

Evercrete



Evercrete Background



1942

Established Head Office in New York, U.S.A.

All products originate from the USA and have Government approvals.

1996

Established Asia Pacific Office in Hong Kong.

1998

Entered Asian region with distribution in Singapore, Malaysia, P. R. China, Taiwan, Philippines, India, Vietnam and Korea etc..

2004

Entered Middle East-distribution started in U.A.E., Iran and Iraq. Exhibited in Big 5, Dubai and Roadex, Abu Dhabi.



Evercrete Milestone

2008

Evercrete joins as member of the United States Green Building Council.

2011

Creating a New Range of Products: the Cementitious. Extended the Middle East presence with a master distributor in Lebanon.

2013

Entered the South American market through Brazil.

2014

Established Evercrete's Asia Offices in India and Philippines.



Test Report

Approved, Tested and Used by:

AASHTO American Association of State Highway
and Transportation Officials

ASTM American Standard of Testing Materials

BSI British Standard Institution

WHO World Health Organization

VDOT Virginia Department of Transportation

HYD Hong Kong Highways Department
Bridges and Structures Division

DMRC Delhi Metro Rail Corporation

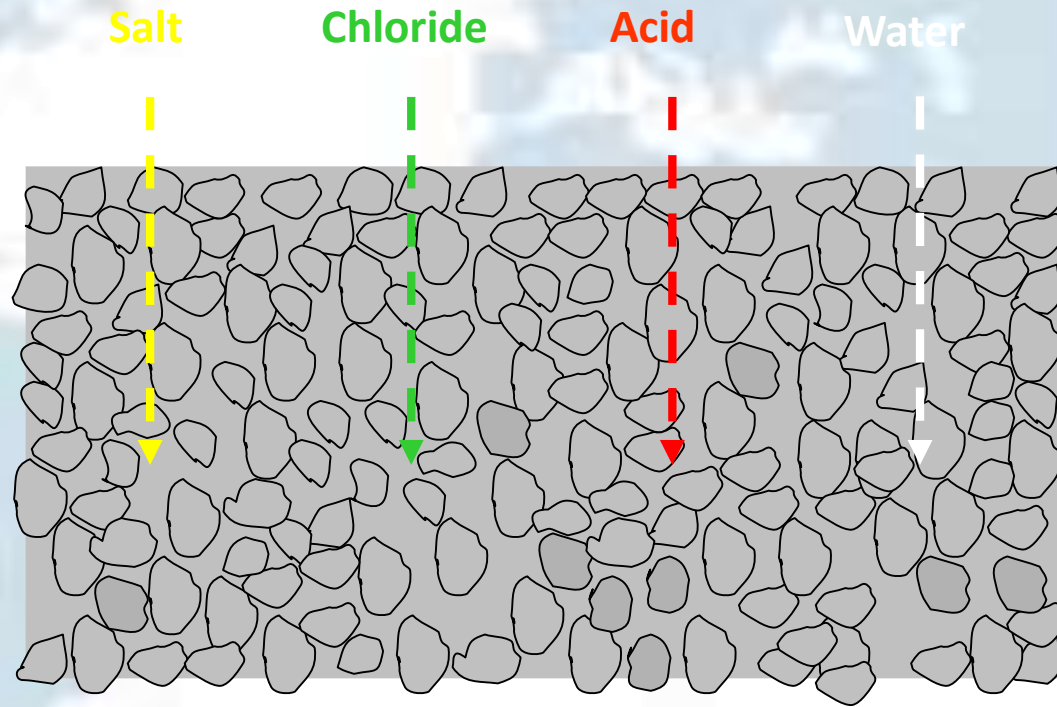


What is Concrete Deterioration?

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Concrete Deterioration

Concrete Deterioration occurs when it is exposed to weather, water or chemicals over an extended period of time. Deterioration can result in loss of strength and create unsafe conditions.



What is Concrete Deterioration?

Concrete Deterioration

As a result of concrete deterioration, the concrete slabs or concrete structures (your investment / properties) become as illustrated below-



Factors causing Concrete Deterioration

Factors causing Concrete Deterioration?

