

# ProPave Grout

All weather external tiling grout



**15kg**



**ULTRA TILE**

# TECHNICAL DATASHEET

**UltraTile ProPave Grout** is a high specification, decorative, brush-in external tile jointing solution, suitable for use with granite, porcelain and other premium quality natural stone. The product is available in 4 bespoke colours - graphite grey, cement grey, steel grey and sand beige - the perfect choice for a seamless transition for tiles inside to outside living spaces.

It can be used all year round, in any weather and is suited for use on domestic paving applications or light non trafficable commercial areas. It is used to fill joint widths between 3-20mm.

Before using ProPave, it is important to understand the installation being considered, the design of the base, the tiles being used and the conditions in which you will be working. ProPave once cured, provides jointing between tiles that is permeable, meaning it will allow air and rain water to penetrate through. There are two methods of applying ProPave which focus on whether the bedding material below the tiles is permeable (free draining) or whether it is impermeable (non-draining).

## PRIMING

Porcelain tiles should always be coated on the back of the tile with Instarmac slurry primer, before being placed onto the bedding material. This will provide exceptional bond between the tile and bedding material, reducing risk of failure.

## APPLICATION - WET METHOD

When the tiles are fixed using permeable bedding materials, such as UltraScape perma-bed, ProPave can be applied using the "Wet Application" method.

This is by far the most popular method of application which is generally used for patios and walkways. This method uses copious amounts of water during application hence "Wet Application". Hosing down the fixed tiles with water initially and during application of ProPave:

- saturates the tiles and prevents oils from ProPave penetrating the tiles
- ensures ease of application
- assists with deep penetration of the product into the joint
- aids removal of excess material

Thoroughly pre-soak the area with water before application. Pour the jointing sand evenly across the tiles. Using a stiff broom, brush sand into joints ensuring they are filled to capacity. Ensure the paving surface and sand are kept wet throughout the operation with continued use of gentle water flow from a hosepipe. This water aids deep penetration and compaction of the jointing sand as it drains. Repeat process until all jointing is filled to full depth. Soak the area with water & top up any joints that require further material and wash off excess sand from the surface.

This water has to be drained free from the jointing before ProPave will cure and harden, it will only cure hard when all traces of moisture have gone from the full depth of the joint.

It is therefore important that for "Wet Application", the base of the new installation is permeable to allow water to free drain through into the ground below. Once the jointing has cured and hardened it is unaffected by further rainwater.

**Permeable Bedding Materials - Patios & Walkways:** For such areas carrying normal domestic foot traffic loadings the bedding material used should be permeable. Therefore a suitable bedding compound for the tiles should be no more than 6 or 7 parts clean sharp sand mixed with 1 part Portland Cement. Bedding materials containing cement are classed as "bound" as they harden due to the cement. Add enough water to ensure that the bedding mix just holds together in a ball when squeezed gently in a clenched (gloved) hand. Dot & dab methods of fixing tiles should not be used. Apply the bedding compound in a continuous solid bed, deep enough to support the paving. This will be strong enough to support the paving for foot traffic but will also remain permeable creating a free draining base. Higher levels of cement to sand will reduce the permeability of the bedding compound, reducing water drainage and potentially extending the drying time of ProPave. This should be avoided.

Prior to applying the bedding compound, the sub-base should be suitably compacted to ensure it is firm and even, using recognised techniques.

**NB:** Other examples of permeable bedding materials that can be used below tiles are compacted sand bed and compacted type 1 stone or combinations of both. In such instances, to ensure this type of bedding (known as "unbound") is suitable for use with ProPave, the tiles need to be stable and edged on all sides with a fixed kerb or fixed edging stones (fixed with bedding mortar) that prevent movement.

## APPLICATION - DRY METHOD

This method is used to apply ProPave where (i) the bedding materials used to fix the tiling are impermeable and therefore will not allow drainage of application water (Wet Application) or (ii) where the temperature conditions are dropping below 3°C, with concern that the water application (Wet Application) will freeze and expand in the joint, before it has drained away, making it weak.

