

RonaScreed 21 Day Overlay

Fast drying screed additive



FEATURES

- will accept foot traffic after 24 hours
- rapid drying—can receive floor coverings such as vinyl, tiles and carpet after 18 days @ 50mm thick and 21 days at 75mm
- rapid early strength development
- liquid admixture disperses quickly and fully in the gauging liquid
- apply as a bonded screed from 35mm, unbonded from 50mm and floating from 65mm
- compressive strength in excess of 40N/mm² can be achieved after 28 days
- suitable for screed pumps
- concentration of admixture saves packaging waste

Description

RonaScreed 21 Day Overlay screeding 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. They also promote high early strength in compression, permitting early access by following trades.

RonaScreed 21 Day Overlay is supplied in concentrated form and used in low dilution. 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 21 Day Overlay is typically incorporated within 35mm to 75mm thick floor screeds and applied by competent screeding and floor laying contractors. RonaScreed 21 Day Overlay is simple and straightforward to use and can be purchased and laid by non-licensed screeding contractors.

Drying Time of 50mm screed	11 days	80%
	18 days	75%
Drying Time of 75mm screed	14 days	80%
	21 days	75%

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

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Drying

The data is based on drying @ 20°C in good drying conditions. Low temperature, high humidity, slow air movement and other poor drying conditions will delay the drying times. 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 be measured with a hygrometer before proceeding to lay floor coverings. Standard practices should be followed.

Physical Properties

Compressive Strength

1 day	18N/mm ²
28 days	36N/mm ²

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

Yield and Coverage

Required per m ² @ 50mm	0.45 litres
Required per m ² @ 75mm	0.68 litres
Required per m ³	9 litres

Mix Design

Portland cement	50kg (1)
Medium grade sharp sand	200kg (3.5)
RonaScreed 21 Day Overlay	1 litre
Water	15.7 litres approx
Yield per mix	0.14m ³

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 21 Day Overlay 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)

BS8204 Part 1 defines methods of testing the performance of bonded screeds. All bonded RonaScreed 21 Day Overlay mix designs tested to this standard meet the requirements of categories A, B and C of 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 21 Day Overlay dry out more quickly than unmodified screeds and will generally accept foot traffic after 24 hours only. Vinyl floor coverings and tiles can be laid over a RonaScreed 21 Day Overlay surface as soon as 18 days after laying (for a 50mm screed) and 21 days (for a 75mm screed).

The durability and hardness of a RonaScreed 21 Day Overlay floor is superior to standard floor screeds due to its high density, compressive strength and impact resistance.

Bonded, Unbonded and Floating Screeds

RonaScreed 21 Day Overlay screeds can be laid either bonded, unbonded or floating, determined by the substrate type. 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.

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

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Damp Proof Membrane

A damp proof membrane should be present 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 as specified in the RonaScreed DPM data sheet it is possible to lay RonaScreed 21 Day Overlay 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 21 Day Overlay screed are cement (BS EN197 CEM II 32.5R), sand from grade C or M of table 5 of BS882, RonaScreed 21 Day Overlay and clean water, the water content shown in mix designs must be adhered to, dry mixes will fail to fully hydrate the cement. Larger sized aggregates are used for concrete or granolithic finishes; see Table 4 of BS882.

RonaScreed 21 Day Overlay mix 1 gives a water/cement ratio of 0.36 and yields approximately 0.1m³. The density of the cured screed is approximately 2300kg/m³. This mix design can be leaned out to 1:4 (cement : sand) by weight if preferred, but strength will be reduced.

Aggregate Water Content

If damp sand is used the amount of water should be adjusted accordingly to ensure the correct amount of RonaScreed 21 Day Overlay is added.

Instructions for Use

Surface Preparation

The surface on to which a RonaScreed 21 Day Overlay screed 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 blasting. The prepared surface must be cleaned (ideally by vacuum), damped with clean water and excess water removed.

Mixing

RonaScreed 21 Day Overlay is best mixed using a forced action mixer to provide maximum workability and compaction with the minimum amount of liquid, Mix 1 must always be mixed with a forced action mixer. Dry mix the cement and sand then add the RonaScreed 21 Day Overlay liquid 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

Where thickness dictates the use of a bonding coat, the prepared surface must be well 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, depending on thickness, a 2:1 cement/water slurry. Before this dries the

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Instructions for Use (continued)

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.

Embedded Conduits and Pipes

When laying conduits or pipes within RonaScreed 21 Day Overlay 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

A RonaScreed 21 Day Overlay 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 Damp Proof Membrane

When laying a RonaScreed 21 Day Overlay screed on to a dpm we recommend the guidelines shown in BRE paper CP 94/74 'The rippling of thin flooring over discontinuities in screeds' are followed.

Laying on to Precast Planks

When laying a RonaScreed 21 Day Overlay screed on to precast planks the screed should ideally be laid unbonded with a separating membrane. If the screed can not be laid thick enough to be unbonded, the planks should either be provided with an acceptable rough clean laitance free finish or be lightly shot blasted and vacuum cleaned. The screed should be bonded using a primer of 1:1 Ronafix: cement. Hairline cracks forming in line with the joints between the units will not be detrimental to the screed provided the screed is well bonded.

Reinforcing the screed with a suitable mesh (e.g. D49 mesh placed in the lower third to half depth of the screed) may be appropriate for particular types of suspended floor design. Consult the Ronacrete Technical Department.

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Instructions for Use (continued)

Pumping

RonaScreed 21 Day Overlay 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.

Testing

The strength of the screed can be measured using a BRE Screedtester.

Contractors

Unlike other screeds of a similar nature RonaScreed 21 Day Overlay can be purchased and applied by competent screeding contractors throughout the country.

Ronacrete Ltd maintains a list of national and local contractors who are familiar with this type of flooring system and their application procedure.

The use of RonaScreed 21 Day Overlay is simple and straightforward and satisfactory performance will be achieved provided the correct methods are followed.

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.

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.

Packaging

RonaScreed 21 Day Overlay is supplied in 20 and 210 litre units.

Shelf Life and Storage

Shelf life in unopened containers is 9 months. Store in a cool dry place. Protect from frost.

Health and Safety

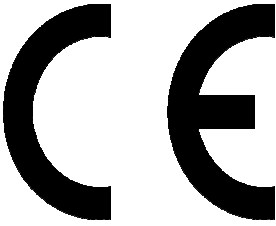
RonaScreed 21 Day Overlay is non-flammable and harmful by ingestion. Prolonged contact with skin should be avoided. Any splashes should be washed well with water. If contact with eyes occurs wash thoroughly with water and seek medical advice.

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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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Ronacrete Ltd, Flex Meadow, Harlow Essex, CM19 5TD, UK 13 0836-CPR-13/F043
BS EN 934-3 Admixtures for Masonry Mortar
Product: RonaScreed 21 Day Overlay Chloride ion content: $\leq 0.1\%$ Dampness Test: 75% RH at 20C at 21 Days 75mm depth of 1:3 cement / sand mix

The information detailed in this leaflet is liable to modification from time to time in the light of experience and of normal product application, and before using, customers are advised to check with Ronacrete Ltd, quoting the reference number, that they possess the latest issue. Any person or company using the product without first making further enquiries as to the suitability of the product for the intended use does so at his own risk, and Ronacrete Ltd can accept no responsibility for the performance of the product, or for any loss or damage arising out of such use.