The following factors cause Concrete Deterioration:

1. Alkali Silica Reaction
2. Acid Attack
3. Carbonation
4. Freeze / Thaw Action
5. Water Leakage

Factors causing Concrete Deterioration?

The following are the main factors causing Concrete Deterioration:

1. Alkali Silica Reaction
2. Acid Attack
3. Carbonation

The above 3 factors happen due the presence of Calcium Hydroxide – $\text{Ca}(\text{OH})_2$ inside the concrete (cement)

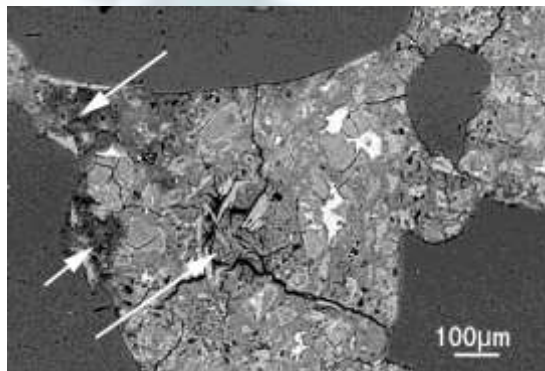
CAUSES & EFFECTS OF ASR- ALKALI SILICA REACTION IN CONCRETE

Hydroxyl ions in the alkaline cement pores in the concrete react with reactive silica in the aggregates (e.g. chert, quartzite, opal, strained Quartz crystals).

A gel is produced which increases in volume by absorbing water & hence exerts an expansive pressure.

Result : Serious Expansion & Cracking in the concrete

In concrete without reinforcement ASR causes characteristic “MAP CRACKING”



EFFECTS OF SALTS, ACIDS & CHLORIDES ON CONCRETE

Portland Cement, the “binding” component in concrete (other components being aggregates & Water) has a **PH** approaching 12 which makes it very alkaline.

In order for the cement to hold together the other components, it is important for it to remain at or near a **PH** of 12

When salt(PH of roughly 6-7) , other acids, such as acid rain etc, are introduced onto the concrete, they enter the small pores & micro cracks of the concrete & attack the surrounding materials, lowering their **PH**.

As the PH is lowered, the cement’s ability to hold things is compromised.

Results : Exposed to acidic environments for a long period of time-all that will be left will be sand & grit.





EFFECTS OF CARBONATION ON CONCRETE

Carbonation is a reaction between the cement in concrete & carbon dioxide in the air.

Carbonation progressively lowers the PH in concrete, though the process is somewhat slow (about 6 years to progress 50mm or 2 inches)

Result: When carbonation (lowered PH) reaches the level of steel reinforcement, it attacks the thin protective layers of iron oxide surrounding the reinforcement & initiates corrosion. Since steel can expand 6 times its size when corroded, resulting pressure causes the surrounding concrete to crack & break.

In Structural Concrete, this can result in Structural failure.

Factors causing Concrete Deterioration?

The following factors also cause Concrete Deterioration:

4. Freeze / Thaw Action
5. Water Leakage

The above 2 factors **happen** because the water molecules penetrate into the concrete through unseen small voids / pores.



EFFECTS OF FREEZE/THAW ON CONCRETE

Deterioration of concrete from freeze /thaw occurs when the concrete is Critically Saturated (91%) of its pores are filled with water.

When H₂O freezes to ice it occupies 9% more volume than that of water. If there is no space for this volume expansion in a porous, water containing material like concrete, freezing causes distress in the concrete.

Result: The Critically Saturated distressed concrete from freezing & thawing. From its first cycle & through successive winter seasons, it results in repeated loss of concrete surface.

Evercrete Product & Solution



EVERCRETE DEEP PENETRATING SEALER (DPS)

Evercrete DPS is an environmentally friendly, non-toxic, non-flammable, odorless, clear, water-soluble liquid compound which is safe and easy to use.

