

High-performance Water-based & Cleanable Epoxy-resin Based Mortar for Bonding and Grouting of Tiles

Description :

TAL Fine Epoxy Mortar & Grout is a 2-Component, Water Based & Cleanable High-performance Epoxy-resin non-sagging adhesive ideal for bonding tiles to walls and floors, and can also be used for subsequent grouting.

It has excellent non-sag, stain and chemical resistant properties and is easy to apply and clean up after application.

TAL Fine Epoxy Mortar & Grout is ideal for installation areas where chemical resistance and good hygienic conditions are important, such as abattoirs, breweries, dairies, hospitals, food and beverage production and preparation areas, swimming pools, bacteria and mould-growth areas as well as, areas subjected to high-pressure hosing and steam cleaning, etc.

It is also suitable for use with glass tiles/mosaics and resin-bonded tiles.

TAL Fine Epoxy Mortar & Grout is available in White and Light Grey.

Features :

- Stain Free
- Chemical, Acid and Bacteria Resistant
- Water Cleanable

Uses :

As an Adhesive :

- Wall & Floor Tiles, Interior & Exterior
- Commercial, Industrial or Institutional installations where hygienic conditions are of importance
- Installations subject to high water usage, steam cleaning, and submerged conditions

As a Grout :

- Commercial, Industrial or Institutional installations where hygienic conditions and/or chemical and acid resistance is required
- Heavy Traffic/Use areas

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

Classification According to

SANS 52004:2013 / EN12004:2007 :

TAL Fine Epoxy Mortar & Grout is classified as :

R1T adhesive (normal reaction resin adhesive (R1), slip resistant (T), adhesive);

RG grout (high performance reaction resin grout).

Technical Data

Type	Reaction resin adhesive & grout
Setting Type	Rapid setting
Colour	White and Light Grey
Pack Size	5kg
Mix Ratio	Strictly As Supplied
Application Temp Range (Ambient)	10°C - 25°C
Pot Life*	1 Hour at 20°C
Initial Set*	1 Hour
Final Set*	5 – 6 Hours
Return to Service “	
Light Foot Traffic	24 Hours
Heavy Traffic	48 Hours
Full Service Conditions	7 Days
Flexibility	Poor
Resistance to Chemicals & Acids	Excellent
Temperature Resistance	-30°C - +100°C

*At 23°C and 50% relative humidity.

Chemical Resistance

TAL Fine Epoxy Mortar & Grout, when fully cured, is resistant to the following* :

Products	Chemical	Max Concentration
1. Acids	Citric Acid	10%
	Tartaric Acid	10%
	Oxalic Acid	10%
	Lactic Acid	5%
	Acetic Acid	3%
	Other Acid	3%
	Alkali	5%
2. Alkalis	Hydroxides	10%

*Contact TAL for more detailed information on resistance to specific chemicals and acids.

TAL Fine Epoxy Mortar & Grout shows poor resistance to :

Acetone	Perchloroethylene
Benzene	Tetrahydrofuran
Carbon Tetrachloride	Toluene
Chloroform	Trichloroethane
Chromic Acid	Trichloroethylene
Methylene Chloride	Xylene
Oleic Acid	

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Special Note must be Taken of the Following when Using Epoxy-Resin Compounds :

- The installation of resin compounds requires effective supervision and the employment of skilled operatives. Resin compounds should only be applied by experienced personnel.
- The resin compound must be mixed and applied strictly in accordance with the product instructions and data sheet.
- External installations must be protected from inclement weather and too-rapid drying (direct sunlight, drying winds, etc) during application and curing.
High ambient temperatures will considerably shorten the working time of the epoxy.
- Under no circumstances whatsoever should any cleaning agents or compounds other than those recommended be used for cleaning.

Limitations :

- Suitable for joints 2mm – 10mm wide.
- Suitable for use with most tiles, However, check for suitability with natural stone products as well as resin-bonded product before commencing with tiling or grouting. Do not use with white or translucent marble tiles.
- Not suitable for installation areas subjected to temperatures exceeding 100°C.
- When used externally, colour variations may occur over time due to UV rays or environmental contaminants.
- Not suitable for use on asbestos-based substrates, dry-wall partitioning or wooden-particle boards.
- Adhesive bed thickness not to exceed 6mm.

Substrate 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

TAL Fine Epoxy Mortar & Grout can tolerate a substrate moisture content of up to 5% (75% RH).

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.

Note : High moisture levels in the substrate will adversely affect the curing and integrity of epoxy-resin compounds. This could easily result in an installation failure.

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 or mechanically abrade to remove shutter release and curing agents, laitance, polishes, etc.
Existing Tiles	Must be in good condition and firmly bonded to the substrate, ie 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.

