

DESCRIPTION

TALCEM is a specially formulated rapid-setting Grey Cement, requiring the addition of sand and, where necessary, stone (no greater than 6mm), and mixing with clean (potable) water, for the preparation of rapid-setting shrinkage-compensated mortars to be used as Screeds, Toppings and Renders for interior and exterior applications.

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, **once the moisture content is less than 3%**.

TAL SUPERSCREED or TAL SCREEDMASTER can be applied over the cured TALCEM based Screed or Topping to achieve a smooth, level finish suitable for the installation of resilient floor coverings, such as vinyl and carpeting.

After 1 day, the compressive strength and flexural strength of TALCEM Screeds and Toppings exceed the level normally attained using conventional cement/sand screeds after 7 days.

TECHNICAL DATA

Type	Highly modified rapid-setting cement
Colour	Grey
Setting Type	Rapid setting
Pot life*	1 Hour
Open Time* (Working time after mixing)	30 Minutes
Initial Set*	3 Hours
Trafficable (light) after*	6 Hours
Floor covering installation*	72 – 96 Hours, depending on application thickness and ambient conditions
Compressive Strength (1 : 3 mix)	
- 1 day	25.5 MPa (N/mm ²)
- 7 days	35.0 MPa (N/mm ²)
- 28 days	40 – 50 MPa (N/mm ²)
Flexural Strength (1 : 3 mix)	
- 1 day	3.5 MPa (N/mm ²)
- 7 days	4.1 MPa (N/mm ²)
- 28 days	6.6 MPa (N/mm ²)
Application temperature range	10°C - 30°C
Temperature Resistance	-30°C - +100°C
Mix proportions (Cement : dry sand by weight)	
- screeds	1 : 3
- renders	1 : 4 to 1 : 5
Optimum water / cement ratios	
- screeds	0.4
- renders	0.8
Min application thickness	20mm (bonded screed)
Max application thickness	Dependent on aggregate
Density	1.80
Pack size	25kg

*At 25°C and 50% relative humidity.

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NOTE :

- 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.
- All surface beds should have a damp proof membrane, and all substrates must attain moisture levels of 5% (75% RH) or less before the application of TALCEM.
Should there be no damp proof membrane below a surface bed, or should prevailing moisture levels not attain 5% (75% RH) or less then TAL X-CALIBUR X-SHIELD VAPORSTOP HB must be applied before the application of TALCEM/Aggregate Screeds and Toppings. X-SHIELD VAPORSTOP HB is a moisture tolerant, 100% solids epoxy barrier coat that prevents the passage of water vapour and moisture through concrete slabs and screeds.
Please contact TAL for a specification for the application of X-SHIELD VAPORSTOP HB if required.
- TALCEM is suitably designed for application onto concrete and screeded substrates. These substrates 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 installation be compromised as a result of failure or debonding (cohesive failure) occurring within the subsurface.

SURFACE PREPARATION

New floor and wall surfaces must be allowed to cure for the minimum periods detailed below:

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

The substrate must be structurally sound, 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. All damaged, defective, deteriorated, friable (powdery) and hollow sounding areas must be removed until a solid background is achieved.

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

All protruding reinforcing steel bars should be free of rust and primed with a high-grade metal primer. Allow for a minimum of 20mm cover to steel reinforcement.

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

CONSTRUCTION JOINTS / VOIDED JOINTS

Existing Joints :

All construction/cold joints and structural joints in the substrate, as well as structural cracks which may be dynamic before and/or after the TALCEM/Aggregate installation, must be extended through to the surface of the Screed or Topping in the form of voided joints. With regards to these voided joints already in the concrete slab, the full width of the joint should be maintained and extended through the screeds to the surface.

New Joints :

Bay divisions and construction joints should be incorporated in the screeds as for normal sand/cement screeds in accordance with the SABS/SANS Code of Practice, and in accordance with the Project / Site Engineer's recommendations.