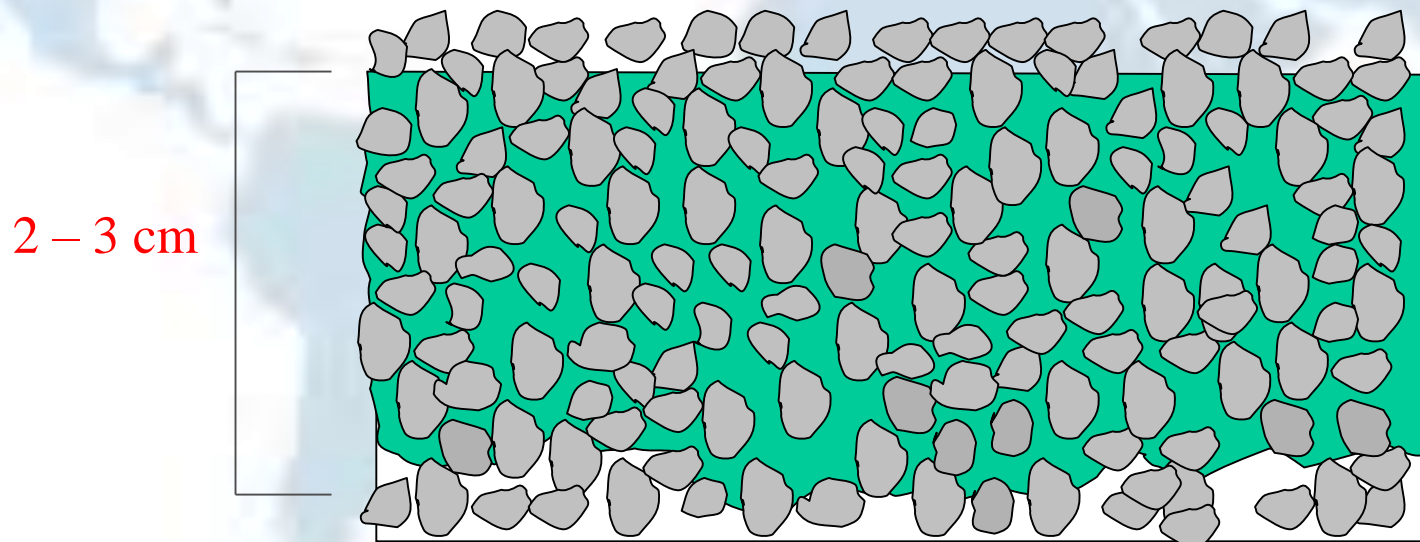
Evercrete DPS outlasts and outperforms every other sealant available today. It is inorganic and based on natural minerals, affecting neither your health nor the environment. Evercrete DPS can be stored for extended periods.

Evercrete Deep Penetrating Sealer

How Does It Work?

