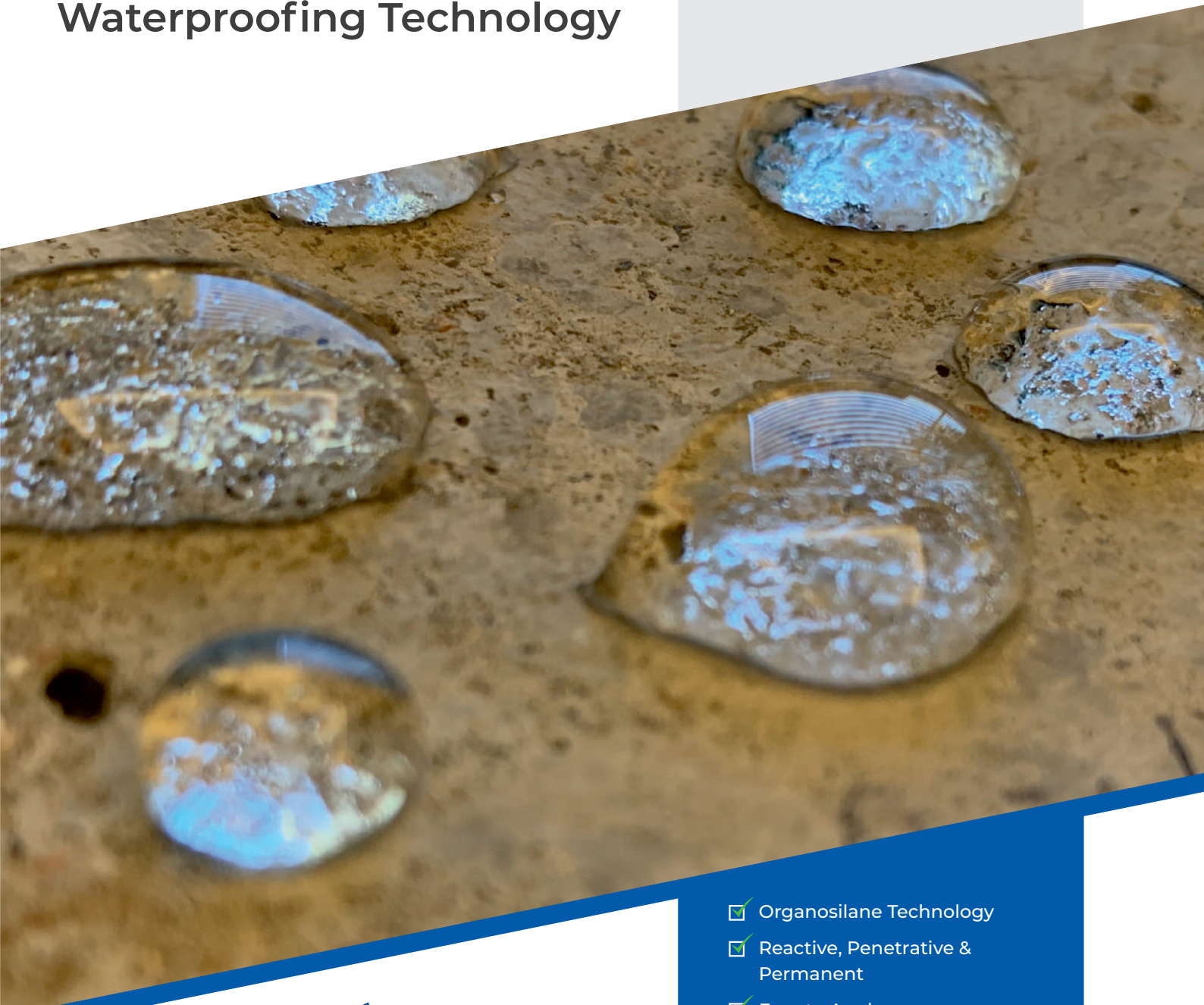


New Generation Organosilane Reactive Waterproofing Technology

Zydex
Innovating for Sustainability



ZYCOSIL **MAX** PENETRATIVE WATERPROOFING

Zycosil Max is a new generation reactive organosilane based water proofing agent that seals nanopores & nano - cracks. It is concentrated, highly penetrative & a strong water-repellent. It has an ability to penetrate up to 3-4 mm deep inside the substrate & become an integral part of the structure. Hence a membrane coat is not mandatory. Zycosil Max is water dilutable, safe and easy to apply by roller, brush or spray. It is non-leachable, UV- resistant, breathable & does not present peel-off issues like conventional polymer coatings.

