RonaScreed 4 Day Overlay Quick Drying Screed

Powder additive for quick drying screeds

FEATURES

- **rapid hardening—light foot traffic in 24 hours**
- **rapid drying—can receive floor coverings such as vinyl, tiles and carpet after 4 days @ 50mm thickness and 3 days @ 75-100mm thickness**
- **rapid early strength development**
- **apply as a bonded screed from 35mm**
- **apply as an unbonded screed from 50mm**
- **apply as a floating screed from 65mm minimum thickness**
- **compressive strength >40N/mm² after 28 days**
- **suitable for screed pumps—consult technical department**
- **compatible with underfloor heating systems**

Description

RonaScreed 4 Day Overlay Quick Drying Screed additive for site batched screeds is used to quickly reduce the level of retained moisture within the screed allowing floor coverings to be laid over the screed much sooner than with conventional screeds. Rapid strength gain permits early access by following trades.

RonaScreed 4 Day Overlay Quick Drying Screed is supplied in powder form. Each 3kg sachet is sufficient for a 25kg bag of cement. It promotes rapid drying and early laying of floor coverings such as sheet vinyl, tiles and other materials including the range of RonaFloor Epoxy and Polyurethane coatings (refer to Ronacrete Technical Department).

RonaScreed 4 Day Overlay Quick Drying Screed additive is typically incorporated within 35mm to 75mm thick floor screeds and applied by competent screeding and floor laying contractors. RonaScreed 4 Day Overlay Quick Drying Screed can be purchased and laid by non-licensed screeding contractors.

Drying Time of 50mm screed tested @ 20^{0}C & 65% RH	**1 day**	**84%**
	2 days	**80%**
	3 days	**76%**
	4 days	**74%**
Drying Time of 75-100mm screed tested @ 20^{0}C & 65%	**2 days**	**< 80%**
	3 days	**< 73%**

The accepted figure for the laying of vinyl floor coverings, tiles etc is 75% relative humidity at the screed surface. Also refer to “Drying”

The data is based on drying @ 20°C and 65% relative humidity. Low temperature, high humidity, the use of additional sand and other poor drying

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Drying Times (continued)

conditions will delay drying. If the screed is covered with a curing membrane such as polythene, then the drying time starts when the membrane is removed. The relative humidity (RH) at the surface of the screed should measured with a hygrometer before proceeding to lay floor coverings. Standard practices should be followed. Testing was carried out using CEM II 42.5R Portland cement, CEM II 42.5 Portland cement must be used in accordance with BS 8204-1.

Physical Properties

Compressive Strength	
1 day	30N/mm²
28 days	68N/mm²

The above are typical laboratory results @ 20°C. Site strengths will be lower.

Yield and Coverage

Required per m² @ 50mm	**3kg**
Required per m² @ 75mm	**4.5kg**
Required per m³	**60kg**

Mix Design

Portland cement (CEM II 42.5)	**50kg**
Medium grade sharp sand	**150kg**
RonaScreed 4 Day Overlay Quick Drying Screed	**6kg**
Water	Up to **18 litres**
Yield per mix	**0.1m³**

Measuring Surface Drying

Drying concrete must be separated from the screed by polythene or RonaScreed DPM surface damp proof membrane. Screeds thicker than those referred to will take longer to dry out. Screeds which are wetted during their application or curing will take longer to dry out.

Note that RonaScreed screeds are designed to be covered with carpet, vinyl, tiles or other coverings and are not designed as wearing screeds or toppings. For wearing screeds Ronafix or RonaScreed Self Smoothing Topping should be used.

