



## **Application Procedures & Guidelines**

### **How Does Zycosil work?**

- Zycosil can penetrate into the substrates upto 2-3mm depending on the porosity of the substrate. The product changes the cementitious substrates water repellent.
- Zycosil because of its nano molecular size, penetrates deep into the inorganic substrate thereby providing water repellency at a molecular level. It keeps the structure breathable and water repellent at the same time. It is UV stable and resistant to Acid. Alkali and Microbes.

### **Water proofing new buildings**

While constructing column:

- Apply diluted Zycosil (1:10) and dry it.
- Apply Zycoprime and then pour concrete for new column.

### **Ground and plinth level:**

We suggest the following sequence to obtain optimum results.

1. Apply diluted Zycosil (1:10) on the three sides of the brick structure till it stops absorbing the solution (i.e. till saturation).

11 ltr of diluted solution should cover 20 - 25 sq. mtrs.

After 24 hr drying apply Zycoprime and dry for 48 hrs.  
Now start further construction.

Additional steps for costal areas / areas with high ground water table / buildings surrounded by garden.

Apply diluted Zycosil (1:10) on the coping.  
Apply Zycoprime and dry for 48 hrs and start construction further.  
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### **Ground floor:**

- a) Prior to fixing carpets:



Prepare a smooth cementitious layer (IPS)  
Then clean the surface with water and allow it to dry overnight.  
Apply diluted Zycosil (1:10)  
(Do ritem and 1 mm abrasion test)

- b) Prior to fixing non glazed tiles or marble or granite:  
Apply diluted Zycosil (1:20) on back side of tile / stones / marble / granite.  
Apply Zycoprime and then fix the treated tiles.

### **Exterior wall:**

- a) Exposed brick:  
Clean the surface with water spray and allow it to dry over night.  
Then apply diluted Zycosil (1:20)
- b) Smooth / rough plaster with grey / white cement:  
Clean the surface with water spray and allow it to dry over night.  
Then apply diluted Zycosil (1:20)  
Zycosil treated cement paint will maintain its fresh and clean look for at least 7 -10 years and may extend upto 20 years.  
This will also keep the building breathable ensuring reduced micro cracking on the exterior surface.  
Note: For costal areas / areas where rainfall is above 2000 mm, use diluted Zycosil (1:10)

### Exterior claddings (Artificial / natural stones):

- a. For water proofing of exterior walls with cladding:  
Clean the surface with water spray and allow it to dry overnight  
Apply diluted Zycosil (1:20)  
Apply Zycoprime  
Do artificial / natural stone fixing  
Apply diluted Zycosil (1:20) between the gaps of stone cladding  
Immediately fill the gap with cement putty (?) wet-on-wet or Zycoprime  
Then cure for 4 -7 days  
Finally apply diluted Zycosil (1:20) on the claddings.
- b. For water repellency of exterior walls with cladding:  
Clean the surface with water spray and allow it to dry overnight  
Apply diluted Zycosil (1:20) on the cleaned surface.

### **Internal walls:**



This optional procedure ensures dual protection.

Smooth plaster:

First apply diluted Zycosil (1:20)

Prepare the surface with putty / primer / surfacer

Then apply acrylic / solvent / water based paint.

**Utilities:** (Bath room / Kitchen / wash area)

a. Sunken concrete slab / floor concrete slab:

Apply diluted Zycosil (1:10) by flooding till saturation. Apply Zycoprime to ensure proper bonding of floor finishes. Do the floor finishing.

The ceiling below all utilities like bathroom / slab / wash area / above ground floor should be treated with diluted Zycosil (1:10) for dual protection.

The above procedure can eliminate India water proofing treatment.  
(Description to be made)

b. Side walls:

Apply diluted Zycosil (1:20) on the plastered walls.

Apply Zycoprime (for ensuring proper tiles fixing)

Affix tiles fittings / wall finishing.

Low cost option: In case you are not treating vertical walls with Zycosil then at least treat upto 6" height from bottom.

c. Pipe Niches

Spray diluted Zycosil (1:20) in inches (cavities)

Then apply Zycoprime by brush

Fix the piping

Do the plastering and curing

Finally apply diluted Zycosil (1:20)

**Joints (External - Doors / windows /AC frame):**



- Treat the surface in the frame area completely along with cavity of the broken area with diluted Zycosil (1:10) prior to fixing door or window frame.
- Apply Zycoprime in cavity area only.
- Fix the frame, cure the cemented surface.
- Apply diluted Zycosil (1:10), to ensure water repellency on cemented surface.

