

# PIM+ Type S

A PERMANENT Internal Membrane for Protecting Cement Based Materials

Great Performance, Better Value, Best for our Planet.

ISO 14001

## How PIM+ Type S works:

DynaCrete® PIM+ Type S is a CFIA\*/BC MOTH\*\* approved, permanent concrete treatment. It produces an internal membrane of glass infused concrete up to 12mm deep.

DynaCrete® PIM+ Type S contains unique, proprietary materials, which make it both wetter & heavier than water. When applied to clean, dampened, permeable cement based surfaces, it chases the moisture in the concrete for 15 seconds before it reacts with the alkali salts inside the concrete to form an aero-silica gel in the internal voids up to a 1/2" deep.

As these gels form in the voids, excess material, i.e. Excess product, water, alkali, contaminants, etc., are extruded to the surface for easy removal.

Over 72 hours, these gels hydrate into silicate/glass crystals. These insoluble crystals densify the concrete producing a PERMANENT, yet breathable, internal seal, reducing moisture vapour transmission by 98% and increasing surface hardness by 2 to 3 times.

## Uses

For permanently protecting your non-coloured, cement based surfaces; i.e. Concrete, Paving stones, Mortar, etc. After treatment with PIM+ Type S, these cement based surfaces because they are impregnated with glass are harder and will not allow liquids or moisture to come through from underneath, or penetrate from the top. They will be easier to clean, & will be resistant to damage from water, wear, and all causes of deterioration.

## Advantages - Please Read

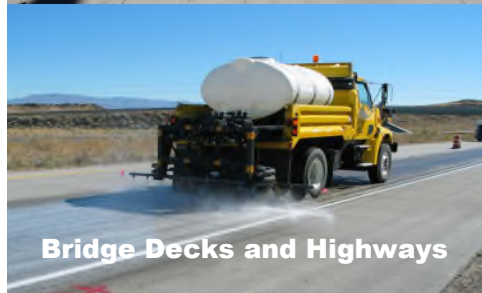
- A one-time, soaking application is PERMANENT!
- Water based, 100 % safe, non-toxic, Environmentally and ecologically friendly.
- Internally waterproofs (withstands hydrostatic pressure).
- Reduces damage from weak acids
- Densifies the concrete, doubling surface hardness, reducing wear due to abrasion.



Concrete Driveways/Decks



Paving Stone Driveways/Decks



Bridge Decks and Highways



All Concrete Surfaces in Farms

- Reduces or eliminates wear due to freeze-thaw and salt attack.
- Reduces vapour transmission by 98% saves floor coverings/coatings from the capillary rise of moisture & salts, increases the bond of all secondary coatings.
- Washed after treatment it leaves a pH neutral surface. Perfect for painting.
- **Leaves a clear, non-glossy finish.**
- Enables easier ice and snow removal.
- Safe to handle, store and transport.

## Coverage

Coverage rates vary depending on the porosity of the substrate. Formed surfaces with no "fines" on the surface can be as low as 100 sq. ft. per gallon. Machine trowel finished floors can be as high as 225 sq. ft. per gallon.

An average of 150 sq. ft. per gallon is common for broom finished concrete surfaces.

You can always test a small area prior to application to pre-determine coverage rate (See sponge test on next page).

## Instructions for Use

### Surface Preparation

PIM+ Type S works best if applied to cement based surfaces, which have had the alkali salts, dirt, etc., (pressure?) washed off. This also forces water into the cement. This dampness will later

aid the penetration of the PIM+ Type S applied.

**Older concrete surfaces:** may require chemical or mechanical means (sand blasting?) to remove any paint, lefflorescence, etc., and DynaCrete DynaClean, a degreaser to remove oil, grease, etc., to get down to bare, permeable concrete.

**New concrete surfaces:** usually only require the surface alkali be hosed and squeegeed off the surface to be treated, **Note:** While oil, will be removed, some black, carbon stains may not.

Once clean, **the surface should be damp prior to the application of DynaCrete® PIM+ Type S.** Ensure no puddles remain. Remove excess water with mop or squeegee. Prepared surfaces should readily absorb PIM+ Type S, but pre-test slab for absorbency.

### Curing

**PIM+ Type S is not a curing agent.** When PIM+ Type S is applied during the curing stage the silica gels formed in the internal voids slows down curing, but speeds up the setting time. The result is a reduction or elimination of hot spots, hairline cracking and surface checking due to spot drying. To achieve these benefits, apply PIM+ Type S after the surface sheen disappears, and the concrete can be walked on without leaving any marks. On new concrete wetsack or tarp for 3 days.