Once the tiles are firmly secured and set, gently pre-wet the surface using a mist spray of water, avoid flooding the joint. This prevents the jointing staining the tiles. Open the ProPave and pour the material along the joint, brushing it into the joint at the same time. As there is no water to wash the product into the joint, using this method with a pointing trowel and jointing iron will enable the material to be compressed into the joint. Top up the joint after compacting and repeat process till you achieve a suitable level.

**Impermeable Bedding Materials - Domestic Driveways:** Where there is requirement for additional strength in the bedding materials for tiles to support increased loadings, such as standing cars on driveways, then the resulting higher cement ratio to sand bedding material will be impermeable to water. Therefore the Dry Application method would, in this instance, be the preferred method for applying ProPave. The same method would be used for existing substrates with poor drainage or poor drying conditions.

**Freezing conditions:** There is a potential that if using the "Wet Application" method in conditions nearing or below freezing at the time of application of ProPave then the freezing application water will cause damage to the uncured joint due to expansion. In such conditions, the Dry Application method would be preferred.

## JOINTING

All tile joints should be a minimum width of 3mm and up to a maximum width of 20mm. Joint depths should be a minimum of 20mm (a deeper depth will increase the strength of the jointing compound). Deeper joints may extend drying times. It should always be ensured that ProPave penetrates the full depth and width of the joint, without voids, to provide maximum stability. Voids left in the body of the jointing will cause permanent weakness in the joint. Prior to applying ProPave ensure all mortar is raked free from joints to ensure clean and full depth. Once ProPave has been freshly installed, unless the moisture has completely drained free from the joint, the material will remain soft. It needs to drain free of moisture before it will begin to cure. (See drying section).

## Key notes for jointing

- UltraTile ProPave is not meant to stabilise loose tiles. All tiles should be firm and stable, on a stable base before jointing commences.
- When filling the joint with ProPave always finish the material slightly below the surface of the tiles. Never leave it proud of the surface. The tiles should always be the wear surface, not the jointing.
- Before filling the joint make sure it is clear of any debris that will reduce the width of the joint or prevent the material making contact with the walls of the joint. This is particularly important when re-jointing existing tiles.
- All joints should be raked to their full depth to ensure they are free of bedding materials before commencing jointing.
- Some natural stone paving is cut with a sloping edge. This creates a "V" joint shape when all paving is positioned together. To add greater stability of the jointing, run the end of a pointing trowel along the joint making a channel in the bedding material below. When the ProPave is added into

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the “V” joint the penetration of the material into the channel secures the jointing below the paving, providing greater anchorage and stability when cured.

- All dried mortar residues on the surface of the tile should be removed before commencing jointing. Please see cleaning section below.
- It is good practice to run a grouting tool over the face of the finished jointing before it has cured. This firms up and smooths the face of the product giving an additional resilience.

## CURING OF PROPAVE

UltraTile ProPave is an air cured product. In good drying conditions (20oC / 65% rh) and where water is free draining, ProPave will firm up in approximately 24-48 hours, sufficient to accommodate foot traffic. It will continue to harden over the next 28 days. The rate of cure is dependent on both temperature and residual moisture.

Application in conditions of poor drainage, where water lingers in the joint and freezing conditions, will delay curing of the product.

Once the water has dried away from the joint, curing will re-commence.

## CLEANING

**Mortar removal:** Tiles should be cleaned of any dried mortar prior to application of the jointing material. Please ensure that all residues of mortar and cleaning chemicals have been completely washed away before jointing begins. Residues of acid based cleaners can have an adverse affect on both tiles and jointing if they come into contact. Consult the tile supplier for advice.

ProPave will discolour in contact with acid based materials, as can some tile materials – this is related to iron compounds within the products causing an orange / brown discolouration. Limestone, marble, amongst other paving, as well as cementitious bedding mortars can dissolve when in contact with acid cleaners.

It is therefore essential that extreme care should be taken before use of any cleaning materials and a discreet area is tested and assessed before continuing.

