake [%]	Reduction of water uptake [%]	Penetration Depth [mm]	Surface changing
Limesandstone	Masonry Cream	200	1	0.82	93.2	3	No
	Untreated	-	5	12.07	-	-	-
Brick	Masonry Cream	200	1 – 2	0.58	95.4	17	No
	Untreated	-	5	12.69	-	-	-
Ettringer tuff	Masonry Cream	200	1	1.67	91.0	3	No
	Untreated	-	5	18.43	-	-	-
Sandstone	Masonry Cream	200	1	0.48	91.0	6	No
	Untreated	-	5	5.29	-	-	-
Sander Sandstone	Masonry Cream	200	1	0.88	85.1	5	No
	Untreated	-	5	5.91	-	-	-
Mortar slide	Masonry Cream	200	2	0.65	90.0	4	No
	Untreated	-	5	6.31	-	-	-



# SMARTSEAL MASONRY PROTECTION CREAM – OUTPERFORMS ALL HYDROPHOBIC IMPREGNATION AGENTS ON THE MARKET



# SMARTSEAL MASONRY PROTECTION CREAM – PRIMER











# SMARTSEAL MASONRY PROTECTION CREAM – PRIMER PROPERTIES

Substrate (11x11x2.5cm)	W24			SD		Adhesion [N/mm <sup>2</sup> ]		
	Penetration depth	Impregnation uptake 1x application by brush	Liquid water Transmission rate W24 value EN1062-3	Impregnation uptake 1x application by brush	Water vapour permeability Wet-cup sd value ISO 7783-2	Silicone resin emulsion paint	Dispersion paint	Silikate emulsion paint
	[mm]	[g/m <sup>2</sup> ]	[kg/m <sup>2</sup> h0.5]	[g/m <sup>2</sup> ]	[m]	[N/mm <sup>2</sup> ]	[N/mm <sup>2</sup> ]	[N/mm <sup>2</sup> ]
Limesand stone	2	250	0.04	200	0.06	2.29	1.93	1.46
Untreated	-	-	1.15 / 6.19* *(after saturation)	-	-	1.85	1.92	1.1

# SMARTSEAL MASONRY PROTECTION CREAM – PRODUCTS RESPONSIBLE CARE

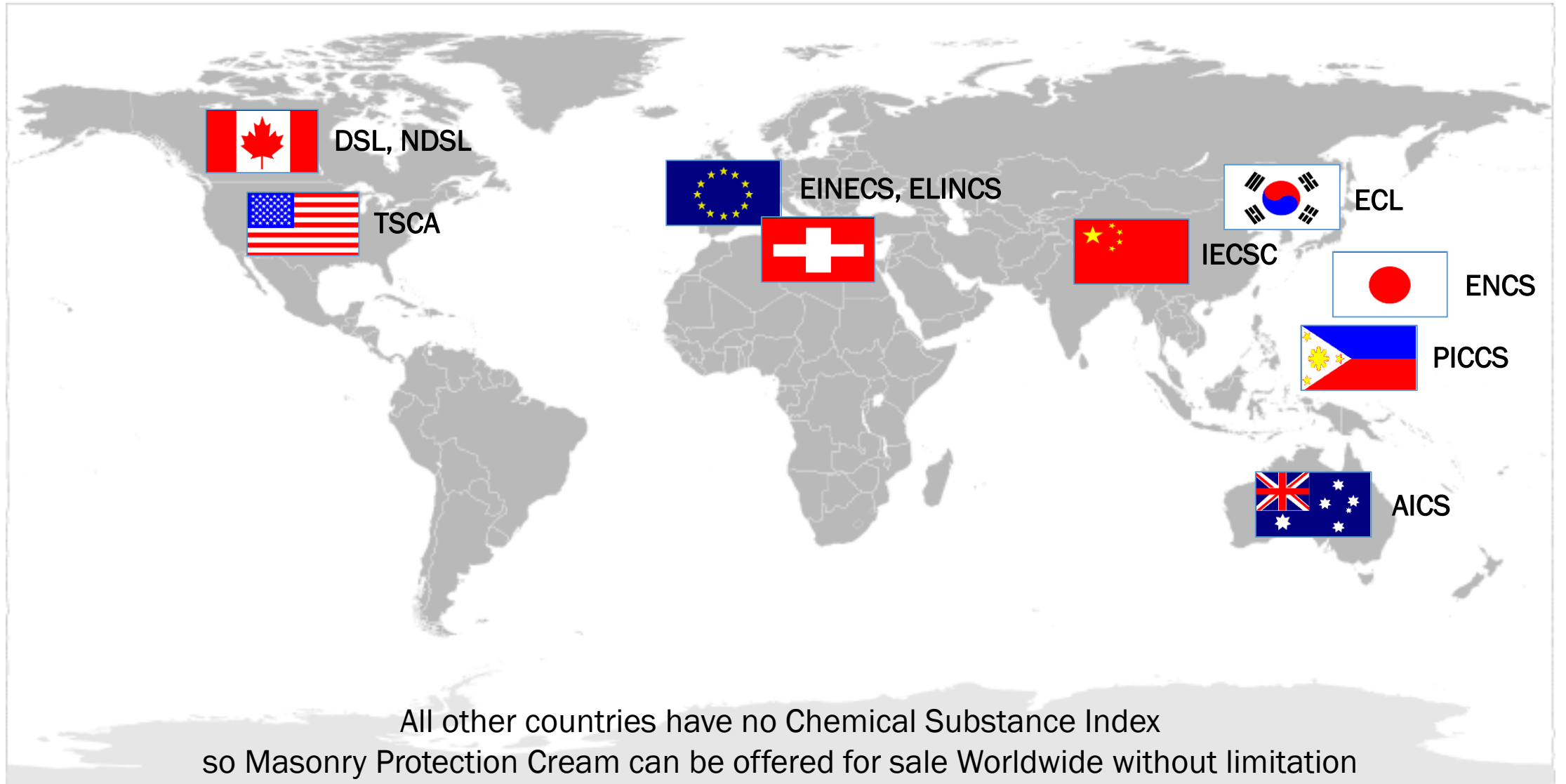
- Physical state:	Paste
- Colour:	White to yellowish
- Odour:	Odourless
- Density:	0.84 g/cm <sup>3</sup>
- Ignition Temperature:	375 °C
- Flashpoint:	75 °C
- R-phrase:	-
- S-phrase:	-
- VbF:	A III
- WGK:	1