### Mixing

PIM+ Type S is pre-mixed at the factory. Do not dilute. **Shake well before using.**

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## Application Procedure

PIM+ Type S can be applied to DRY, clean, permeable, cement based surfaces, but is best applied to DAMP, clean, permeable, cool, concrete at least 21 days old. Pressure wash all areas to be treated to remove surface alkali, dirt, oil, paint, etc., restricting permeability, then squeegee off the water, and repeat. Begin to apply when the surface has dried to the damp stage.

**Equipment:** For optimum results use a low pressure, hand-pump, "Hudson-can" sprayer. It's heavy, soaking spray ensures you get enough product down in the 15 seconds or so you have before gels form.

### Be aware of surface temperature.

If dry, hose off the surface to ensure it is not too warm, as evaporation will reduce the amount of product available to penetrate up to a 1/2' into the concrete in the 15 seconds you have before the gels form. Apply until the surface stops sucking the material in and stays wet and shiny for at least 10 sec. To ensure full saturation, always check areas 15 to 20 seconds after application and for areas drying faster, re-soak until wet and shiny.

### Do Not Leave Puddles of PIM+ Type S on surfaces.

Use a mop or squeegee to spread out or remove any puddles. After treating but before the surface dries, hose off the surface to remove excess product, alkali salts, and any contaminants extruded.

It is easier to hose off excess material before it dries than to broom it off after it dries to a fine, 200 mesh, white powder.

### Vertical Surface Procedure:

If possible, always hose off or pressure wash surface alkali off the wall from the top down. Apply PIM+ Type S from the bottom up. Then hose off any excess material extruded from the top down.

### Determining if a Second Application is Required:

Three to four days after the application the

surface should be thoroughly flushed with clean water, to remove any alkali or any contaminants pushed to the surface during curing. Allow the surface to dry. Use the ASTM 4263 sponge test to test effectiveness.

### ASTM 4263 Sponge Test

This procedure tests moisture vapour transmission.

Tape several 12" squares of poly to the treated and dried concrete. Leave for 24 hours, then remove. If the poly or substrate beneath is wet, an additional application is required.

Apply additional coats in the same manner as the first. Flush with clean water, and allow to dry between each application. Sponge test (as required) to determine the need for any additional applications.

Usually if the concrete surface to be treated is permeable, clean and adequately washed to remove all alkali salts on the surface and the PIM+ type S is applied heavy enough in the first 15 seconds before the gels form, no further treatments are necessary. One heavy, soaking application is usually enough.

### Back-filling foundations:

12 hours after application.

### Foot traffic:

Is OK on the treated surface as soon as it's treated and during the 72 hour curing. Rainfall AFTER application will not harm the surface.

### Applications to Repair Mortars, Patches and Overlays:

Follow the same surface preparation and application procedures as shown previously. Applications to polymer modified repair mortars, patches and overlays will not penetrate as deeply as

non-polymerized, alkaline substrates, but, will increase surface hardness, dust-proofing and water-proofing performance including the bond strength of secondary coatings.

### Limitations

PIM+ Type S should never be applied if the ambient temperature is expected to fall below freezing, ( 0 degrees C. ) within 24 hours of application.

**Do not apply PIM+ Type S to any non-alkali bearing material,** as PIM+ Type S will not be able to react.

**Do not allow overspray to get on any impermeable surface,** like glass, glazed surfaces, or aluminum.

Use protective coverings to ensure no overspray or wind carried contact with these surfaces occurs.

In this happens, rinse the surface with water before the product dries, or as the water in PIM+ Type S evaporates the liquid glass in PIM+ Type S will fuse to the impermeable surface.

Freezing will not harm the PIM+ Type S. If frozen, thaw out completely, shake well and fully remix prior to using.

PIM+ Type S is not a stain blocker. Although properly treated surfaces will not allow penetration of liquid materials below the top 1/2 mm of the surface, staining may still occur. Therefore, if a higher stain resistance is required, the application of an additional coating such as DynaCrete® PTS+ (Penetrating Top Seal), is recommended over the PIM+ Type S treated surfaces. .

### Packaging

- ④ 4 litre jugs
- ④ 18.9 litre pails
- ④ 208 litre drums

#### LIMITED WARRANTY

Dynacrete warrants its products to be free of manufacturing defects and that they will meet Dynacrete's current published physical properties when applied in accordance with Dynacrete's directions. There are no other warranties by Dynacrete of any nature whatsoever, expressed or implied, including any warranty of merchantability of fitness for a particular purpose in connection with this product. Dynacrete Inc. shall not be liable for damages of any sort, including remote or consequential damages, resulting from any claimed breach of any warranty whether expressed or implied, including any warranty of merchantability of fitness for a particular purpose or from any other cause whatsoever.