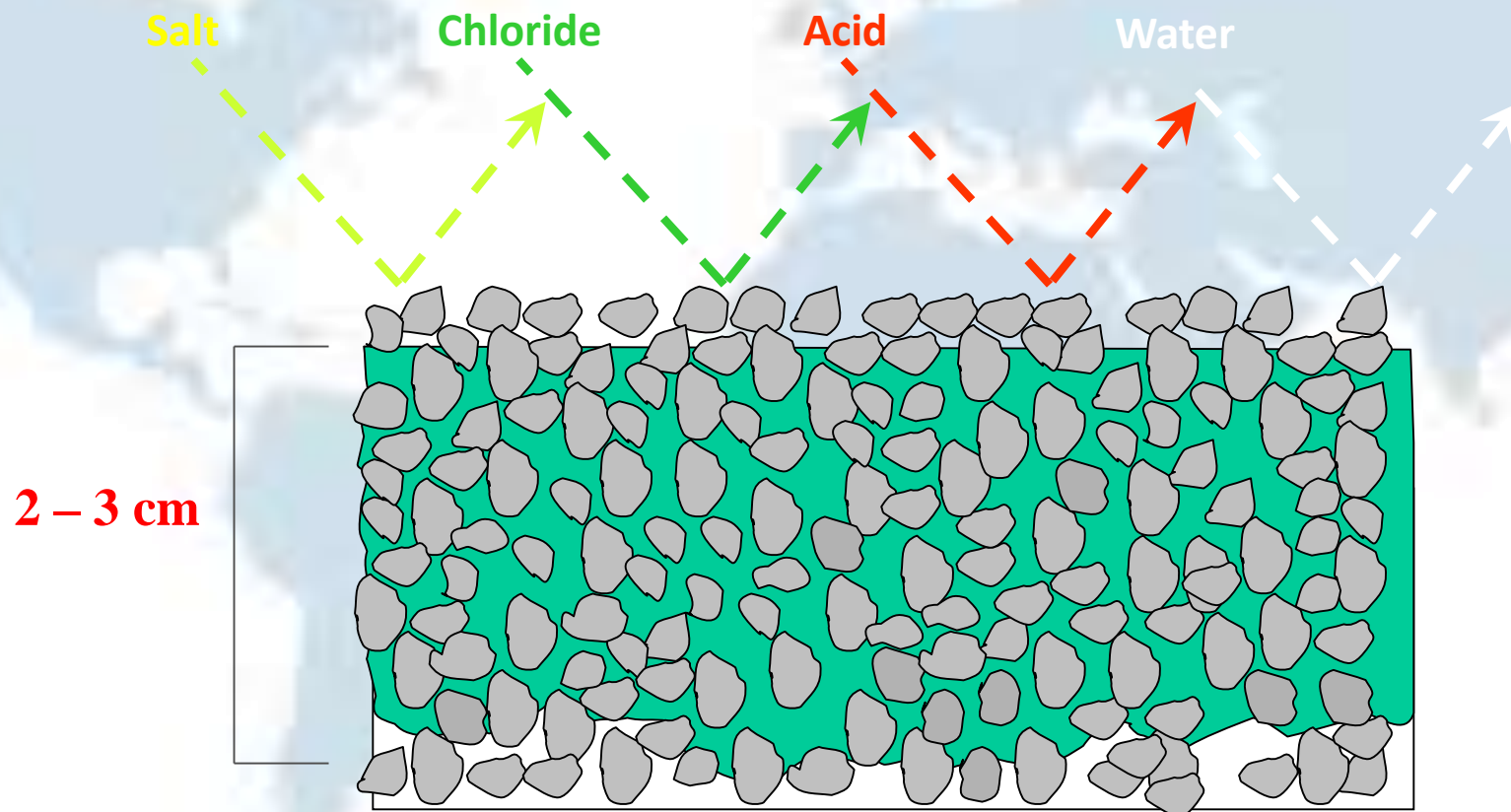
When sprayed onto hardened concrete, **Evercrete DPS** penetrates the surface to become an integral part of the concrete by chemically reacting with the calcium hydroxide (CaOH_2) or sodium & potassium present in the concrete to form sodium silicate hydrate, which has both cementing and waterproofing properties. A non-soluble seal is formed within the pores and capillaries of the concrete, permanently sealing it against the ingress of moisture yet allowing the concrete to breath.

The Evercrete DPS reaction takes place below the concrete surface and does therefore not affect the concrete's natural characteristics.



Evercrete Deep Penetrating Sealer

How Does It Work?



