

TECHNICAL DATA SHEET

PORCELAINSET™ QUICK-SETTING ADHESIVE

SETS IN
12 HOURS

C1TF
EN12004

**High-strength bonding of porcelain tiles
to walls and floors**



DESCRIPTION

TAL Porcelainset is a grey quick-setting high-strength shrinkage-compensated cement-based adhesive for fixing porcelain, ceramic, dark-coloured natural stone (granite, marble, sandstone, etc) tiles to walls and floors. The adhesive was designed for easy use, allowing a 4 hour pot life.

TAL Porcelainset can be applied in bed thicknesses between 5 – 12mm, and up to 20mm in isolated areas only.

TAL Porcelainset should not be used with white or light-coloured porous natural stone tiles, where a grey adhesive may show through the tile in the form of 'staining'. (**TAL Marblefix** should be used in this instance.)

Note : This product is designed for the above-mentioned application only. TAL will not be liable for misuse or adulteration of the product.

FEATURES

- High strength
- Quick set – Trafficable after only 12 hours
- Low VOC

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CLASSIFICATION ACCORDING TO SANS 52004:2013 / EN12004:2007

TAL Porcelainset is classified as a C1TF adhesive (cementitious tensile adhesion strength (C1), slip resistant (T), fast setting (F) adhesive).

When mixed with **TAL Bond** as a **total** water replacement, or when **TAL Bond Powder** is incorporated in the mix, **TAL Porcelainset** is classified as a C2TFS1 adhesive (improved cementitious tensile adhesion strength (C2), slip resistant (T), fast setting (F), deformable (S1), adhesive).

When mixed with **TAL Keycoat** or **TAL Screedbinder** as a **total** water replacement **TAL Porcelainset** is classified as a C2TFS2 adhesive (improved cementitious tensile adhesion strength (C2), slip resistant (T), fast setting (F), more deformable (S2), adhesive).

VOC CONTENT:

Specification: Green Building Council of South Africa Office Design V1 IEQ-13 Green Star Office Interiors V1.1 IEQ-11	
Ceramic Tile Adhesive: Maximum Limit 65 Grams Per Litre as VOC Content Material	TAL PORCELAINSET: <10g/ ℓ as VOC content material*

*Based on historical data – testing in progress at the time of publication of this data sheet

TECHNICAL DATA:

	WITH WATER	WITH TAL BOND	WITH TAL BOND POWDER
Type	Cement-based tile adhesive		
Setting Type	Quick setting		
Colour	Grey		
Packaging	20kg		
Application Temperature Range (Ambient)	10°C - 30°C		
Open Time*	15 minutes		
Correction Time*	15-20 minutes		
Initial Set*	6-8 hours		
Final Set*	12 hours		
Pot Life* (working time after mixing)	4 hours	3 ½ hours	3 ½ hours
Mix Ratio	5ℓ/20kg	5ℓ/20kg	1kg/20kg
Flexibility	Poor	Good	Good
Temperature Resistance	0°C - 60°C	-30°C - 100°C	-30°C - 100°C
Resistance to Damp	Poor	Good	Good

* At 23°C and 50% relative humidity.

The above data was obtained under laboratory conditions using freshly manufactured material. Actual results in the field will vary as a result of factors such as Ambient Temperatures, Site Conditions, etc.

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SURFACE PREPARATION

New floor and wall surfaces must be allowed to cure for the minimum periods detailed below to ensure that the tile installation is not compromised by drying shrinkage movement in the substrate :

- New concrete – 6 weeks
- New screed – 4 weeks
- New brickwork – 4 weeks
- New render – 2 weeks

All substrates should attain a moisture content of 5% (75% RH) or less before tiling is commenced. Should there be no damp proof membrane below a surface bed or if prevailing moisture levels do not attain 5% or less, it is recommended that **TAL VaporStop HB** (vapour barrier) be applied prior to tiling to eliminate potential problems associated with excessive moisture in the substrate (such as slow- or non-curing of the adhesive, efflorescence on grout and porous tiles, etc).

Any screeding or rendering must be firmly attached to the underlying concrete or brickwork, and the substrate must be of significant strength, structurally sound (no crumbling, cracking, etc) and of a quality and consistency suitable for tiling. All damaged, defective, deteriorated or hollow sounding areas must be removed and made good before proceeding.

The substrate must be clean and free from all traces of surface laitance and contamination such as dust, dirt, waxes, oils, bitumen, old adhesives, paint, grease, weak cement screeds and renders, shutter release and curing agents, sealing compounds, etc. Organic or fungal growth must be removed, and the spores killed using an effective fungicide.