# MASONRY PROTECTION CREAM – REGISTRATION STATUS: WORLDWIDE

	Country	Abbr.	Old	Description
	<b>Australia</b>	AICS	ACOIN	<b>Australian Inventory of Chemical Substances</b>
	<b>Canada</b>	DSL	CEPA	<b>Domestic Substance List</b>
		NDSL	-	<b>Non Domestic Substance List</b>
	<b>China</b>	IECSC	CECI	<b>Inventory of Existing Chemical Substances in China</b>
	<b>EU, Switzerland</b>	EINECS	ECOIN	<b>European Inventory of Existing Commercial Substances</b>
		ELINCS	-	<b>European List of Notified Chemical Substances</b>
	<b>Japan</b>	ENCS	MITI	<b>Handbook of Existing &amp; New Chemical Substances</b>
	<b>Korea</b>	ECL	KECL	<b>Korean Existing Chemicals List</b>
	<b>Philippines</b>	PICCS	-	<b>Philippine Inventory of Chemicals &amp; Chemical Substances</b>
	<b>USA</b>	TSCA	-	<b>Toxic Substance Control Act Chemical Substance Inventory</b>

All other countries have no Chemical Substance Index  
so Masonry Protection Cream can be offered for sale Worldwide without limitation

# MASONRY PROTECTION CREAM – REGISTRATION STATUS: WORLDWIDE



# MASONRY PROTECTION CREAM – HYDROPHOBIC IMPREGNATION CREAM

## SAP MATERIAL NUMBERS

Smartseal Masonry Protection Cream Mat. Nr.		Quantity per pallet	
-		265142	-
0.4 kg bottle PE		60058592	-
25	Kg pail	60058592	6
180	Kg drum	60058593	4
800	Kg IBC	60071182	-

# ADVANTAGES OF SMARTSEAL MASONRY PROTECTION CREAM OVER COMMON LIQUID EMULSION TECHNOLOGY

## The Application:

- In a single step
- By airless spray process, brush or lambskin roller
- The Material can be applied without trickling or dripping off
- The enhanced contact time enables an outstanding penetration depth without waste of material

## The Properties:

- Based on a special silane/siloxane with lower volatility
- The consistency provides with enhanced contact time

## The Effect:

- Tremendous reduction of water
- High beading effect
- High penetration depth
- No discolouring of the surface
- High speed penetration of the active content within < 20 min
- The treated surface remains coatable



# SMARTSEAL MASONRY PROTECTION CREAM – BENEFITS

## Performance of Smartseal Masonry Protection Cream:

- Outperforms all creams for hydrophobic impregnation of facades on the market.
- Optimised active content with a special molecular weight distribution:
  - Silanes for high penetration depths, Siloxanes with different molecular weights and properties for medium penetration depth and surface effects
- Start with a small test area first. Especially for the most critical substrate: Limestone

# SMARTSEAL MASONRY PROTECTION CREAM – BENEFITS

## **Re-coatability of facades treated with Smartseal Masonry Protection Cream:**

No loss of adhesion by using silicone resin emulsion paints (SREP), emulsion paints, silicate emulsion paints for coating of hydrophobic impregnated or primed surfaces.

