



## Complete Waterproofing for Buildings and Structures



Nanotechnology  
**ZYCO SIL**™  
Breathable Waterproofing  
Heat & UV Resistant

**Zydex**®

## WATER THE GREAT DESTROYER

An unprotected building can absorb over 1 litre of water per sq. ft. in 6 hours during 32 km per hour wind driven rain. A concrete structure will absorb almost 2 litres of water in similar conditions.

Rain water absorption causes multiple damage to the structures

### AESTHETIC DAMAGE

Efflorescence, Paint peel off / Blisters, Fungus, Dirt pick up

### STRUCTURAL DAMAGE

Cement loses its strength due to :

- ASR (Alkali Silica Reaction)
- Freezing / Thawing
- Carbonation / Acid Rain / Sulphate attack
- Corrosion of reinforced steel bars



Capillary rise



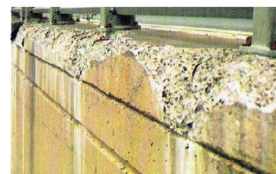
Fungus



Corrosion



Paint peel off

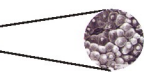


Carbonation



Efflorescence

NATURE'S NANOTECHNOLOGY



Nano hydrophobes that breathe

Zycosil mimics water repellency mechanism of the lotus leaf

FEATURES

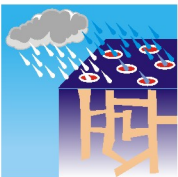
- Organo Silane, water soluble water proofing agent
- Water repellency by deep penetration into substrate
- UV & Thermal stable (20 + years)
- Easy application (Spray/Brush/Roller)
- Also protects against
  - Fungus, Efflorescence Leaching , Staining
  - Premature ageing, Scaling & Spalling
  - Salt burst, Corrosion

COMPARATIVE PERFORMANCE

RILEM TEST		PROPERTY	FILM FORMERS	ZYCOSIL™
		Size (nm)	100 -1000 nm	4-6 nm
		Water Proofing Mechanism	Coating and closing pores	Nano level Hydrophobation
		Diluent	Hydrocarbon/ Alcohols	Water
		Simulated 10 Years Stability Test	Loses 90% protection	Loses only 2% protection
		UV Stability	Not Stable	Stable
		Breathability	Not breathable	Breathable
		Depth Of Penetration (mm)	< 0.5 mm	Upto 5 mm
		Fungus / Mildew Protection	Poor	Excellent
		Corrosion	Limited Protection	Long Term Protection
		Micro-cracks	Not protected	Long Term Protection
		Durability	2-5 Years	20+ Years

**RILEM TEST METHOD 11.4 :** Is the final test of water proofing. Fix the RILEM tube on the substrate surface & fill up water upto zero ml mark and measure rate of water absorption. Hydraulic pressure generated on substrate surface is equivalent to 140 km/ hr. wind driven rain. Check the water level after 20 minute and observe substantial reduction in water absorption.

ZYCOSIL (PENETRANT) SUPERIORITY OVER FILM FORMERS



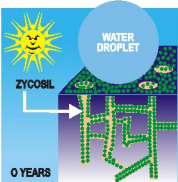
Rain water seepage through pores & micro cracks



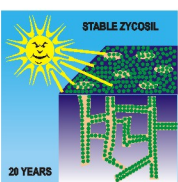
Surface film of film formers No penetration due to micro particle size



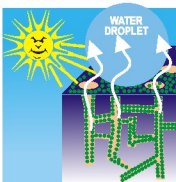
Crack formation due to wind erosion & thermal degradation causing water seepage



Zycosil penetrates into pores of 5-10 nm, making them water repellent



Zycosil is stable against UV & thermal degradation



Water Proofing that Breathes

## APPLICATIONS

- Basements / Foundations
- Bridges, Flyovers & Tunnels
- Hospitals / Clinics
- Docks / Shipyards
- Hotels / Restaurants
- Railroad sleepers
- Concrete paved areas
- Cooling towers
- Cement sheets, Pipes
- Bricks / Stones facades
- Clay / Cement Pots
- Paint primer

## Technical specifications

**Colour** : Pale Yellow **Form** : Liquid **Density** : (25°C) 1.07

**Flash Point** : >100°C **Solubility** : Water soluble

**Compliance** : Zycosil complies with the following

IS 12027-1987, IS 12054-1987

IS 3067-1987, IS 13182-1991

Surfaces	Horizontal	Vertical
<b>Dilution</b>	1:10	1:20
<b>Coverage</b> sq. mtr / kg.	20-30	50-60

## Storage & handling

- Shelf life is 2 Years.
- Store between 15 - 45°C temperature, away from rain or standing water, below 10°C it has freezing tendency.
- Keep the container tightly closed when not in use.

## Application Instructions

- Zycosil is suitable for surfaces capable of water absorption.
- Always dilute with clean water. Avoid hard water.
- Use the diluted solution within 48 hours. Do not store.

**Packing** : 100 gms., 250 gms., 1 kg, 5 kg.

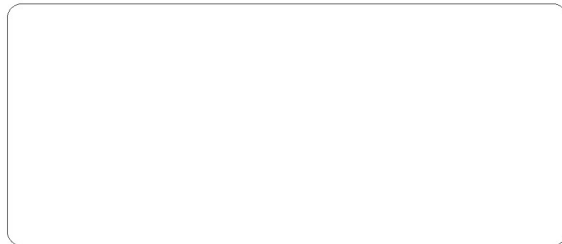
## GLOBAL PRESENCE



Zydex set up by Dr. Ajay Ranka (Ph.D - Polymer Sciences & Engineering, USA) is today a global leader in speciality polymers. Our focus is on research in polymers & surfaces. Our R&D team has developed eco-friendly technologies for the first time in the world

- Water based speciality polymers
- PVC free inks
- Fuel efficiency enhancers
- Nano technology in construction

We hold many Indian & US patents. We have a computerized manufacturing and a state-of-the-art R&D facility. Dr. Prakash Mehta (Ph.D Chemistry, USA), co-inventor of Zycosil technology heads the Silane & Silicone division.



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