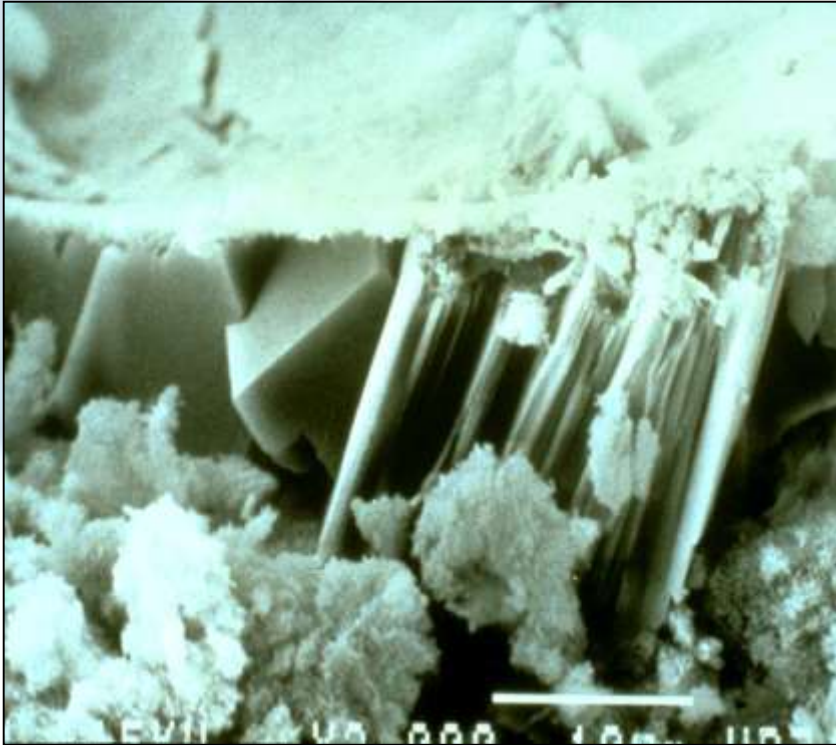
Evercrete Deep Penetrating Sealer



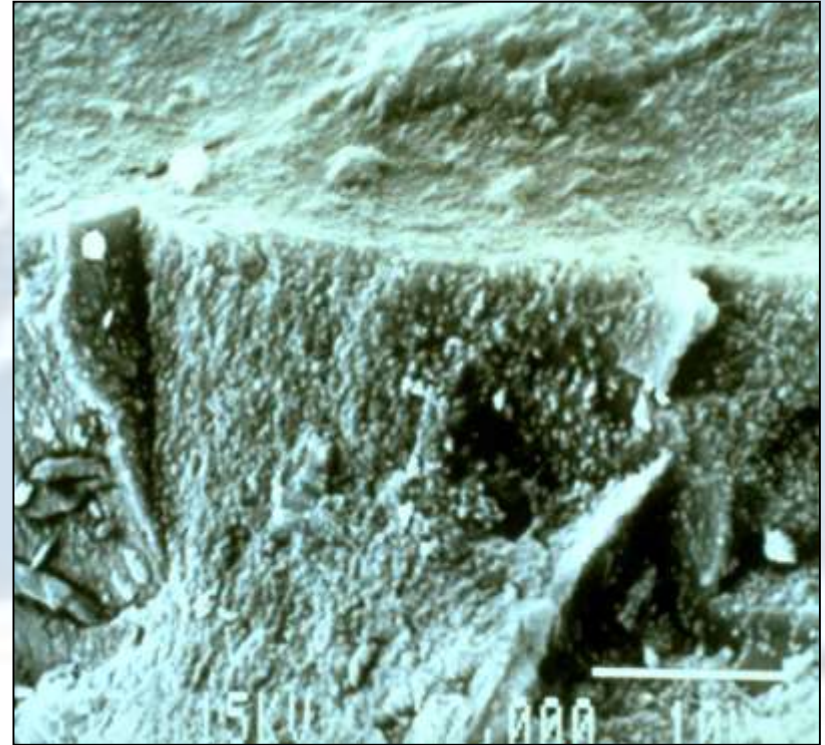
Voids in the microstructure of hydrated cement
that can be sealed using Deep Penetrating Sealer

Scale: 1:5000mm

Evercrete DPS: Physical Effect



Untreated Concrete



Treated with Evercrete DPS

The presence of any type of very small particles will improve concrete properties. This effect is termed either “particle packing” or “micro filling”.

