

## TECHREPEL SILICONE BASED CLEAR WATER REPELLENT

### DESCRIPTION

**TECHREPEL** is a single component silicone based clear water repellent available in water based (WB-3) and solvent based (SB) grades. TECHREPEL is recommended for a “Hydrophobisation” (water repellency) of facades.

Damage to façade is always due to moisture, rain and surface water. Salt water damage occurs in porous building materials, only when moisture is present. The sources of saltation are deicing salts, rising dampness and reaction between the binder used in façade materials and paints. In addition to that, building materials have an inherent salt content. The moisture transports this salts to the surface of the substrate where it crystallizes out. Salts are not only deposited on the surface but it also causes hydration and crystallization pressure. This built up finally led to embrittlement and crumbling away of the surface. Acid rain i.e. sulphuric acid is a by product in the form of sulphur dioxide by burning of industrial fuels, bound to particle of dust and droplets of water, and is the primary cause for corrosion. Sulphuric acid reacts with the carbonates, the binder in mortars, lime washes, concrete, stones etc. The resultant formation is gypsum, which has a greater volume and generates bursting forces.

Attack by moss and microorganisms such as fungi and algae which are the consequences of protected wetting of façade surfaces. The mentioned facade damages can be diminished by impregnation with water repellent agents. The main aim of this is to form “hydrophobic” or dry zone on the surface. The dry zones are not ideal for biotopes mosses, fungi, algae.

The silicon molecules of TECHREPEL do not clog the pores and so the surface retains its permeability to water vapour and “breathes”. Therefore treated buildings do not suffer from condensation damage. Buildings treated with TECHREPEL may absorb very little water and can release it again readily in dryer conditions.

### FEATURES / ADVANTAGES

- Appearance: clear
- Easily applicable by brush, spray or roller
- Impermeable. Prevents penetration of water and moisture through the surface
- It aids in retaining the heat insulation properties of the wall because loss of heat through the wet brick is 1 ½ times greater than when it is dry
- It protects the surface from attack of salty and acidified atmosphere
- It prevents formation of efflorescence
- It prevents the surface damage from water and frost attack
- “Microporous” Allows the substrate to breathe (good water permeability)
- Prevents the growth of microorganisms such as fungi and algae
- Their low viscosity and surface tension enable them to penetrate deeply in the material
- Excellent resistance to UV rays and weathering conditions
- It performs well in a temperature ranging from -20° C to 80° C.
- It performs well on alkaline substrates

## TECHREPEL

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### TYPICAL APPLICATIONS

TECHREPEL is highly recommended for impregnation of external vertical facades and steeply sloping surfaces.

#### TECHREPL WB 3- WATER BASED

- Impregnation of alkaline substrates, pH value upto 9
- Absorbent (porous) substrates
- Brick work
- Highly absorbent brick facing
- Sand lime brick work
- Ceramic articles
- Aerated (gas) concrete
- Cement plaster
- Cement paint painted substrates
- Clay tiles
- Sandstone

#### TECHREPL SB - SOLVENT BASED

- Impregnation of highly alkaline substrates, pH value up to 14
- Performs well on low absorbent substrates (less porous)
- Concrete rendering e.g. bridges, new/old.
- Concrete facing buildings.
- Natural Stones.
- Pre fabricated components.
- Clinker brickwork. (weakly absorbent)
- Ceramic tiles (weakly absorbent)
- Natural Stones, Marbles & Asbestos cement.

### TYPICAL CHARACTERISTICS

	TECHREPEL WB-3	TECHREPEL SB
Nature	single component	single component
Color	translucent liquid	pale yellow clear liquid
Viscosity of flow cup B4 at 30 <sup>0</sup> C, seconds	13±5	13±2

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Specific gravity, at 30 <sup>0</sup> C gm. /cc	1.3 ± 0.02	0.85 ± 0.02
pH value	12-14	7-8
Dilution ratio	1 ltr to be diluted with 9 ltr of water	ready to use
Intercoat period	immediate wet on wet	immediate wet on wet
Coverage	14-18.60 sq. mtr.	55-60 sq. ft./lit/coat
Water repellency	excellent	excellent
Breathing efficiency %	min 70	min 75
UV resistance & weather durability	excellent	excellent
Efflorescence resistance	excellent	excellent

**SPECIFICATION COMPLIES**

It complies –British Standards specifications BS: 6477-1984

**DIRECTION FOR USE**

1. Surface penetration is most important step before application to get best results and avoid failure.
2. The surface must be free from any loose materials, crumbling powdery encrusted walls, fungus, moss, oil, grease and mould release agents.
3. Clean the surface using scrappers and wire brushes.
4. Then clean the walls with high pressure water and wait for 2 days for the surface to dry.
5. The walls must be dry before the application.
6. Use of acidic and alkaline chemicals, detergents, cationic surfactants should be avoided.
7. It is advisable to wait for 28 days for curing the fresh masonry/ new concrete.

**METHOD OF APPLICATION**

Visible cracks must be sealed by Techseal polysulphide, or RTV silicone or polyurethane sealant and primer RDL 942. These sealants are not attacked by the repellent Techrepel. Brush application is the simplest method. Flat brushes or rollers can be used for application, while application with brush make sure that sufficient solution is applied, as the success or failure of

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such treatment depends on this factor.

Flooding method is used for large areas. Ordinary spraying devices or airless spray can be used. Spraying pressure should be as low as possible and should gradually merge into flooding. It is advisable to apply 2-7 coats in case of highly absorbent surfaces. Coats can be applied wet on wet.

**Whichever the method of application, the water repellent must be applied from bottom to upwards until the surface is saturated.**

The repellent should drip down 30-40 cm

### **CLEANING OF THE TOOLS AND THE EQUIPMENT**

Tap water can be used to clean the tools of water based -TECHREPEL WB 3 and mineral turpentine or kerosene can be used to clean tools for solvent based -TECHREPEL SB.

### **STORAGE AND SHELF LIFE**

- In order to preserve all the properties, store the material in the original unopened containers at the temperature between -20<sup>0</sup> C and 30<sup>0</sup> C. It must be used as soon as the container is opened.
- The shelf life of TECHREPEL is 2 years from the date of manufacture if stored as per above mentioned conditions.

### **PACKING**

1 liter, 5 liters, 20 liters

### **PRECAUTIONS (HEALTH AND SAFETY)**

- Some people are sensitive to resins solvents and its vapours, so it is advisable to use hand gloves and goggles during application. In case of accidental contact with the skin or mucous membranes, wash thoroughly with water. In case of contact with eyes, wash immediately with water and consult the doctor.