

# Permastop Datasheet

July 2023

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**Permastop** is a non-toxic unique chemical treatment for the waterproofing, protection and repair of concrete. It consists of Portland cement, graded aggregates and active proprietary chemicals; it is applied as a cementitious slurry to a cement surface that is pre-saturated with water. The active chemicals diffuse into the substrate and react with moisture and the constituents of hardened concrete to cause a catalytic reaction. This reaction generates a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete, as well as cracks, permanently sealing the concrete and preventing the penetration of water and other liquids from any direction, even under high hydrostatic pressure. Even after the concrete has cured, **Permastop** remains dormant in the concrete and will reactivate in the presence of moisture to seal capillary tracts and hairline cracks.

## Technical Data

<b>Type</b>	Supplied in one type only. Can be used in conjunction with Cemcrete's Accelerator for sealing gushing leaks
<b>Colour</b>	Grey. Can supply white upon request
<b>Pot life</b>	20 minutes
<b>Working time</b>	30 minutes
<b>Initial set</b>	1 hour depending on temperatures
<b>Mixing water temperature</b>	8°C to 25°C
<b>Application temperature (ambient)</b>	8°C to 25°C
<b>Substrate temperature</b>	8°C to 25°C
<b>Minimum application thickness</b>	Two coats of slurry
<b>Maximum application thickness</b>	Thickness of polypropylene membrane when dipped
<b>Density</b>	1.3kg/lit
<b>Protection during application</b>	Use wind and sun barriers. Surface must be moist

## Recommended for waterproofing

- Reservoirs with or without water
- Sewage and water treatment plants
- Underground vaults and wine cellars
- Secondary water containing structures i.e. pools / ponds
- Foundations
- Parking structures
- Concrete slabs (floor / roof / balcony etc)
- Walls with failed DPC
- Used to bond new concrete to aged existing concrete

## Advantages

- Resists extreme hydrostatic pressure from both the positive and negative side of the substrate
- Resistant to aggressive chemicals i.e. oil, salt water, alkalis, certain chemicals, weak acids and aggressive sulphate soils
- Becomes an integral part of the substrate due to deep penetration
- Self-mending when punctured or torn and is not subject to deterioration. It is therefore permanent
- Easy to apply and can be used as a brush on application or admixture
- Does not require protection when backfilling
- Can be applied to moist surfaces
- Can seal static hairline cracks
- No VOC's
- Increases the strength of concrete by up to 30% dependent on quality of original concrete.
- Waterproof but not vapour proof

Cemcrete provides a comprehensive technical service based on over 4 decades of experience in the field of surface applications and cement technology. Cemcrete believes, to the best of its knowledge, that the information contained herein is true and accurate at the date of issuance and is subject to change without prior notice. For further clarification of these instructions, contact Cemcrete.

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## NOTE

Does not react with clay bricks unless over coated with cement plaster. Must be in contact with the cement / concrete to be effective. Do not apply **Permastop** at temperatures at or below freezing or frozen / freezing surfaces.

## Specifying

“Cemcrete’s **Permastop** to be applied in two coats with a 150mm block brush. All suspect moving joints or cracks to be repaired using “Joint Filling Mix” incorporating **Permastop** and covered using polypropylene membrane saturated with **Permastop** (Refer to Cemcrete’s **Permastop** Manual).

## Specimen Finish

A trial area should be treated on-site for the engineer’s or architect’s approval and to serve as a control sample to which the designated contractor should work.

## Site Work

## Surface Preparation

Concrete / plastered surfaces to be treated must be clean and free of laitance, dirt, film, paint, coating or other foreign matter. Surfaces must also have an open capillary system to provide “tooth and suction” for **Permastop** treatment. A CSP-3 per the International Concrete Repair Institute Guidelines and Surface Profile Chips is recommended. If surface is too smooth (e.g. where steel forms are used) or covered with excess form oil (e.g. release agents) or other foreign matter, the concrete should be lightly sandblasted, water blasted, or etched with muriatic (HCL) acid. Organic growths can be removed by brushing with a solution of 1 volume household bleach and 3 volumes water. Allow 12 hours to kill spores then remove with a wire brush and water. This should be followed with an acid wash comprising a solution of 1 volume hydrochloric acid and 3 volumes water. Apply the acid solution using a white wash block brush from a plastic bucket and allow to react for at least 10 minutes then wire brush and flush with clean water. Projections should be chipped off and all cracks and joints cut out square and made good with “Joint Filling Mix” mixed as below. The concrete should be thoroughly saturated with water before application to aid in the passage of the chemicals through the capillaries of the concrete. Allow the surface to partially dry out then apply **Permastop**.