Insert diagram

### **Conceal wiring /piping niches**

- When you puncture the building structure or chisel a cavity for plumbing / electrical conduits, make sure the surface should be treated with diluted Zycosil (1:20)
- Apply Zycoprime by brush and lay the pipes / conduits followed by plaster.
- Finally apply diluted Zycosil (1:20).

### **Water tank (Under ground) /swimming pool / basement**

- Apply diluted Zycosil (1:10) on rough plaster (allow it to dry for 24 hrs.)
- Then apply Zycofil (allow it to dry for 24 hrs)
- Do smooth plaster work / cement slurry / tile fixing.
- Then again treat with diluted Zycosil (1:10) on cement surface.

### **Water tank (Over head):**

- Apply diluted Zycosil (1:10) on rough plaster (allow it to dry for 72hr)
- Then apply Zycoprime
- Then do smooth plaster work / cement slurry / tile fixing.
- Then again treat inner wall with diluted Zycosil (1:10) on the cemented surface and also treat exterior wall.

### **Roof top:**

- a. Cement sheet (for new sheets):  
Apply diluted Zycosil (1:10)
- b. Sloping slab with roof tile / natural stone :
  - a. Apply diluted Zycosil (1:10) before laying down clay / roof tiles.
  - b. Apply Zycoprime
  - c. Now, fix the roof tiles / natural stone.



- d. Spray diluted Zycosil (1:20) on roof tiles / natural stone for maintaining aesthetic look by preventing fungus formation.
- c. Horizontal IPS:
  - a. Apply diluted Zycosil (1:10) on cement slab followed by Zycoprime application.
  - b. Do the IPS flooring with proper slope
  - c. Apply diluted Zycosil (1:10) on it.
- d. China mosaic:
  - a. Apply diluted Zycosil (1:10) followed by Zycoprime
  - b. Fix china mosaic with cement
  - c. Then apply diluted Zycosil (1:10) through out.
- e. Drain pipes: Before the pipe is installed make sure the broken area is treated with diluted Zycosil (1:10) followed by Zycoprime before fixing the pipe with cement mixture. After curing apply diluted Zycosil (1:10) to ensure double protection.
- f. Parapet wall (Boundary wall on terrace)
  - a. Clean the surface (Inner / outer side / top of parapet wall) with jet of water and allow it to dry over night.
  - b. Observe / identify the cracks
  - c. Treat every identifiable crack by filling with diluted Zycosil (1:10) till it stop absorbing solution.
  - d. Seal the crack with suitable material.
  - e. Finally apply diluted Zycosil (1:10)
  - f. Parapet wall treatment is critical to ensure success of water proofing.
- g. Garden  
Cement concrete paved area / brick area / stone / clay pots etc. can all be treated with diluted Zycosil (1:10) to make it water repellent. Treatment ensures elimination / minimizing growth of fungus there by ensuring retention of aesthetic.

### **Water proofing of existing building:**

- Crack treatment:  
Treat every identifiable crack by flooding and filling it with diluted Zycosil (1:20) till it stops absorbing solution. This is going to ensure the entire internal crack surface is now water repellent / water proofed. Seal the cracks with any good quality putty available in market. This will ensure that even if surface joints opens up after 3-5 years it will ensure elimination of water seepage.



Technique: To hold Zycosil solution; partly close crack fill the solution, keep closing the cavity and ensure complete flooding was done. After putty has dried apply Zycosil solution again.

- Roof Seepage:
  - Clean the roof and parapet walls (follow cleaning instructions).
  - Observe / identify the cracks.
  - (1:20) till it stops absorbing solution fill the cracks with putty and dry
  - Now, apply diluted Zycosil (1:10). (Make sure you have not left any surface untreated).
  - Through mild hammering techniques ensure that there is no hollow space beneath, if there is, then break the surface and inject with appropriate grouting material, cure and proceed with Zycosil treatment.
  - Make sure that water outlet areas are properly treated with Zycosil.
  
- Internal wall seepage:
  - Remove the existing paint till the cement plaster is exposed.
  - Clean the surface with jet of water and allow to dry overnight.
  - Apply diluted Zycosil (1:20).
  - Prepare the surface by following primer / putty (conventional / acrylic ready made putty) / primer sequence.
  - Apply distemper / acrylic paint.