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Voided joints should also be located around the perimeter of all floors, against obstructions fixed to the structural background, and around all protruding fixtures such as walls, columns and stairs. All voided joints in the substrate, including saw cuts, must be filled with TAL SEALMASTER CORD prior to the screed application to prevent these joints from being filled with screed.

PRIMING (BONDED SCREEDS)

The floor must be thoroughly swept to remove all traces of dust and loose particles. **(Vacuuming is preferred.) The substrate must have a moisture content of 5% (75% RH) or less before proceeding.**

Priming must be undertaken using TAL X-CALIBUR X-SHIELD SF PRIMER. The primer must be mixed and applied strictly in accordance with the product Data Sheet and Method Statement.

MIXING

TALCEM should be used as follows :

Screeds :

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

Mix ratio for a 1 : 3 mix :

TALCEM	Coarse, Well Graded Quartz Sand to SABS 10083 : 2002	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 cement and a well-balanced envelope of fine, medium and coarse aggregate (size of coarse aggregate to be no greater than 6mm) mixed in proportions **1 : 3** by weight when based on dry sand. The sand should be well graded, clean and sharp, should not contain undue proportions of fines and clays, and should be free of organic material.

Renders :

Mix ratio 1 : 4 or 1 : 5 cement : dry sand, by weight

Mix ratio for a 1 : 4 mix :

TALCEM	Rendering Sand to SABS 1090 : 1976	Water	Optimum Water / Cement Ratio
50kg	200kg	Approx 30 – 40 litres, depending on moisture content of sand	0.8

NOTE: 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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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, 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 20ℓ of TAL FLOORKEY per 100kg of cement is usually satisfactory.

APPLICATION

After mixing, TALCEM mortars are useable for approximately 30 minutes. TALCEM mortars can be used as follows :

Floor Screed :

Bonded Screeds : Minimum Screed Thickness – 20mm

- 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 – 65mm

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

General

- 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.
- **New Screeds and Toppings should be protected from too-rapid hydrating by covering with PVC cover sheets immediately after application, and must be protected from other building operations and trades until fully cured.**

Wall Renders :

- For improved adhesion on dense or low porosity surfaces a slurry bonding coat comprising of 1 part TAL FLOORKEY mixed with 2 parts TAL RAPIDFIX (by volume) should be applied by block brush to the wall surface and the wall rendered whilst the slurry coat is STILL TACKY, ie within 10 – 15 minutes of application.
- Porous surfaces may be slightly dampened to control absorption.
- Render the wall to the required thickness in accordance with standard practice.
- The render should be trowelled onto the wall surface as a single coat of 6 – 12mm thickness in accordance with normal rendering practice. For greater thickness, comb or scratch the first coat before it hardens to provide a key for the second coat.

TALCEM based Screeds, Toppings and Renders must be allowed to cure for a minimum of 48 - 72 HOURS. Surfaces to receive tiles should be left with a woodfloat finish. The Screeds, Toppings and Renders should then be clean, dry, firm and sound and free of laitance and other surface contaminants.

Screeds, Toppings and Renders must have a moisture content of 5% or less before tiling can be commenced.

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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 or Topping. The installation of floor coverings must not commence before the moisture content of the screed has been tested and proven suitable for the application of the particular floor covering.

COVERAGE

50kg TALCEM is sufficient for :

Screed : 2.2m² at 50mm thickness, when used as a 1 : 3 mortar

Render : 12m² at 10mm thickness, when used as a 1 : 4 mortar

PACKAGING

TALCEM is available in 25kg 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 6 months from date of manufacture. Never store directly on a concrete floor.

WARNING

DO NOT INGEST. USE ONLY AS DIRECTED. 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 AND SAFETY INFORMATION.

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. 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, cracking of the substrate, deflections of slabs or backgrounds, vibration, creep movement of the structure, 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.

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@norcrossa.com

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

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