## Mixing

Slurry	To one volume water stir in two volumes <b>Permastop</b> . Keep stirred and use all mixed material within 20 minutes. Do not add water to mixed material to restore workability. May be spray applied.
Joint Filling Mix	Mix one volume <b>Permastop</b> with one volume clean plaster sand and bring to a thick plaster consistency with clean water.
Membrane	Mix as in slurry and dip membrane in slurry to completely impregnate membrane.

## Application

Slurry	To the dampened surface brush on a liberal coat of <b>Permastop</b> using a 150mm block brush or a large distemper brush. A soft broom may be used for application to floors. If two coats are applied the second coat should not be commenced until the first has set for 30 minutes but no later than 90 minutes after the application of the last coat of <b>Permastop</b> . We recommend that a plaster be applied approximately 45 minutes after the application of the second coat of Permastop (or as soon as the Permastop has firmed up enough to support the plaster). If you wait too long to apply the plaster it will delaminate at a later stage. This plaster should consist of incorporating 1 volume Cemcrete Water Repellent Cement to 3 volumes clean plaster sand and 1 volume clean river sand, add water until a workable plaster is achieved. Once this new plaster is properly hydrated and cured you may proceed with the decorative coating application.
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Joints	To clean out joints / cracks apply one coat neat slurry mix, and then within 90 minutes fill with "Joint Filling Mix" as above.
Membrane	Lay impregnated membrane over area to be covered and use paint brush to smooth out and flatten membrane.
Gushing Leaks	Open concrete at place where water is pouring out to a cavity of about 40mm <sup>3</sup> . Grout in place a piece of old hose pipe using "Joint Filling Mix" mixed with <b>Permastop Accelerator</b> instead of only water. Once water has been lead away from surface of concrete, continue to waterproof rest of concrete. When set and all is waterproofed except water flowing from pipe, remove pipe by twisting and immediately fill with a plug of jointing mix mixed with the accelerator. Use rubber gloves if contact with skin is expected.

## Curing

In hot dry conditions cure completed work by dampening with clean water three times during the day following the day of application. Protect against freezing for 24 hours. Protect from direct sun and wind by covering with plastic or wet hessian for 24 hours.

## Coating

If **Permastop** is to be subsequently painted or coated, it should be cured by wetting for at least 15 days. Neutralise by applying to surface a mixture of 8 volumes water and 1 volume hydrochloric acid or vinegar (undiluted). Allow to react for 15 minutes. Rinse thoroughly, allow to dry, then paint.

## Coverage

Brush application	Approximately 1,3m <sup>2</sup> /kg/coat depending upon suction and texture of surface
Joint filling	Depends on size of joint
With Polypropylene Membrane	Approximately 3kg/m <sup>2</sup>

## Packaging

Permastop	1, 5 & 25kg drums
Accelerator	1 litre & 5 litre drums
Membrane	100 mm x 10m and 1000 mm x any lengths 200 mm x 10m and 1000 mm x any lengths 300 mm x 10m and 1000 mm x any lengths

## Storage/Shelf life

When properly stored in a dry place in unopened and undamaged original packaging, shelf life is 12 months after date of invoice.

## Safe Handling

**Permastop** contains cement which is alkaline. Will irritate eyes and skin and may cause skin sensitization. Wear appropriate eye, skin and breathing protection when using this product. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. For further information please refer to Material Safety Datasheet.

## Manufacturer's Warranty

Cemcrete warrants that the products manufactured by it shall be free from material defects and will be consistent with its normal high quality. Should any of the products be proven defective, the liability to Cemcrete shall be limited to replacement of the product ex-factory. Cemcrete makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties expressed or implied. The user shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith.

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