**Organic material, dirt & debris removal:** ProPave should only be cleaned after it has fully hardened. The material in its cured state is permeable and will therefore allow the passage of air and rainwater. To remove build up of surface dirt & debris, the area can be cleaned using a gentle jet wash spray with clean soapy water, periodically (use domestic washing liquids - non-acidic). Only domestic pressure washers should be used at the lowest pressure (100 -130 bar). The nozzle should be held at least 30cm from the surface with the fan of water at a 45° angle to the jointing. Alternatively soft bristle sweeping brushes can be used.

Under no circumstances should motorised or mechanical sweepers be used – these machines are too abrasive for the jointing compound. Proprietary water based biocides, to kill moss and lichen, can be used but always try a sample area first to ensure compatibility.

## General specification considerations

- As indicated previously, whether tiling onto permeable or impermeable bedding, it is essential that all edge tiles/details are bedded into mortar to fix and stabilise.
- When fixing preformed gullies, grids or access cover frames, these all need to be firmly fixed in bedding mortar as per the manufacturer’s instructions to prevent movement. Additionally tile edging that butts up to these areas should be bedded into mortar.

When using metal recess trays within the design feature of any tile, it should be ensured that the tile is fixed into position within the tray using an epoxy mortar, such as UltraScape Resi-Bed. Once cured, ProPave can then be applied using the Dry Application method. It must however, be ensured that the jointing is allowed to fully cure before locating the tray into position.

## Limitations

- UltraTile ProPave uses natural aggregates which may vary slightly in colour. Our best efforts are made to maintain consistency. However it is the

responsibility of the user to satisfy themselves that the jointing and tiles are as required. If in doubt always trial a small section to confirm.

- Some tiles are more porous than others and may continually hold water. Such types may delay the curing of ProPave if excessive.
- Porous tiles are also more sensitive to staining. Such instances may require the paving to be sealed before jointing begins.

## PRODUCT DETAILS

Unit Packaging	15kg buckets delivered on shrink-wrapped pallets
Storage	Store in a cool, dry and frost free area at temperatures between 5°C and 30°C.
Coverage*	Joint width x joint depth: 8-9.5sqm based on a tile size of 450mm x 450mm x 25mm (depth) for an 8mm joint gap.
Shelf Life	Shelf life from date of manufacture in correct conditions for sealed bucket is 18 months. Please note: the use of this product after the end of the declared storage period may increase the risk of an allergic reaction.
Colour**	Graphite Grey, Cement Grey, Steel Grey and Sand Beige

\* The above coverage is provided as a guide only and reflects typical tile applications without any wastage. It should not be used as an exact material calculation.

\*\* As with all raw materials, colour variation may occur. Please note that this does not affect the consistency or characteristics of the product.

## TECHNICAL DATA

Density	1,80g/cm <sup>3</sup>
Joint width	3-20mm
Minimum joint depth	20mm minimum depth, deeper depth will increase strength of the jointing compound
Working time at 20°C*	35-45 minutes
Working temp	3°C to 35°C
Walk on time	24-48 hours (dry, ambient conditions with free draining base)
Full strength	28 days
Dry compressive strength	1 day: 0.80N/mm <sup>2</sup> 7 days: 5.80N/mm <sup>2</sup> 28 days: 6.70N/mm <sup>2</sup>
Dry flexural strength	1 day: 0.56N/mm <sup>2</sup> 7 days: 4.33N/mm <sup>2</sup> 28 days: 5.91N/mm <sup>2</sup>

\* Depending on temperatures - tests carried out at 20°C. Coll temperatures retard, warm temperatures accelerate product performance.

## HEALTH & SAFETY

Please ensure that appropriate PPE is used when preparing, mixing and applying products. Always wash hands before consuming food and make sure that materials are kept safely out of reach of children and animals. Please dispose of packaging and waste responsibly and in accordance with local authority requirements. A full material safety data sheet relating to this product is available from instarmac.co.uk

## QUALITY ASSURANCE

All products are manufactured in a plant whose quality management system is certified / registered as being in conformity with BS EN ISO 9001, ISO

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All products are sold subject to our conditions of sales, copies of which may be obtained upon request.

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