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TECHNICAL DATA SHEET

FINE EPOXY MORTAR & GROUT

Issue Date
JULY 2017



Existing paint Existing gypsum skimcoats	The paint/gypsum skimcoat must be in good condition and firmly bonded to the substrate, ie not loose, flaking or peeling, and all traces of grease. Clean thoroughly to remove grease, grime, soap residues, etc. Domestic / Interior : Mechanically abrade (chipping, grinding, etc) to remove at least 80% of the paint/gypsum skimcoat. Commercial / Exterior : Mechanically abrade to remove all traces of paint/gypsum skimcoat.
Bitumen adhesive / waterproofing	Remove completely , by mechanically abrading (chipping, grinding, etc) the substrate.

The surface must be clean and dry and free of all traces of dust, debris, loose particles and surface contaminants before proceeding.

Priming (When used as an Adhesive) :

Porous Surfaces

- Prime the surface with a neat coat of **TAL Floor Primer**, which is applied by block brush. Allow to dry for 3 – 4 hours, depending on ambient conditions.

Smooth / Dense Surfaces

- Smooth, dense and impervious surfaces do not need to be primed prior to the application of **TAL Fine Epoxy Mortar & Grout**.

Mixing :

Mechanical mixing is recommended for good mixing and uniform dispersion of product. Incorrect or inadequate mixing will result in non-curing of the epoxy.

Mixing of complete, full Packs is advocated.

There are 2 components to this product – 1. Resin 2. Hardener, both in paste form.

If part-mixing is to be done, it is imperative that the **exact** 1:1 mix ratio is used for all mixes.

Empty **ALL** the contents of the Resin and Hardener containers into the bucket supplied (**adding the Resin first, then the Hardener**), and mix thoroughly **at low speed** for 1 minute. **Do not overmix, as this will shorten the pot life.**

After mixing the product is useable for approximately 1 hour at 20°C, after which time any portion unused must be discarded.

Note :

- **The optimum working and curing temperature is 23°C.**
- **In hot conditions the pot life and working time will be considerably shorter.**
- **The epoxy will take significantly longer to cure at temperatures below 10°C.**
- **It is essential not to mix more adhesive kits than can be used within 1 hour.**

Application :

Ambient temperatures between 10°C and 25°C must be maintained during application, and for a minimum of 48 – 72 hours thereafter.

As an Adhesive

The substrate must be completely flat and level as TAL Fine Epoxy Mortar & Grout cannot be built up (packed) to compensate for any variances in levels in the substrate.

Apply the adhesive to the clean, prepared substrate using a Notched Floor Trowel to ensure a solid bed of adhesive of 3 – 5mm thick beneath the tiles.

Never butt-joint tiles. Joints are required to allow the individual tiles to move with respect to each other and thus avoid a compressive stress build-up. They are also required as vents for the adhesive to cure.

We recommend a minimum of 3mm wide between ceramic wall tiles and porcelain tiles, and 5mm wide between ceramic floor tiles. (Refer to tile manufacturer for recommended joint width.)

Bed dry, clean tiles firmly into the wet adhesive with a twisting action to ensure full contact with the adhesive. Tap tiles home well with a rubber mallet or wooden trowel handle. Remove the occasional tile to ensure that good contact has been achieved.

Remove surplus epoxy from the face of the tiles immediately. Clean the face of the tiles by

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scrubbing in a circular motion with clean, cold water and a white, non-woven nylon scouring pad.

Remove loosened epoxy residues with a clean sponge.

Note :

- 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 heavy and/or large format tiles on vertical surfaces (resin bonded listellos, bullnosing, step tiles, etc) are well supported by means of a batten or some type of mechanical device until such time that the adhesive has set sufficiently to support the weight of the tile. Allow for 5 - 6 hours, depending on ambient conditions.
- When installing resin-bonded products the grout joints should be a minimum of 5mm wide, and tile panel movement joints should be located at closer centres.
- Correctly Constructed intermediate tile panel movement joints and perimeter joints, minimum 5mm wide, must be located at the required centres. Contact TAL for more detailed information.

As a Grout

Grouting must not commence until the adhesive beneath the tiles has set sufficiently. (Refer to the adhesive instructions for curing times.) Porous and/or unglazed tiles should be sealed with a suitable sealer before grouting to prevent staining.

The joints must be clean and free from water, dust, debris and contaminants. Adjacent tiles must be clean and dry.

Working in small areas at a time, apply **TAL Fine Epoxy Mortar & Grout** using a rubber grout squeegee or float and rub the grout well into the joints, **ensuring that the joints are properly filled and the grout is heavily compacted into the joints by means of steel pointing tool.**

Remove excess **TAL Fine Epoxy Mortar & Grout** from the face of the tiles before it starts to set (harden). This can be done by pulling the grout squeegee at a 90° angle across the joint.

