



Brushbond TGP*

Crystalline capillary waterproofing system

Uses

Brushbond TGP is used for waterproofing against the positive or negative sides of hydrostatic heads of water, foundation dampproofing, repairing cracks, filling holes, sealing wall-floor joints and stopping active leaks in a wide variety of conditions including:

- Sewage treatment and water treatment plants - tanks, foundations, pipes, tunnels and manholes
- Nuclear power plants - tanks, foundations, tunnels, control rooms, and manholes
- Subway tunnels
- Industrial plants, office buildings - foundations, parking decks, planter boxes
- Reservoirs

Advantages

- NSF approved for use with potable water
- Penetrates concrete, seals capillary tracts and hairline cracks
- Waterproofing remains even if concrete surface is damaged
- Cost effective
- Effective treatment for hydrostatic conditions
- Contains no chloride
- Easy to apply
- Resists chemical attack of sewage and industrial wastes
- Resists de-icing salts
- Exterior and interior applications

Description

Brushbond TGP crystalline capillary waterproofing system is a series of products containing proprietary blends of Portland cement, quartz aggregate and special chemicals. In the presence of moisture, the active chemical in Brushbond TGP penetrates concrete and reacts chemically with free lime to produce insoluble crystals. This crystalline growth reduces porosity by blocking capillaries and filling hairline non-structural cracks (up to 0.25 mm wide) caused by shrinkage or expansion. Unlike metallic and membrane types of waterproofing, which only form a surface barrier, Brushbond TGP, in the presence of water, continues producing crystals and a lasting imperviousness to water.

The Brushbond TGP system consists of the following applications:

Brushbond TGP is the basic formulation for waterproofing applications. Brushbond TGP applied as a "dry-shake" to newly poured concrete or mixed with water to produce a slurry coating for walls and floors.

Brushbond TGP can be mixed with water for deep filling, reglets and coving areas, crack repair, sealing construction joints, and tie holes. Brushbond TGP designed to be used in lieu of "dry-pack" applications as a system that will not crack or spall while drying and is a trowelable consistency for easy use.

Instruction for use

Surface Preparation Old Concrete

Surfaces must be clean and sound. Remove all oil, dirt, laitance and other contaminants by water blasting or treating the surface with 15% solution of muriatic acid. Allow acid to react for approximately 30 minutes, then wash surface thoroughly with clean water. Water blasting is preferred for surface preparation because it mechanically cleans and roughens the surface, is environmentally safer and leaves the surface saturated with water. Surface must be damp for application of Brushbond TGP products.

New Concrete

After forms are stripped, acid etch or water blast as above to remove form oils and laitance. Surface must be left damp for application of Brushbond TGP.

Construction joints, cold joints and non-leaking joints greater than 0.25 mm wide must be routed out (minimum 25 mm wide by 25 mm deep) to sound concrete. Routing should be in a "U" shape.

Leaking cracks should be routed out as above (25 mm wide and 38 mm to 51 mm deep) to sound concrete. Clean all debris and loose concrete from leaking area. Saturate routed area with water and leave damp for application of Brushbond TGP.

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Mixing

For best results, add the clean, potable water to Brushbond TGP and not the reverse.

Brushbond TGP slurry coat :

Mix 1 part clean potable water to 3 parts powder. Mix thoroughly with a slow speed drill equipped with a paddle. For larger batches, mix with a mortar mixer. Do not mix more material than can be used in 20 minutes. (24°C, 50% R.H.). If mixture thickens, re-stir to reduce consistency. Do not add extra water.

Brushbond TGP as a mortar:

Add sufficient clean, potable water to powder to produce a stiff trowelable mortar- Mix thoroughly with a slow speed drill equipped with a paddle or use a mortar mixer for large batches. Do not mix more material than can be used in 20 minutes (24°C, 50% R.H.).

Application

Dry shake for newly poured concrete:

Use Brushbond TGP as is, directly from container. Wearing rubber gloves, distribute the powder evenly by hand, over freshly poured concrete at 1.22 to 1.35 kg/m² before final floating operation. It is best to distribute the powder at 1/2 the recommended rate in one direction, and the other half at a right angle to the first application. Keep hand as close as possible to the surface to prevent material from blowing away. For large areas, a rotary type spreader may be used. Float slab and trowel to final finish.

Slurry coat for existing concrete:

Brushbond TGP slurry coat may be applied with a brush (synthetic bristle), broom, or plaster sprayer at a rate of 1.1 kg/m². Be sure to work slurry well into openings, rough surfaces, joints and routed out areas. Apply second coat, when required, when first coat has taken an initial set (usually within one hour). If first coat has dried out, moisten surface before applying second coat.

Brushbond TGP can be applied with a trowel or spatula at a rate of 1.25 kg/1 lineal m in 25 mm by 38 mm configuration. Apply mortar to cracks, holes, reglets, and coving areas. After areas are primed with first coat of Brushbond TGP slurry, apply Brushbond TGP as mortar in layers not greater than 25 mm. Allow mortar to take initial set before adding additional layers.

Curing and Protecting

All Brushbond TGP applications must be kept moist for a minimum of 48 hours. After initial set, moist curing, using continuous water spray is recommended. Treated surfaces shall be fog sprayed 3 to 4 times daily for the 48 hour period. For warmer climates, more frequent spraying may be required. It is important to keep the Brushbond TGP moist to allow the crystal formation to occur. Call your Fosroc representative for specific recommendations on the use of curing compounds. Protect surfaces from foot traffic for 48 hours or heavy traffic for 7 days. Freshly applied Brushbond TGP must be protected from extreme weather conditions such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.

Clean-up

Prior to curing Brushbond TGP products may be cleaned from tools and other surfaces with water.

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Properties

		3 days	7 days	28 days	56 days
Chemical Resistance (ASTM C-267)	Control Samples	0.0 gm	0.0 gm	+0.1 gm	+0.3 gm
	Acid Exposed	+0.1 gm	-0.2 gm	-1.1 gm	-4.8 gm
	Salt Exposed	+0.3 gm	+0.8 gm	+0.6 gm	+0.7 gm
Compressive Strength, N/mm ² (ASTM C-109)	Control Samples	14.5	26.7	35.8	39.8
	Acid Exposed	15.7	24.4	35.6	37.9
	Salt Exposed	13.9	24.0	38.2	39.4
Permeability Test (CRD-C 48)	Negative Direction:	Virtually impermeable. No visible degradation. No water flow. Slight dampening after 420 hours @ 1.38 N/mm ² hydrostatic pressure.			
	Positive Direction:	Virtually impermeable under 0.86 N/mm ² hydrostatic pressure. After 300 hours at 1.38 N/mm ² flow measured 0.075 cm ³ /hr over final 120 hours.			

Note: The foregoing information is published as general information only. The listed properties and performance characteristics are approximate values and are not part of the product specification.

Limitations

Not recommended for application below 5°C. Not for use on concrete substrates containing less than 13% Portland cement.

Storage

Brushbond TGP products should be stored in protected, dry areas. When left in original unopened package, Brushbond TGP products will maintain their design performance characteristics for 1 year.

Packaging and coverage

Brushbond TGP available in 25 kg pails.

Brushbond TGP - slurry coat 1.35-1.60 k/m² (16-18.5 m²/pail) for two coat application.

Precautions

Brushbond TGP products contain chemicals that may cause irritation to the eyes and skin. Goggles, rubber gloves and long sleeves should be worn when working with these products. Read warnings noted on product package and refer to product Material Safety Data Sheet (MSDS) prior to use.



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Important note

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