Areas of Use

RonaScreed 4 Day Overlay Quick Drying Screed screeds can be laid in the following situations:

- over concrete slabs
- over existing screeds
- on to damp proof membranes (minimum thickness 35mm on to RonaScreed DPM)
- on insulating board (minimum thickness 65mm)
- unbonded on precast concrete, slabs/planks
- unbonded on lightweight screeds

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Areas of Use (continued)

All RonaScreed 4 Day Overlay Quick Drying Screed mix designs meet the requirements of Category A, BS8204 Part 1 and are therefore suitable for use in the following areas:

Category A - Very Heavy Traffic
e.g. hospital corridors, operating theatres, x-ray rooms, laboratories

Category B - Heavy Traffic
e.g. canteens, restaurants, hospital wards, main corridors

Category C - Light Traffic
e.g. foot traffic, light trolleys, offices, domestic housing

Drying and Hardening

Floor screeds incorporating RonaScreed 4 Day Overlay Quick Drying Screed dry more quickly than traditional screeds and will generally accept foot traffic after 24 hours only. Vinyl floor coverings and tiles can be laid over a RonaScreed 4 Day Overlay Quick Drying Screed surface as soon as 3-4 days after laying.

Bonded, Unbonded and Floating Screeds

RonaScreed 4 Day Overlay Quick Drying Screed screeds can be laid either bonded, unbonded or floating. Bonded screeds must be laid on to a suitably prepared substrate (see Surface Preparation). Unbonded screeds are those laid on a separating layer or preformed damp proof membrane. Floating screeds are those laid on to an insulation board or resilient layer.

Bonded Screed (from 35mm)
- suitable substrate, mechanically prepared (and optionally covered with RonaScreed DPM)
- prime with Ronacrete Standard Primer

Bonded Screed (from 50mm)
- suitable substrate, mechanically prepared
- primer with cement : water (2:1)

Unbonded Screed (from 50mm)
- solid substrate with polythene or other suitable membrane

Floating Screed (65mm)
- light use
- insulation board

Floating Screed (75mm)
- heavy use
- insulation board

Damp Proof Membrane

A damp proof membrane should be present the under the concrete slab to prevent moisture penetration from below. If no membrane is present or if the concrete is drying, apply two coats of RonaScreed DPM or install a sheet or similar membrane. If RonaScreed DPM is laid on to a clean, sound substrate

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Damp Proof Membrane (continued)

as specified in the RonaScreed DPM data sheet it is possible to lay RonaScreed 4 Day Overlay Quick Drying Screed at a minimum thickness of 35mm, bonded to the RonaScreed DPM with a primer of Ronafix and cement.

Mix Components and Design

The basic components of a RonaScreed 4 Day Overlay Quick Drying Screed mortar are Portland cement CEMII 42.5R for strength and drying time as shown in the data sheet, and sand from grade 0/4 to BS EN 126208, RonaScreed 4 Day Overlay Quick Drying Screed additive and clean water. There should be sufficient water added to fully hydrate the cement, use of insufficient water will result in reduced strength. Larger sized aggregates may be used for concrete or granolithic finishes.

RonaScreed 4 Day Overlay Quick Drying Screed mix 1 yields approximately 0.1m^3. The density of the cured screed is approximately 2300kg/m^3. This mix design can be altered to 1:4 (cement: sand) by weight if preferred, but strength will be reduced and drying time will be extended.

Instructions for Use

Surface Preparation for bonded screeds
The surface on to which a RonaScreed 4 Day Overlay Quick Drying Screed screeds is to be bonded must be clean, structurally sound and stable. All grease, oil, laitance and loose material must be removed. The surface must be keyed to expose the aggregate and to provide good adhesion. This is best achieved by scabbling, planing or shot blasting. The prepared surface must be cleaned (ideally by vacuum), damped with clean water and excess water removed.

Mixing
RonaScreed 4 Day Overlay Quick Drying Screed must be mixed using a forced action mixer to provide maximum workability and compaction with the amount of liquid required to fully hydrate the cement. Dry mix the cement and sand then add the RonaScreed 4 Day Overlay Quick Drying Screed powder followed by sufficient clean water to provide the desired level of workability. The screeder should be able to make a ball of the mixed mortar and pull it apart without crumbling of the mortar.

Priming
The prepared surface must be thoroughly damped with clean water and the water allowed to soak in.