Off-shutter concrete, smooth & dense surfaces, powerfloated & steelfloated surfaces	Clean thoroughly and/or mechanically abrade to remove shutter release and curing agents, laitance, polishes, etc. *
Existing Wall Tiles	Must be in good condition and firmly attached to the substrate, i.e. not cracked, loose or hollow sounding. Acid wash and neutralize to remove dirt, grease, grime, sealants, polish, etc. *
Existing Vinyl Flooring / Carpets	Floor coverings must be lifted, and the floor mechanically abraded (chipping, grinding, scabbling, etc) to remove existing fixative. *
Bitumen Fixative Residues	Remove vinyl floor covering residues, and all loose or unbonded bitumen fixative residues. Substrate must be firm and sound and clean and dry. Prime with TAL Bitumen Primer .
Existing Paint Existing Gypsum Skimcoats	The paint/gypsum skimcoat must be in good condition and firmly bonded to the substrate, i.e. not loose, flaking or peeling, and all traces of grease, grime, soap residues and other contaminants must be removed. Domestic / Interior : Mechanically abrade (chipping, grinding, scabbling, etc) to remove at least 80% of the paint/gypsum skimcoat.* Commercial / Exterior : Mechanically abrade to remove all traces of paint/gypsum skimcoat.
Bituminous Waterproofing Compounds	Mechanically abrade (chipping, grinding, scabbling, scarifying, etc) to remove completely .*

* Prime the surface with a slurry consisting of 1-part **TAL Keycoat** to 2 parts **TAL Keymix** powder or 2 parts **TAL Porcelainset** adhesive powder (by volume), which is applied using a builder's block brush. Ensure that the entire surface is fully covered with the slurry. Allow this slurry coat to dry for 4 – 6 hours before applying **TAL Porcelainset**.

NOTE: the surface must be clean and dry and free of all traces of dust, debris, loose particles and surface contaminants which could impair adhesion.

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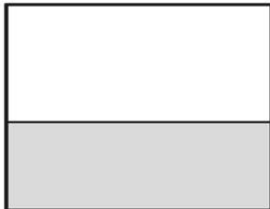
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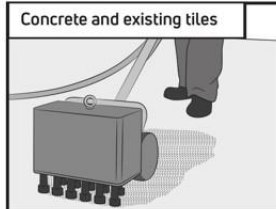
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SURFACE PREPARATION



Ensure surface has cured.
New concrete – 6 weeks.
New screed and brickwork – 4 weeks. New render – 2 weeks.



Concrete and existing tiles

Clean thoroughly and mechanically abrade where necessary. Apply a **TAL KEYCOAT & TAL KEYMIX** primer slurry.

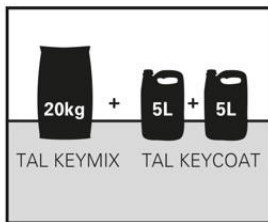


Paint, gypsum skimcoat, bitumen adhesive and waterproofing

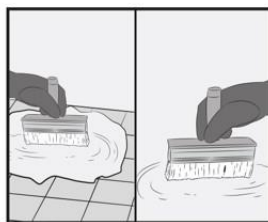
Chip surface thoroughly (min 80%). Remove bitumen adhesives and waterproofing completely. Apply a **TAL KEYCOAT & TAL KEYMIX** primer slurry.



Wipe down or dust walls, and sweep floors to remove dust and loose particles. Ensure surface is dry and free of all traces of contamination.



If surface is smooth and dense, apply a primer slurry (1 part **TAL KEYCOAT** mixed with 2 parts **TAL KEYMIX** powder.)



Spread with a builders block brush. Ensure full coverage.



Wait 4-6 hours before tiling.

MIXING

Using a mechanical mixer, add the bag of **TAL Porcelainset** to 5 litres of clean, cool water whilst mixing and mix well to a creamy, lump-free consistency (for optimal performance water temperature should be between 20°C and 25°C).

Let the mix stand for 3 - 5 minutes before stirring again. Use within 4 hours (Pot Life).

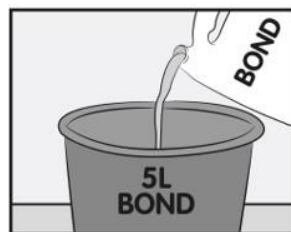
For best results use a full bag in one mix.

For all exterior/exposed and “wet” applications, high traffic areas, areas subjected to thermal stresses or temperature changes, or where some flexibility is required, replace the water in the mix with **TAL Bond**.

Alternatively, **TAL Bond Powder** may be added to the adhesive mixing water, at a ratio of 1 x 1kg sachet per 20kg **TAL Porcelainset**.