Evercrete Deep Penetrating Sealer

Approved by American Association of State Highway and Transportation Officials (AASHTO)

Determination of Water Absorption in accordance with AASHTO TP50-95

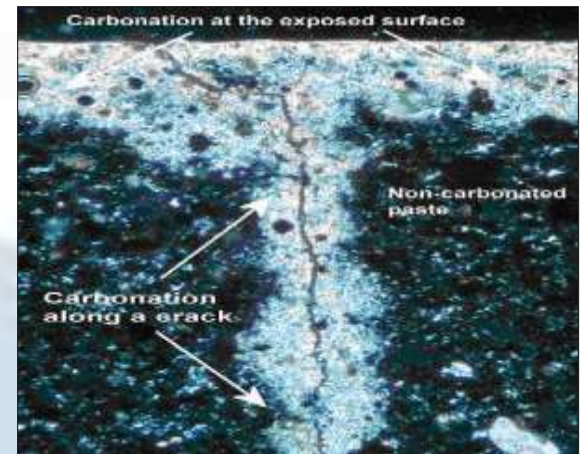
Results:

Concrete treated with Evercrete DPS Concrete Sealer, achieved an AASHTO category "**Good Sealer**", when tested in accordance with AASHTO Designation TP50-95. "Good Sealer" being the top classification for best performance for a waterproofing sealer.



Resistance Carbonation

Carbonation occurs when carbon dioxide (CO₂) from the air penetrates the concrete and reacts with hydroxides, to form carbonates. Due to this reaction, **it reduces the PH of the concrete to as low as PH7.5** At this level, the passive film on the steel is not stable or destroyed. Therefore, corrosion occurs. Carbonation also results in micro-cracks which provides opportunities for CO₂, moisture and salt to penetrate deeper into the concrete, leading to corrosion of steel reinforcement which is a common cause of degradation of concrete structures.



**Tested in accordance with
BS EN 13295**

Depth of Carbonation (0 day)

Depth of Carbonation (56 days)

Untreated Concrete

<0.5mm

0.9mm

Concrete treated with DPS

<0.5mm

<0.5mm

Tested in accordance with BS EN 13295, concrete treated with Evercrete DPS provides an excellent resistance against carbonation and as such is **approved as an anti-carbonation coating.**



Resistance To Freeze/Thaw & De-icing Chemicals, Marine Salts and Chloride Ion Ingress

Tested in accordance with ASTM C672/C 672N-03 (600 hours)

Untreated



Treated with
Evercrete DPS



Waterproof Concrete

The Key to Long Term Concrete Durability

Untreated Concrete –
Mould & algae rapidly
returned to the cleaned
concrete because of the lower
surface PH.



Treated Concrete –
Remains clean and
white after the
application of
Evercrete range
products such as Deep
Clean, **DPS** and Top
Seal.

Concrete Stabilizer & Preserver

The Key to Long Term Concrete Durability



Untreated Concrete

Treated with Evercrete DPS

This picture is of a carwash entrance. After 14 years of countless freeze and thaw cycles, continuous water contact and abrasion the treated concrete (bottom) still looks new compared to the untreated concrete (top).

Evercrete 

Evercrete Deep Penetrating Sealer(DPS)

Application procedure:

1. Concrete to be free of oil, grease and dust
2. Shake well before use
3. Pre-wet the concrete
4. Spray apply first and second coat, for larger areas use a mechanical sprayer
5. For walls apply from the bottom up, on floors spray to obtain a wet look
6. Apply the second coat after 24 hours
7. Wait 7 days before covering with paint or tiles



Application on the Highways



Application by mechanical sprayer



Application on the Wall

Evercrete Deep Penetrating Sealer

Product Advantages



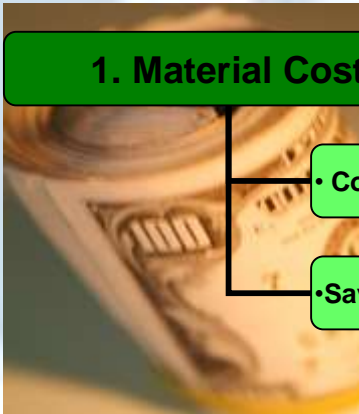
1. Concrete Preserver and Water-proofer
2. Non-Toxic
3. Seals hairline cracks up to 0.3mm
4. Resists Salt; Acid; Chloride; UV
5. Increases Compressive Strength
6. Dusting resistant
7. Floor Hardener
8. An integral part of the concrete
9. Allows concrete to breathe
10. Acts as a curing agent
11. Applied to wet/damp surfaces
12. ONE step application
13. ONE time application. Future recoating is not required.
14. Approved by WHO for portable water tanks.

