

METHOD STATEMENT

TALCEM

Issue Date
DECEMBER 2016



General Purpose Method Statement

Screeds & Toppings

1. Labour

Application of **Talcem** Screeds and Toppings is a skilled operation and should only be carried out by experienced artisans with the correct training. Application by unskilled labour is not recommended.

2. Surface Preparation

Allow all new concrete work and screeds to cure for at least 6 weeks and 4 weeks respectively before proceeding.

Talcem + Aggregate mixes are suitably designed for application onto concrete and screeded substrates. Any Screeding or Topping must be firmly bonded to the underlying concrete, and the substrate must be of sufficient strength, with a minimum acceptable compressive strength of 25MPa and tensile strength of 1.5N/mm². The substrate should be integrally sound (no crumbling, cracking, etc) and of a quality and consistency suitable for screeding. TAL cannot be held liable should the **Talcem** + Aggregate installation be compromised as a result of failure or debonding (cohesive failure) occurring within the subsurface.

The substrate must be clean and dry and free from all traces of surface laitance and contamination such as dust, dirt, waxes, oils, bitumen, old adhesives, paint, grease, weak cement screeds, shutter release and curing agents, sealing compounds, etc.

Bituminous compounds must be removed completely. Organic or fungal growth must be removed and the spores killed using an effective fungicide.

The substrate should be suitably prepared to 'open' the surface and expose the aggregate by thoroughly scabbling or scarifying in cross-directions to achieve a Concrete Surface Profile (CSP) value of 5 or 6 (Medium scarification).

3. Voided Joints

4.1 Existing Joints

All Construction/Cold Joints in the substrate, as well as structural cracks that are or could become dynamic before and/or after the Screed / Topping installation, must be extended through to the surface in the form of Voided Joints.

All specially constructed Voided Joints (Including Structural) in the Substrate, must be filled with **TAL Sealmaster Cord** prior to the **Talcem** + Aggregate application to prevent these joints from being filled. With regards to these Voided Joints already in the existing substrate, the full width of the joint should be maintained and extended through the Screed / Topping layer to the surface. These joints need to be aligned exactly.

Relief/Saw Cut Joints in the existing substrate can only be filled if the substrate has not cracked in these areas. If these Relief/Saw Cut Joints have in fact cracked in these areas, then these Joints need to be respected as above.

4.2 New Joints

Bay divisions and voided construction joints should also be incorporated in the Screed /Topping layer as for normal sand/cement screeds and toppings in accordance with the SANS Code of Practice and in accordance with the Project / Site Engineer's recommendations.

These Voided Joints must extend from the Substrate through the entire **Talcem** + Aggregate layer and must be a minimum of 3mm in width. Panels must be neatly defined and straight when being placed.

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4. Substrate Priming

The substrate must be suitably prepared as detailed in **Surface Preparation** above.

The floor must be thoroughly swept to remove all traces of dust and loose particles, taking care to remove the dust rather than redistribute it. (Vacuuming is preferred.)

Application to Concrete Surface Beds, Minimum Build 20mm

- Prime the surface with a slurry consisting of 1 part **TAL Floorkey** mixed with 2 parts **TAL Rapidfix** powder (by volume) which is applied by block brush, ensuring that the entire surface is covered with the slurry priming coat.

Application to Concrete Surface Beds, Builds $\geq$ 50mm

- No priming is required if the substrate has been correctly prepared.

Application to Concrete Suspended Slabs

- Prime the surface with **TAL SF Primer**, which must be mixed and applied strictly in accordance with the product instructions.
- It is important to apply only as much **TAL SF Primer** as can be screeded over whilst the epoxy primer is still WET, ie within maximum 2 hours, depending on ambient conditions.

Note : Please contact TAL for more information should your application requirements differ from those indicated above.

5. Mixing

Mix ratio 1 : 3 Talcem : dry sand, by weight

Talcem	Coarse, Well Graded Quartz Sand to SANS 10083	Water	Optimum Water / Cement Ratio
50kg	150kg	Approx 12 – 20 litres, depending on moisture content of sand	0.4

The screed should consist of :

Talcem and “Crusher Dust®” mixed in proportions **1 : 3** by volume when based on dry Sand. The sand should be free of organic material.

OR

Talcem and Aggregate mixed in proportions **1 part Talcem : 3 parts Aggregate** by volume (Aggregate made up of 1 part 6mm Aggregate + 1 part Building Sand + 1 part River Sand, by volume, when based on dry Sand. The sand should be free of organic material.

The sands and coarse aggregate must comply with the specification for sand for concrete and screeds in SANS 1083.

IT IS IMPORTANT THAT THE TALCEM SCREED IS NOT OVERWATERED WHEN MIXING, AND THAT IT IS NOT “WATERED” AFTER IT HAS BEEN APPLIED.

The quantity of water required will depend on the grade and moisture content of the sand and also the method of mixing. Excess water should be avoided, the mix being such that when squeezed in the hand it is wet enough to retain its shape and not crumble, without any water being squeezed out. Mortars may be mixed by mechanical means.

NB :

- The addition of extra water to the screed to restore lost workability (retempering) shall NOT be permitted, as this will compromise the integrity of the screed.
- The practice or sprinkling dry cement powder and/or sprinkling water onto the surface of the wet screed must NOT be permitted.

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For optimum product performance the Slab, Water and Ambient Temperatures should be around 20°C. However, if this is not possible, Ambient temperatures between 10°C - 30°C must be maintained throughout installation and curing.