Mix 20kg **TAL PORCELAINSET** with 5L of cool, clean water. Using a mechanical mixer, mix to a creamy lump-free paste, while adding powder.



When tiling high traffic areas, on suspended slabs, in wet areas such as showers and external areas such as balconies, replace the water in the mix with **TAL BOND** or add **TAL BOND POWDER** to the adhesive mixing water.

NB:

- Never add more liquid to a mix which has been left standing for too long, as this will compromise the integrity of the adhesive.
- Warm weather conditions and/or substrate and water temperatures (generally, temperatures above 30°C) may shorten the working time of the mixture and may even result in flash-setting of the adhesive.
- Low ambient temperatures and/or substrate and water temperatures (generally, temperatures below 15°C) will have detrimental effects on the curing and integrity of the adhesive, ie full cure may not be achieved.

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APPLICATION

Ensure that the tiles are dry, and the backs are free of dust and contaminants which could impair adhesion.

Apply the mix to the surface using a notched Wall Trowel for lightweight wall tiles, or a notched Floor Trowel for floor tiles, heavy and/or large format wall tiles and exterior wall tiles where a solid bed of adhesive is essential.

TAL Porcelainset can be applied in bed thicknesses between 5 – 12mm, and up to 20mm in isolated areas only (non-continuous, and not exceeding 20% of the total area to be tiled).

Apply only as much adhesive as can be tiled in 10 - 15 minutes to prevent the adhesive from “skinning” before the tiles are applied. Should a thin skin form, the adhesive must be freshened up by respreading with the notched trowel. Do not wet the adhesive with water as the water will form an anti-adhesive film. Dry or hardened adhesive must be removed and discarded.

Bed tiles firmly using a Rubber Mallet. When tiling floors or exterior walls ensure that the tile is in full contact with the adhesive. Occasionally lift a tile to ensure that there are no air pockets or voids. Never fix tiles using the ‘spot’ method.

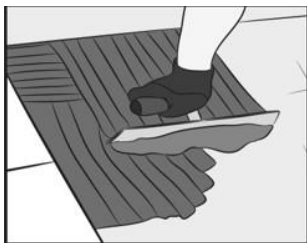
NOTE: Back buttering with a thin coat of adhesive may also be required when using large format tiles to ensure full contact and a solid bed of adhesive behind each tile.

Never butt joint tiles. Always leave grout joints between tiles; at least 2mm wide between ceramic wall tiles, 3mm between porcelain, granite and marble tiles, and 5mm between natural stone and ceramic tiles.

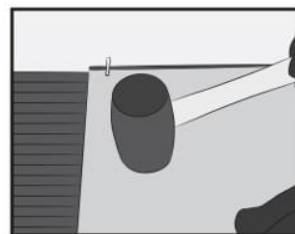
Do not tile over structural, expansion or cold joints in the background. These joints must be extended through the various layers to the surface. Ensure that the grout joints and tile panel movement joints and perimeter joints are raked out and all adhesive residues removed before the adhesive dries.

NB:

- Allow a minimum of 6-8 hours before light trafficking or grouting. Full service after 12 hours. Longer setting times will apply to installations using larger format vitrified or semi-vitrified tiles, as well as installations subjected to loaded traffic.
- It is important that newly installed tiles are protected from traffic (other trades, etc.) while the adhesive sets. This is especially important in fast-track installations. Too early trafficking of newly installed tiles before the adhesive has set sufficiently may result in an impaired bond (hollow-sounding and/or loose tiles).
- Exterior tiling applications must be protected from inclement weather and too-rapid drying during installation. Installations must not be subjected to running water or rain for at least 12 hours and must be protected from frost and direct sunlight for at least 24 hours after installation.
- Ensure that large format wall tiles are well supported by means of a batten or some type of mechanical device for a minimum of 12 hours, until the adhesive has set sufficiently. Mechanical supports should be incorporated in elevated installations.



Apply adhesive with a suitable notched trowel. Ensure the tile is in full contact with the adhesive. Apply only as much as can be tiled in 10-15 minutes.



Bed tiles with a rubber mallet. Ensure tiles are in full contact with the adhesive including edges and corners.