FEATURES

- Organosilane Technology
- Reactive, Penetrative & Permanent
- Easy to Apply
- Breathable & UV Resistant
- Penetrates Deep up to 3-4 mm
- Suitable for Vertical and Horizontal Surfaces
- Protects Substrate from Deterioration due to Weathering
- Protects against Algae and Fungal Growth
- No Membrane Required

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www.zydexindustries.com

DESCRIPTION

ZycoSil Max is a 100% Reactive Organosilane Nano-Sealer.

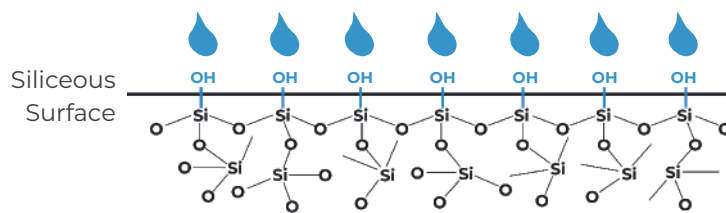
When applied on a siliceous substrate, it penetrates up to 3-4 mm inside the substrate and becomes an integral part of the structure. It converts the nature of the substrate from hydrophilic to hydrophobic. ZycoSil Max is water dilutable, safe, sprayable and easy to apply. ZycoSil Max acts like a 3-4 mm deep 'skin' (breathable) to your building as against a polymer or paint film that acts like a 'Band-Aid' on your Building. The peel-off issues are eliminated as ZycoSil Max is non-leachable & UV-Resistant. It has a dual property of preventing of ingress of liquid water while allowing moisture vapours to escape.

MECHANISM OF ACTION

ZycoSil Max penetrates up to approximately 3-4 mm into the substrate and converts the siliceous surface rich with hydrophilic silanol groups to hydrophobic alkyl siloxane groups as per the reaction below:

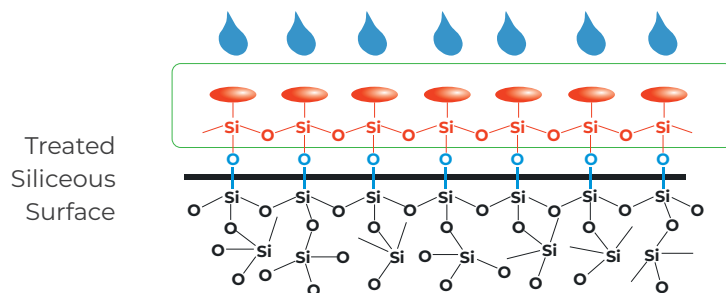
Complete drying is critical to complete the reaction and achieve water resistance.

Surface tension of the hydrophobic surface created by ZycoSil Max will ensure that water remains on the surface & does not enter into the nano pores of cementitious surface due to surface tension effects.



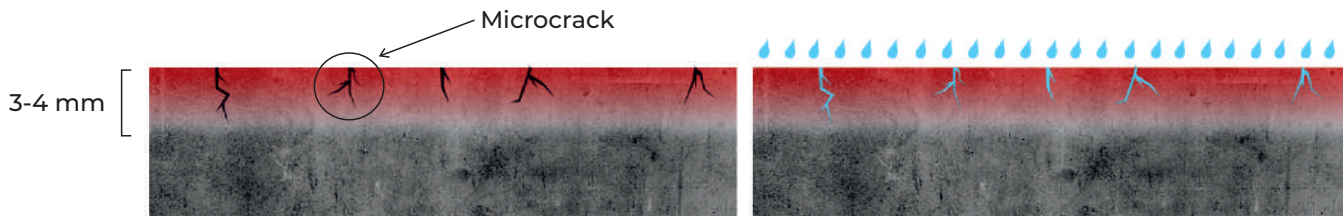
-OH groups make surface very hydrophilic (water loving):

High water permeability leads to water ingress in the building through seepage and deterioration of the plaster/concrete substrate.



Molecular level reaction (hydrophobic groups):

ZycoSil Max reacts upon contact with the surface and creates a permanently water repellent layer on its surface. The surface is subsequently rendered impermeable to water ingress.



ZycoSil Max penetrates 3-4 mm deep, whereas typical microcracks formed due to weathering (wet / dry cycles and thermal expansion / contraction) are shallower. Thus ZycoSil Max prevents water seepage without the need to use a crack bridging polymer membrane topcoat. Further, due to hydrophobicity of the ZycoSil Max treated surface the formation of microcracks is reduced substantially as the surface is now no more subjected to wet / dry cycles.

APPLICATION METHOD

Solution Preparation

ZycoSil Max must be diluted with potable water (TDS below 1000 ppm) to obtain a clear transparent solution.