Clean the grouted area immediately, and before mixing and applying the next kit of **TAL Fine Epoxy Mortar & Grout**.

Do not allow the grout to dry on the face of the tiles.

Due care must be taken when during application and cleaning not to scratch the face of soft glazed tiles, highly polished tiles or glass tiles.

Cleaning After Grouting :

Immediately after grouting, clean using *lightly dampened* sponge (immerse sponge into a bucket of **clean** water, then wring out to remove excess water). Scrub the surface of the tiles in a circular motion.

NB : Special care must be taken not to dislodge or remove the grout from the joints, or to get water into ungrouted joints.

Wipe a clean sponge diagonally across the tile surface to remove the loosened epoxy residues. Rinse the cleaning sponges regularly in a bucket of clean, cold water.

During the initial clean, imperfections in the surface of the grout can be smoothed out with a suitable pointing tool.

For best results a final wash should be carried out 15 – 20 minutes after installation.

If needed, a small amount (30ml) of a clear liquid detergent can be added to the bucket of cleaning water (15L).

Using a clean white scouring pad, loosen any residual grout on the tile. Thereafter clean again using the procedures above.

The installation must be inspected the following day to ensure it is completely clean.

Tacky residues can be removed **within 24 hours** following the procedures above.

Voids in the joints can be filled using freshly mixed material. Ensure thorough compaction into the joint.

Residual dried haze can be removed using a cloth dampened with **TAL Epoxy Cleaning Fluid**, cleaning the cloth regularly in a bucket of clean, soapy water.

TAL Epoxy Cleaning Gel may be required for larger/stubborn residues.

Note :

- Due care must be taken to apply the cleaner to the face of the tile only as it will affect the grout in the joints.
- Greater care and more abrasive scouring pads may be required with some types of tiles, ie those with textured surfaces, unglazed and quarry tiles.

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Clean tools immediately with clean, cold water. Dried material should be removed using **TAL Epoxy Cleaning Fluid or Gel**.

Drying & Curing Times :

- **Newly applied or cleaned installations must not be trafficked until the grout has set sufficiently (minimum 24 hours for *light* foot traffic, and minimum 48 hours for heavy traffic) to ensure that the grout is not dislodged or damaged. Dirt may become embedded in uncured epoxy.**
- **The installation must be suitably protected for a minimum of 7 days after installation. The hardness of the grout should be checked after 3 days.**
- **TAL Fine Epoxy Mortar & Grout must be allowed to cure for a minimum of 7 days before exposure to chemicals, and a minimum of 10 before water submersion (swimming pools).**

Temperature Resistance :

TAL Fine Epoxy Mortar & Grout will withstand service temperatures within the range of -30°C up to 50°C for prolonged periods, and up to 100°C for short periods.

Coverage :

Adhesive

Approximately 4kg/m² when applied in a solid bed of 4mm thickness.

NB : The above coverages are indicated as a guide for ordering purposes only. Actual coverages will be determined by site conditions, workmanship, etc.

Grout

Use the following formula to estimate the grout coverage :

$$\frac{(A + B) \times C \times D \times E}{A \times B}$$

$$(A \times B)$$

A = Tile Length (mm)

B = Tile Width (mm)

C = Tile Thickness (mm)

D = Joint Width (mm)

E = SG of TAL Grout (1.8)

All measurements **MUST** be in mm, and this will give the grout coverage in kg/m².

Always add 10% for wastage.

Maintenance Cleaning :

Allow to cure for **minimum 3 days** before routine cleaning.

Use a neutral Ph cleaner, followed by rinsing with clean water.

Do not use Organic or Mineral Acid compounds for cleaning.

Packaging :

Available in 5kg buckets.

Storage & Shelf Life :

When stored in **original, sealed packaging** in dry internal conditions between 10°C and 30°C and out of direct sunlight the product has a shelf life of 6 months from date of manufacture. **Never store directly on a concrete floor.**

Warning :

Do not ingest or inhale. Use only as directed. Wear protective gloves and goggles. Work in a well-ventilated area. Dispose of this product in accordance with Local Regulations.

Contact TAL for further Health & Safety information.

As certain people are prone to dermatitis when using epoxy resins it is advisable to use barrier creams and rubber gloves. Any material coming into contact with the skin should be washed off promptly and thoroughly with soap and water.

In the case of eye contact, wash immediately with copious amounts of water and seek medical attention.

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 : 2008 and Environmental Management System ISO 14001:2004. 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 himself/herself that

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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 aforementioned 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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