All surface active materials (wetting agents) containing coatings are suitable. All pure mineral systems (e.g. lime wash paints, pure silicate paint, and plasters based on cementitious plasters) are not suitable as coatings for hydrophobic impregnated or primed surface.

Due to variations in paints formulations, substrate conditions and environmental factors, it is recommended to apply a test section of paint over the Smartseal Masonry Cream treated surface to check for compatibility.

# SMARTSEAL MASONRY PROTECTION CREAM – SURFACE PREPARATION

## **Preparation of a masonry surface for treatment with Smartseal Masonry Protection Cream:**

For removal of normal dirt (e.g. grease, soot, moss algae, etc.) use a high-pressure cleaner and clean at a low to medium pressure with 60°C hot water and a broad fan nozzle (not a point jet).

If the pressure is not sufficient it must be increased gradually.

No additives or cleaning agents may be added during cleaning, because surfactants increase surface hydrophilicity. Mould or fungus should be removed with a chemical cleaner specifically designed for that purpose, following the application instructions carefully, especially for neutralisation and rinsing of the substrate. Never apply silane/siloxane-based water repellents to a visibly wet or damp surface. Wait at least 48 to 72 hours of dry, sunny weather after pressure-cleaning a structure before beginning application of Smartseal Masonry Protection Cream.

# SMARTSEAL MASONRY PROTECTION CREAM – TESTING PROCEDURE – BEADING EFFECT

**1:** very good, no wetting



**2:** good, low wetting



**3:** wetting



**4:** strong wetting



**5:** completely sucked in



Testing procedure:

add a waterdrop  
to the surface  
(0,1 ml)

Evaluation right away  
and after 1 h

# SMARTSEAL MASONRY PROTECTION CREAM – TESTING PROCEDURE – WATER UPTAKE

## Capillary water absorption via immersion test (DIN 18180, EN 15148:2002):

- Apply the defined amount of the ready-to-use product to the substrate by brush
- Control applied amount by taking the weight before and after application
- Store the treated sample for 14 days at 25°C and 50% relative humidity

## Testing of the water uptake:

- Take the weight
- Immersion for 24h into water with 5 cm water column above the sample
- Reweight after: 0.5h, 1h, 4h and 24h
- As reference an untreated substrate is tested parallel

## Results:

- The tested product fulfils the requirement for good performance, if the reduction of the water uptake within 24h is > 80% compared to the untreated substrate

# SMARTSEAL MASONRY PROTECTION CREAM – TESTING PROCEDURE – PENETRATION DEPTH

## **Application of the hydrophobic agent and hardening:**

- Apply the defined amount of the ready-to-use product to the substrate
- Control applied amount by taking the weight before and after application
- For curing and development of hydrophobicity, the sample are stored for 14 days at 25°C

and 50% relative humidity

## **Measurement of the penetration depth:**

- Afterwards the samples will be broken (i.e. with a hammer) and the broken surface is wetter with coloured water. The hydrophobic zone does not absorb the coloured water but remains light and does not change appearance. The untreated, inner area, is not water repellent, absorbs water and becomes darker. So the hydrophobic zone can be measured (i.e. with a ruler or venier calipers) or it can be documented by taking a picture.

# SMARTSEAL MASONRY PROTECTION CREAM – TECHNICAL DATA SHEET

## **Characteristics**

Smartseal Masonry Protection Cream (MPC) is an aqueous, solvent based, creamy hydrophobic impregnating agent based on a mixture of silane and siloxane.

Smartseal MPC is a high quality speciality product for hydrophobic impregnation of natural mineral substrate.

## **Application**

Smartseal MPC is recommended for the hydrophobic impregnation of mineral substrates like brick, limestone and sandstone. With proper application it leads to a low water uptake, a high penetration depth and a good beading effect.

The natural appearance of the treated surface remains unchanged.

# SMARTSEAL MASONRY PROTECTION CREAM – TECHNICAL DATA SHEET

## **Processing**

Smartseal Masonry Protection Cream is best applied to the substrate by an airless sprayer, undiluted and in the desired thickness. Brushes or rollers may be used for smaller areas. Up to 100 – 200 g/m<sup>2</sup> may be applied in one operation to vertical surfaces and roofs, without loss of material.

The exact amount depends on the absorbency of the substrate.



# SMARTSEAL MASONRY PROTECTION CREAM – TECHNICAL DATA SHEET

## **Storage**

Smartseal Masonry Protection Cream has a shelf life of at least 12 months when stored between 0°C and 30°C in the tightly closed original container. The 'Best use before end date' of each batch appears on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

## **Safety Information**

Detailed safety information is contained in each material data safety sheet, which can be obtained for our sales offices.