Test the water quality before making ZycoSil Max solution. Take 200 gm water in a clean beaker; add 5 gm of ZycoSil Max to it under manual stirring, till ZycoSil Max dissolves. A clear solution indicates good water quality. If the sample solution turns turbid / whitish the water quality is not acceptable. In rare cases when turbidity is seen even in potable water do not use ZycoSil Max and contact Zydex representative.

Note: Due to variable porosity of concrete and cement plaster surfaces it is recommended to add 1 part of ZycoBond Max along with in 1 part of ZycoSil Max in the solution.

Table - 1

Solution Code	Application Areas	ZycoSil Max (ltrs.)	Water (ltrs.)	ZycoBond Max (ltrs.)	Total Volume (ltrs.)	Approximate Coverage (depends on the permeability of the substrate and the surface absorption)
S1	All exposed surfaces like clay roof tiles, tile joints, IPS layers, walkways, paved surfaces	1	40	0	41	25-40 m ² (270-430 ft ²)
S2	Basement, Sunks, Mother slabs, Pre Stone Cladding, Priming before IPS / Plastering / Tiles	1	40	1	42	25-40 m ² (270-430 ft ²)
S3	Stones, Plastered & Concrete structures	1	40	0	41	25-40 m ² (270-430 ft ²)
S4	Exposed Bricks/ Fair faced concrete	1	40	0	41	25-40 m ² (270-430 ft ²)
S5	Priming for Painting	1	40	2	43	80-100 m ² (860-1075 ft ²)
S6	Treatment of Honeycomb, Cracks, Cold Joints	1	40	1	42	Till saturation

Application

For effective and long term waterproofing, apply ZycoSil Max solution in the recommended dilution ratio on the area to be treated till saturation, to ensure 3 to 4 mm penetration into the substrate.

ZycoSil Max is best applied at ambient temperatures of 10 °C to 35 °C. We recommend that the application be done in the morning or evening hours, to avoid peak heat of the sun.

Horizontal Surfaces

Apply diluted ZycoSil Max solution with flood or roller application. Multiple roller passes will ensure full saturation up to 3-4 mm.

Vertical Surfaces

For achieving best performance, spray diluted ZycoSil Max solution from bottom to top.

Full saturation for the vertical surface is achieved when, with repetitive light spray (typically 2 - 3 times after every 30 - 45 seconds time interval), solution starts dripping.

Drying

ZycoSil Max treated surfaces becomes waterproof only after the water dries off completely. Check waterproofing by splashing water on the treated surface. If the water droplets remain for at least 10 to 15 minutes, waterproofing and surface curing is confirmed.

For semi-wet areas and during rainy seasons, the procedure for ZycoSil Max waterproofing application is as follows:

Depending on surface wetness and residual water absorption capacity, ZycoSil Max should be diluted with water in the ratio of 1:4 to 1:10. For quick and complete drying, use halogen lamp or hot blower on the surface. Confirm waterproofing on horizontal or vertical surface with RILEM test.

The dilution ratio and the exposure time with the halogen lamp must be decided by the applicator depending on the site conditions.

SPECIFICATIONS

Form : Pale Yellow Transparent Liquid
Viscosity @ 25°C : 100 - 500 cps
Specific Gravity : 1.18 ± 0.01 @ 30°C
Flash Point: > 75°C
Odour: Slightly Sweet
Solubility (in Water) : Easily Soluble
pH : Approx. 6 ± 1
Dilutant : Clean Potable Water TDS < 1000 ppm
pH - 6.5 to 7

Coverage

Horizontal: 24-40 m² (260-430ft²)
Vertical: 60-80 m² (650-860ft²)
Actual coverage may vary as it depends upon permeability and absorption characteristics of the substrate.



ABOUT ZYDEX

Established in 1997, Zydex is a specialty chemicals company with the purpose of innovating to create a sustainable world through conservation of resources.

Beyond construction products, Zydex offers a diverse set of chemical technologies for the textile, agriculture and pavement industries. We were recently recognised as one of the 25 Most Innovative Companies in India by the Confederation of Indian Industry (CII).

Sustainable Green Chemistry

Zydex is deeply committed to sustainable chemistries that will ensure a greener future for everyone. Our commitment has made us a pioneer in introducing non-polluting and non-hazardous technologies that conserve, protect and enhance the environment. Pursuing chemical innovations that would mean a greener, safer and more resource renewable world is our passion. Our technologies have been recognized for their contribution to sustainability and are globally accepted.



25 Most Innovative Companies of India

GLOBAL PRESENCE