Excess water must be removed and the appropriate bond coat applied. For bonded screeds this is a mix of 1:1 Ronafix: cement brushed in to the surface or for screeds thicker than 50mm, a 2:1 cement/water slurry. Before this dries the screed must be laid. If the bonding coat dries it must be vigorously scratched and reapplied.

Laying
Standard screeding practices should be followed. The mortar must be placed as soon as possible after mixing and well consolidated. Conventional tools such as float and trowel are used to obtain the desired surface finish.

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Instructions for Use (continued)

Embedded Conduits and Pipes
When laying conduits or pipes within RonaScreed 4 Day Overlay Quick Drying Screed screeds the conduit or pipe should be a minimum of 25mm beneath the top surface. It is advisable to incorporate reinforcing mesh centrally within the depth of the screed over the conduit or pipe, extending for not less than 150mm each side to minimise the risk of cracking.

Bay Sizes
RonaScreed 4 Day Overlay Quick Drying Screed should be laid as one continuous area, taking care to observe the following:

- construction joints in the substrate must be expressed through into the screed
- expansion joints in the substrate must be expressed through into the screed
- when laying on suspended floors movement joints should be installed in the screed over support positions to accommodate movement
- isolation joints should be installed around the perimeter of the floor and around columns, manholes and fixed spaces to accommodate movement

Curing
Curing must commence as soon as possible after finishing the screed. Cure the screed with tight fitting polythene, placed on to the screed as early as possible without damaging the surface. Cover for 24 hours then remove and air cure.

Laying on to Precast Planks
When laying RonaScreed 4 Day Overlay Quick Drying Screed on to precast planks the screed should be laid unbonded with a separating membrane. When reinforcing the screed with a suitable mesh (e.g. D49 mesh) the mesh should be placed in the middle third of the screed.

Pumping
RonaScreed 4 Day Overlay Quick Drying Screed modified screeds can be pumped to the point of laying. Tests have been conducted using Putzmeister equipment and specific guidance should be sought from Ronacrete Ltd.

Contractors

Ronacrete Ltd maintains a list of national and local contractors who are familiar with this type of flooring system and their application procedure but unlike other screeds of a similar nature RonaScreed 4 Day Overlay Pre-packed Quick Drying Screed can be purchased and applied by competent screeding contractors throughout the country.

There are obvious advantages in selecting a contractor who has previous experience of the material but if requested the Ronacrete Technical Department will provide guidance and assistance to other contractors.

Other Flooring Materials

Depending on the specific requirements of the floor system being laid Ronacrete may recommend an alternative product and specification which may be more suited to the application.

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Other Flooring Materials (continued)

To discuss the use of Ronacrete materials for any application please contact the Ronacrete Technical Department for full technical and practical guidance at design and specification stage together with site assistance and practical backup.

Advice can also be given to those contractors and specifiers not familiar with Ronacrete products and techniques.

Packaging

RonaScreed 4 Day Overlay Quick Drying Screed is supplied in 18kg packs.

Shelf Life and Storage

RonaScreed 4 Day Overlay Quick Drying Screed should be stored unopened between 5°C and 25°C in dry warehouse conditions and out of direct sunlight. In these conditions shelf life is approximately 9 months.

Health and Safety

Refer to safety data sheet.

Site Attendance

When on site Ronacrete representatives are able, if asked, to give a general indication of the correct method of installing a Ronacrete product. It is important to bear in mind that Ronacrete Ltd is a manufacturer and not an application contractor and it is therefore the responsibility of the contractor and his employer to ensure he is aware of and implements the correct practices and procedures to ensure the correct installation of the product and that liability for its correct installation lies with the contractor and not with Ronacrete Ltd.

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BS EN 13813

Floor Screed

Product: RonaScreed 4 Day Overlay Quick Drying Screed
Reaction to Fire: A2-s1,d0
Release of Corrosive Substances: None
Capillary Water Absorption: < 0.40kg / m2 . min0.5
Compressive Strength: > C40
Flexural Strength: > F4
Wear Resistance BCA Method: AR3
Dampness Test (headspace):75% RH at 20C at 4 days
Release of Dangerous Substances: Refer to Safety Data Sheet

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