**Stone treatment for water repellency / water proofing: to maintain fresh and clean look (aesthetic)**

Stones are used for temple construction and monuments / house cladding etc.

Type of stone:

- porous stone : sandstone, red stone, sand stone, hard stone, lime stone,
  - Clean the surface with a proper technique.
  - apply diluted Zycosil (1:10)

**Exterior walls:**

**For Brick / Cement painted surface / cement plaster**

- Do not apply Zycosil on surface which does not absorb water.
- Clean the outer surface with high pressure jet pump (30 -100 kg / sq.cm)
- In case of heavy fungus / mold affected surfaces : apply 2% sodium hypochlorite (Bleach) solution by brush or spray.
- Allow it to soak for one hour and then clean with high pressure water jet spray.
- Treat cracks by following crack treatment procedure.



- Fill all the cracks by suitable crack filler and let it dry.
- Apply diluted Zycosil (1:20).

### **Wet wall treatment: (Internal / External)**

Dampness: (Instant solution for water proofing in rainy season)

- Clean / scrape the surface to expose the plaster.
- Apply diluted Zycosil (1:20)

For internal walls use halogen lamp to dry the wet surface. This will allow the seepage to stop from inside. After ensuring that the application internally or externally has helped to stop the leakage. Decide the further course of action with the help of our application. (The product will start showing water repellency after complete drying).

### **Capillary rise through walls:**

- Being Nano technology water based product, this is the only product which may be absorbed completely in the structure and will make it water repellent / water proofed.
- Consumption of diluted Zycosil (1:20) can not be estimated since it depends on internal porosity and cracks.
- Preferred period for this treatment : Dry season (typically winter / summer months)
- Drill 8mm dia holes at 30deg angle and 4 cms apart throughout the wall-floor junction. Depth of these holes should be almost equal to the wall width. Inject diluted Zycosil (1:20) till the structure is saturated. Now seal the holes with cement or putty and allow the area to dry.
- For coastal areas / building surrounded by garden use diluted Zycosil. (1:10). Make sure completely dry wall junction available other wise do not proceed.
- To restore aesthetic of the affected wall area, remove paint from the wall above the ground, till cement plaster is exposed.
- Apply diluted Zycosil (1:10) and then paint as usual.

Diagram for application:

### **Water tank (existing):**



- Apply diluted Zycosil (1:10) on the internal and exterior walls
- Allow it to dry for 72 hrs.
- Apply Zycofil on the internal walls.

#### **Preventive maintenance:**

Most ageing structures show cracks due to improper material or workmanship, earth settlements, freeze thaw cycles, earthquakes etc. Though Zycosil treated building structures show remarkably reduced micro crack formation, preventive maintenance is recommended.

Every year, inspect the roof, slab joints, and vertical walls; fill the cracks with diluted Zycosil (1:10) and then seal the cracks with cement putty, cure for 3 – 4 days and then apply diluted Zycosil (1:10). We offer a special 250ml “Maintenance Pack” for such routine maintenance.

#### **Important Application instructions:**

##### **Solution preparation:**

Always add Zycosil to water. Avoid very hard water (>1000 ppm) Zycosil solution must be water clear (transparent). Do not store diluted Zycosil beyond 48hrs.

##### **Pre application:**

New concrete should be cured completely. All topping / finishing must be completed and allowed to be cured. In case of rains, allow the structure to dry for atleast 24hrs, before Zycosil application.

##### **Surface preparation:**

Clean the surface thoroughly. Remove dirt, dust, effloresce, mould, salt, grease, oil, asphalt, curing compound, paint, coating and any other foreign material. Repair and cure visible cracks (>0.5mm)

##### **Painting guidelines:**

Zycosil improves the coverage and bonding of exterior / interior grade, water based acrylic paints. Solvent or water based acrylic paints should be applied AFTER Zycosil application. Cement paint should be applied BEFORE Zycosil application.

##### **CAUTION:**



Under cold temperature storage; the product may show freezing tendency. In such a case, before using, allow it to thaw – (till a clear liquid is seen) at room temperature and then dissolve in the water.

Never stop Zycosil application halfway. Once the surface has dried; it will not allow further penetration of Zycosil solution.

**Note:** Always try to treat the roof top and outside walls with diluted Zycosil to minimize the water entry into the building structure. By doing so; you create a proper envelope of Zycosil over the building. Thus a dry structure is created which act as a sink for water absorption; even if water enters from new untreated micro cracks. This will cause minimum damage and preserve the structure.