

# PIM+

DynaCrete.NET

Concrete & Masonry **Treatments**

**A PERMANENT Internal Membrane for Priming & Protecting Cement Based Materials**  
**Best Performance, Best Value, Best for the Environment**

ISO 14001

## How PIM+ Works:

DynaCrete® PIM+ is a CFIA\*/BC MOTH\*\* approved treatment for all concrete. It will permanently replace the water soluble alkali salts in the top 2mm of concrete with glass

PIM+ contains unique, proprietary materials, which make it both wetter and 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 2mm deep.

As these gels form in the voids, excess material, i.e. water, alkali, and other contaminants are extruded to the surface for easier removal.

Over 72 hours these gels hydrate into silicate/glass crystals.

These insoluble silicate/glass crystals densify the concrete and produce a PERMANENT, yet breathable, internal seal, reducing moisture vapour transmission by 98%, and increasing surface hardness by 2 to 3 times.

## Uses

PIM+ forms small, hard, multi-faceted, tightly bonded, impermeable silicate/glass crystals in the internal voids previously filled with soluble alkali salts making it a perfect treatment for stopping efflorescence bloom or bleed. Penetrating 2mm it's perfect for coloured concrete, exposed aggregate or priming concrete prior to applying paint, flooring or secondary coatings.

### Advantages - Please Read

- A one-time, soaking application is PERMANENT!
- Water based, 100% safe, non-toxic, and ecologically friendly.
- Internally waterproofs (withstands hydrostatic pressure).
- Reduces damage from acids
- The absolute best sealing and hardening primer for concrete surfaces.



- Reduces or eliminates wear due to abrasion, freeze-thaw and salt attack.
- Reduces vapour transmission saving floor coverings/coatings from capillary rise of moisture and salts, up to a 300% increase in bond of secondary coatings.
- Neutralizes alkali and ph in concrete substrate to the depth penetrated.
- **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+ 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 voids, which later aids PIM+ penetration.



**Older concrete surfaces:** may require chemical or mechanical means (sandblasting?) to remove any and all paint, efflorescence, oil, grease, etc., to get down to bare, permeable concrete.

Once clean, the surface should be DAMP prior to the application of PIM+®, but ensure no standing water or puddles. Remove excess water with mop or squeegee. Prepared surfaces should readily absorb PIM+, but pre-test slab for absorbency.

**New concrete surfaces:** usually only require the surface alkali be hosed and squeegeed off the surface to be treated.

## CURING

**PIM+ is not a curing agent.** However, when applied to concrete during the curing stage, i.e. as soon as the day after finishing, the gels formed in the internal voids slow the hydration process thus increasing the final strength, similar to "wet-sacking". As a result; you will see a reduction in hot spots or spot drying, hairline cracking, etc. Do not apply PIM+ until the concrete can be walked on without leaving any marks. Applying PIM+ should not, and does not replace or remove the requirement for wet sacking. For optimum results, wet sack or tarp for 3 days.

## Mixing

PIM+ is pre-mixed at the factory, do not dilute, but **shake well before using** to ensure the best effectiveness.

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## Application Procedure

PIM+® can be (spray) applied to dry, concrete surfaces, but works best applied to dampened, cement based surfaces, old or new. **Newly placed concrete:** can be treated as soon as you can walk on it without leaving marks. **Concrete older than 21 days;** always pressure wash areas to remove surface alkali and any dirt, oil, etc., which might be restricting permeability, then squeegee off the water and repeat. Begin applying when surface dried to the "damp" stage.

**Equipment:** A low pressure, hand-pump, "Hudson can" type sprayer is best, but because the PIM+ only penetrates 2mm, a thick, heavy-knap roller can work.

**Be aware of surface temperature.** If the concrete surface is too warm, (i.e. to the touch) evaporation will reduce the amount of PIM+ available to penetrate into the concrete in the 15 seconds you have before the gels form.

Apply until the surface stops sucking the PIM+ in and stays wet and shiny for at least 10 seconds. To ensure full saturation, always check areas 15 to 20 seconds after application and for areas which appear to be drying faster, resoak until wet and shiny.

**Do Not Leave Puddles of PIM+ on surfaces.** Use a mop or squeegee to spread or remove any puddles. Then before the surface dries hose off the surface to remove excess product, alkali salts and contaminants extruded.

It is easier to hose the surface off before it dries, than broom it off the PIM+ dries to a 200 mesh, white, powdered glass.

## Vertical Surface Procedure:

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

## Determining if a Second Application is Required:

Three to four days after application flush the surface with clean water to remove alkali extruded to the surface during curing. Allow the surface to dry, test as follows:

### 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 coat and allow to dry. Flush with clean water, allow to dry and sponge test (as required) to determine the need for an additional application.

**NOTE:** 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+ is applied heavy enough in the first 15 seconds until the gels form, no further treatments are necessary. One, heavy, soaking application is sufficient.

### Back-filling foundations:

12 hours after application.

### Foot traffic:

Is OK on the treated surface as soon as it's treated and rainfall AFTER it's treated will not harm it.

## Applications to Repair Mortars, Patches and Overlays:

Follow the same surface preparation and application procedures as above.

Application 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 waterproofing performance, including an increase in the bond strength of secondary coatings.

## Limitations

PIM+ 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+** to any non-alkali bearing material, (PIM+ needs alkali to react) or to impermeable surfaces, i.e. glass, glazed tiles, aluminum, etc., as "etching" will occur. Use protective coverings to ensure no overspray or wind carried contact with these surfaces occurs. In case of accidental contact, rinse immediately with water or when the water in PIM+ evaporates the liquid glass in PIM+ will fuse to the impermeable surface..

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

PIM+ 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. 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+ 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.