When **TAL Floorkey** is incorporated in the mix the set mortar will be water resistant and suitable for use in wet areas, e.g. showers, external areas, etc, but will not be impervious to water. The amount of **TAL Floorkey** required in the screeding composition depends upon the degree of water resistance required and the conditions prevailing during application, but the addition of 20% of **TAL Floorkey** per 100kg of cement is usually satisfactory.

6. Application

Bonded Screeds : Minimum Screed Thickness 20mm (Maximum 50mm)

- Refer to **Priming** above for the correct surface priming procedures.

Unbonded Screeds : Minimum Screed Thickness 50mm

- A separating layer of polythene should be loosely laid over the existing floor surface with 100mm lapped joints between adjacent sheets. The screed should then be laid directly over the separating layer.

Floating Screeds : Minimum Screed Thickness 70mm

- Lay the screed directly onto a compressive layer of thermal or sound insulating material located over a concrete base.

Provision (Soft board/Foam) to allow Voided Joints in the Screed Compound should so be created around the perimeter of all floors, against obstructions fixed to the structural background, and around all protruding fixtures such as walls, columns and stairs prior to pouring the Compound.

After mixing, **Talcem** mortars are useable for approximately **10 - 20 minutes**. The mixed material should be applied immediately after mixing is complete. **Talcem** is a rapid-setting material, it is important that the product is used whilst it is still workable. High ambient and water temperatures will considerably shorten the working time period.

Spread the mortar over an area of floor and then tamp, compact, level and trowel-off within the working life of the mortar **and in accordance with normal screeding practice**.

Any day joints and adjoining bays left for more than 30 minutes should be primed with a slurry bonding coat before the next area is laid.

Screed the background to falls as required, **with a minimum thickness of 15mm (Bonded Screeds)**.

The Screed should be left with a finish that resembles that generally achieved with a Wood Float when installing tiles, and Steel Float when installing resilient floor coverings.

7. Drying Times & Surface Finish

New Screeds and Toppings should be protected from too-rapid hydrating by covering with PVC cover sheets immediately after application.

New Screeds and Toppings should be protected from building operations and other trades until fully cured. They should also be completely protected until fully covered with a suitable floor covering.

At 20°C **Talcem** based Screeds and Toppings can be subjected to **light** foot traffic after 6 hours.

Tiles may be fixed after 48 – 72 hours, **once the moisture content is 5% or less**. Other floor and wall coverings, such as vinyl and carpeting, may be fixed after approximately 72 – 96 hours, if the moisture content has dropped low enough for the selected floor covering (moisture testing must be conducted and the moisture content deemed suitable before installing floor coverings).

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Note : **Talcem** is based on rapid-setting cement technology, and will cure in the times indicated. However, factors on site such as application thickness, poor ventilation, drainage, low ambient temperatures, initial cement-to-water ratios, etc can delay the drying-out, or residual moisture content, of the **Talcem** + Aggregate Screed / Topping. The installation of floor coverings must not commence before the moisture content of the screed has been tested and deemed suitable for the application of the particular floor covering.

Underlayment and levelling compounds such as **TAL Superscreed**, **TAL Superscreed SL** or **TAL Screedmaster** can be applied over the cured **Talcem** + Aggregate Screed or Topping to achieve a smooth, level finish suitable for the installation of resilient floor coverings, such as vinyl and carpeting.

The **Talcem** + Aggregate installation must attain a moisture content of 5% or less before these Underlayment and Levelling Compounds can be installed.

Before floor coverings are installed it is the **Flooring Contractor's responsibility** to :

A) Thoroughly inspect the new **Talcem** + Aggregate Screed installation and confirm that it is integrally sound and does not show signs of Overwatering and Product Separation;

B) Conduct Moisture Testing on the new surface prior to installing Vinyl or Resin floor coverings, as any moisture trapped below the Vinyl or Resin flooring may result in the installation 'bubbling'

The new **Talcem** + Aggregate Screed surface must be thoroughly swept to remove all traces of dust and loose particles before installing any floor coverings. Contamination on the substrate may have an adverse effect on the long term performance of the floor covering.

8. Limitations

Never add more liquid to a mix which has been left standing for too long (retempering) as this will compromise the integrity of the screed.

Do not apply in rain or wet conditions or at temperatures below 5°C.

Lower temperatures produce a slower set; higher temperatures produce a faster set.

Do not expose to running water or service conditions until the product is cured fully.

10. Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. E-mail taltech@tal.co.za or call 0860 000 825 for a copy of the MSDS.

Operatives should use barrier creams when handling cementitious materials. Care should be taken not to allow cementitious products to come into contact with skin.

Operatives should use the following Personal Protection Equipment :

- Eye protection (goggles)
- Dust Mask
- Gloves
- Rubber soled safety shoes
- Coveralls
- Safety helmet

When using electrical equipment such as mixers ensure that they are properly fused and earthed with the correct plug and sockets fitted.

Do not use electrical equipment if it will come into contact with water.

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11. Authorized Technical Specialist

Please note that only TAL Authorized Technical Specialists are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product.

12. 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 the product is suitable for the intended purpose. In special cases, obtain professional advice.

TAL cannot be held responsible for the standard of workmanship on site, or any problems caused by unsound structures or foundations, building movement (cracking, creep, deflection, vibration, etc), design defects, earth tremor or other seismic disturbances, etc, 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.

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