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GROUTING

Allow at least 6-8 hours after completing the tiling before trafficking or grouting, depending on site and ambient conditions. Use **TAL Grout** according to the instructions on the packaging. **Do not grout with neat cement.**



Grout after 6-8 hours with TAL GROUT (as per instructions on the grout bag). Full set after 12 hours. **Longer setting times for tiles exceeding 1000m x 1000mm may be required.**

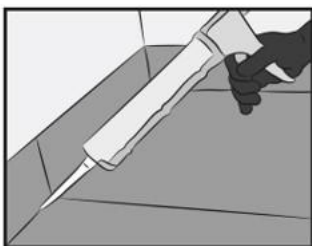
MOVEMENT JOINTS

Tile panel movement joints should be located in both directions at maximum 5 metre centres for interior surface bed and wall applications, and maximum 3 metre centres for suspended applications and exterior applications.

Movement joints should also be located around the perimeter of all floors, in all horizontal and vertical corners, against obstructions fixed to the structural background and over all discontinuities in building materials, e.g. at interfaces of concrete and brickwork. In addition, movement joints should be located around any fixtures protruding through the tiled surface such as columns or stairs. The joints should be at least 5mm wide and extend through the adhesive and tile layers. All construction / cold joints and structural joints in the background must be extended through the adhesive and tile layers to the surface in the form of tile panel movement joints. With regards to structural joints, the full width of the structural joints must be respected and extended through the adhesive and tile layers to the surface.

Where practical, the bulk of the depth of the movement joint can be filled with **TAL Sealmaster Cord**. Seal the joint using **TAL Goldstar Sealmaster 1000 Polyurethane Joint Sealant** in accordance with the manufacturer's instructions.

NB: TAL Goldstar Sealmaster 1000 Polyurethane Joint Sealant is not suitable for commercial or institutional shower environments, or for permanently submerged installations such as swimming pools.



Construct tile panel movement joints – soft joints – located at max 5m centres for interior surface bed and wall applications, and max 3m centres for suspended applications and exterior applications, as well as around the perimeter of all floors and in all vertical corners. Joints must be minimum 5mm wide and extend through the tile adhesive layers. Fill joints with **TAL GOLDSTAR SEALMASTER 1000** polyurethane joint sealer.

COVERAGE

Coverage is approximately 3kg/m² when applied using Notched Wall Trowel, and approximately 6kg/m² when applied using a Notched Floor Trowel.

(These coverages are intended as a guide for ordering purposes only. Actual coverages will be determined by site conditions, workmanship, etc.)

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CLEANING

Dry powder spillages – sweep off or vacuum powder spillages, ensuring reduced exposure to moisture which potentially activates the adhesive.

Mixed product – wipe the area with a DAMP (not wet) sponge before the adhesive has dried.

Dry product should be removed using **TAL Epoxy Cleaning Fluid** or **TAL Epoxy Cleaning Gel**.

Clean hands and tools with warm, soapy water before the product dries.

PACKAGING

TAL Porcelainset is available in 20kg bags.

STORAGE & SHELF LIFE

When stored in dry, internal conditions between 10°C and 30°C and out of direct sunlight the product has a shelf life of 12 months from date of manufacture. **Never store directly on a concrete floor.**

WARNING

Do not ingest. Use only as directed. Keep out of reach of children. Wear protective gloves and goggles. Use a suitable dust mask when mixing. Work in a well-ventilated area. Dispose of this product in accordance with local Regulations. Contact TAL for further Health & Safety information.

TAL PRODUCT GUARANTEE

TAL products are manufactured and tested in accordance with TAL procedures, which are maintained in line with Quality Control System Standard ISO 9001, OSHAS 18001 and Environmental Management System ISO 14001.

TAL products are guaranteed to be free from manufacturing defects and fit for design purposes.

This guarantee is subject to the performance of TAL products when used strictly in accordance with their materials and methods specifications for the particular project, and where good workmanship is followed. However, we have no influence over specific site conditions and therefore, if in doubt, the user must always carry out sufficient tests to satisfy themselves that the product is suitable for the intended purpose. In special cases, obtain professional advice.

TAL shall not be liable for the standard of workmanship on site, or for any defects or damage due to external causes or factors beyond the control of TAL including, without limitation, unsound structures or foundations, building movement (cracking, creep, deflection, vibration, etc), design defects, earth tremor or other seismic disturbances, land slip, fire, flood or other immersion, or any products which have been adulterated, contaminated or misused in any way. The list is not exhaustive.

NOTE: We require timeous notification, in writing, of an alleged defect and the opportunity to assess and investigate the problem to our satisfaction prior to any remedial work whatsoever being carried out.

TAL TECHNICAL ADVICE CENTRE

For a detailed Materials and Methods Specification contact the TAL Technical Advice Centre on 0860 000 TAL(825), or e-mail taltech@tal.co.za

Branches: Gauteng (011) 206-9700; Cape (021) 386-1810; Natal (031) 579-2263

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