LIMITATIONS OF PLASTER OVER EVERCRETE DPS

1. It is porous in nature.
2. Do not resist Acid attacks , salt, chlorine or other contaminants present in water to be treated.
3. Deteriorates when exposed continuously to contaminated water.
4. When exposed to water/moisture, it will allow growth of algae and fungus on the surface.
5. It is not a one time treatment.
6. It's more than double the cost of Evercrete DPS.
7. It is tedious and requires extensive manpower-hence increasing costing.
8. It requires water curing, whereas DPS is a self curing compound.

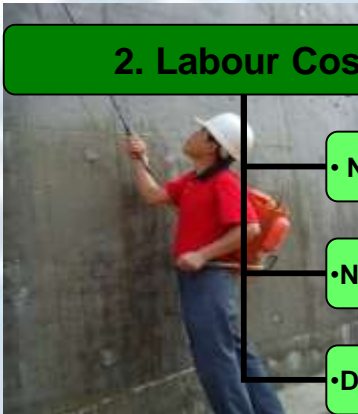
Evercrete Deep Penetrating Sealer(DPS)

Cost Advantages



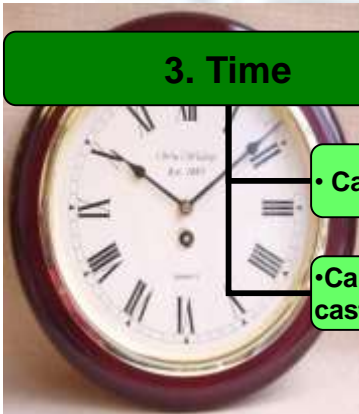
1. Material Cost

- Competitive price
- Saves maintenance cost



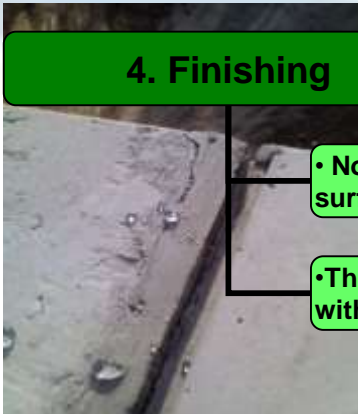
2. Labour Cost

- No special training required
- No special machine required
- Daily working rate: 1,000m² / worker



3. Time

- Can apply on dry / damp surfaces
- Can apply after 72 hours of casting concrete



4. Finishing

- No primer required for surface furnishing
- The applied area can stand alone without any protective layer

Evercrete Deep Penetrating Sealer(DPS)


is recommended for

1. Highway Bridge Decks and Highway Structures
2. High rise columns and parapets
3. All types of concrete flooring
4. External and Internal Concrete walls
5. Bathroom floors
6. Food processing plants
7. Water tanks and reservoirs
8. Parking structures
9. Chemical factories
10. Fuel station forecourts
11. Sewerage treatment plants



Evercrete 

Current Products Security

Evercrete  **Deep Penetrating Sealer (DPS)**
For waterproofing and protecting concrete

Evercrete Deep Penetrating Sealer (DPS)
The Ultimate Concrete Protector

- WATERPROOF
- DUSTPROOF
- PRESERVES

Evercrete DPS is a unique PERMANENT one time application sealant that completely seals, waterproofs, strengthens, cures, (subgrade), and protects concrete and masonry surfaces. It penetrates deep and reacts with the free lime and alkali present in concrete, filling the voids and surrounding the concrete into a solid mass. This creates a permanent internal seal that becomes an integral part of the concrete - not just a surface coating. Evercrete DPS protects without changing color, texture, or damaging the surface.

- NON TOXIC
- NON FLAMMABLE
- FUMELESS
- SAFE
- EASY TO USE

SHAKE WELL BEFORE USING
Contents: 5 U.S. Gallons

Surface Preparation

The concrete substrate should be sound, free from rocks, cracks, oil, grease, rusting agents or other contaminants. No prior preparation is necessary for new concrete surfaces. Evercrete DPS can be applied on damp or dry surfaces and in all wet surface temperature conditions above freezing. (See Limitations). Part of chemical applications on the surface must be REMOVED before using Evercrete DPS. Remove by scraping, grinding, and/or by applying suitable acidic solvent removers. Evercrete DPS is not meant to seal structural and/or masonry cracks. Cracks should be filled with a compatible crack repair material. Finishing will not harm the product. Test out completely before using.

On masonry concrete, test a small area for bleeding or leaching before using.

Application

1. Apply with brush, roller, mop or spray. Use as supplied.
2. Apply liberally and saturate all areas. Vertical walls should be applied from the bottom up. For new concrete, apply as soon as concrete has fully cured. Normal applications require two coats, with the second coat applied at least 24 hours after the first coat.
3. On bare apply Evercrete DPS so that the surface has a mirror wet look. Do not allow ponding.
4. In special problem areas where excessive moisture or water seepage is present, additional coatings may be required. A "sponge test" will establish the amount of Evercrete DPS required to solve the problem. After your second application, liberally tape down several pieces of ordinary dry sponge or foam rubber to the treated surface for approximately 24 hours. Under normal conditions, the sponge will remain dry which indicates that the job is completed. If the sponge remains moist, parts of or vertical walls due to moisture weight, repeat the first procedure as many times as necessary until the sponge is dry. Any additional coatings are wasteful and should not be applied, since excessive coatings will not penetrate and will remain gummy on the surface. Such excess should be liquidated or scraped and washed off with water.
5. Prior to painting or applying floor coverings, usage of Evercrete DPS will give you excellent bonding qualities. Apply the same as above if any foreign matter (oil, grease, acids, excessive alkali or bleeding of salts) is within the concrete. In such cases use Evercrete Deep-Clean or merely flush off with water until all foreign matter is flushed out. Allow the surface to thoroughly dry and apply your floor covering or paint.
6. Normal penetrating of Evercrete DPS is 1-2 hours. Limited hot traffic is permissible after 30 minutes.

Clean Up: Clean brushes or other equipment with water.

Coverage: Approximately 80-100 square feet per gallon (8-liter) minimum. The coverage depends on the permeability of the concrete substrate and the surface absorption.


Safety: Evercrete DPS is non-toxic, non-flammable, fumeless, odorless and colorless. In addition, it will not harm plants, asphalt, tar, metal or asbestos. Evercrete DPS will not alter the color, texture or any other physical characteristics of the masonry surface to which it is applied. It leaves a clear, natural surface.

Technical Data

Form: _____ Color: clear liquid
Flash point: _____ Non flammable
Specific gravity: 1.084
Color: _____
Solubility in water: Complete
Toxicity: _____ Non toxic
Diluted: _____ Use undiluted

Limitations:


Do not apply on glass, granite, brick or tile. In case of accidental contact, if should be washed off immediately with water to prevent etching. Evercrete DPS is not compatible with some high-alkali concrete blocks made with concrete aggregates such as color of shells to prevent water seepage. These materials are too porous and contain an excessive amount of free alkali. Evercrete Deep Penetrating Sealer is not meant to fill masonry cracks or to be applied over painted and other treated surfaces. See under "Preparation".

DPS 

Barcode: 37888040280344

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Product of the USA, Evercrete Corporation.
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Tel: 202-528-8321 • Fax: 202-528-8728 • E-mail: info@evercrete.com • www.evercrete.com • info@evercrete.com

DPS 

Barcode: 37888040280344

Enter the serial number below the barcode on the product you wish to verify.

Each and every product manufactured by Evercrete Corp. USA will have a unique barcode and hologram located on the bottom right hand corner.

The barcode number can be verified by going to www.evercrete.com - product security



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