



Ronafix SBR (Screeds)

Admixture for thin bonded, floating & unbonded screeds and toppings



FEATURES

- **High solids content SBR admixture for multiple applications. Refer to separate data sheets for:**
 - Ronafix SBR (Renders)
 - Ronafix SBR (Bedding)
 - Ronafix SBR (Concrete Repair)
- Will accept foot traffic after 24 hours
- Rapid drying
- Excellent wear resistance
- Greatly reduced application thickness
- Improved compressive, flexural and tensile strength
- Compatible with underfloor heating systems
- Excellent resistance to passage of water and water vapour

Description

Ronafix SBR is an admixture that increases the physical properties of site batched sand and cement screeds. Screeds containing Ronafix SBR will have enhanced strengths which allow for thin section application and early access. The mix design for each is Ronafix SBR, cement, medium grade sharp sand, aggregate as determined by the mix design, plus water. The components are measured by weight or by volume on site and mixed to form the screed.

Bonded screeds are used with a primer of Ronafix SBR and cement which achieves monolithic adhesion to correctly prepared concrete.

Ronafix SBR screeds are used to lay new screeds and toppings as thin as 10mm bonded or 35mm unbonded and floating. The cured mortar bonds securely to suitably prepared surfaces and is water resistant.

Uses

Mix Design	Use	Minimum thickness			
		Bonded	Unbonded	Floating*	Heated**
Mix A	Levelling & wearing screed	10mm	35mm	35mm	40mm
Mix A1	Levelling screed	25mm	35mm	35mm	40mm
Mix B	Granolithic levelling & wearing screed	15mm	-	-	-
Mix G	Fine concrete levelling screed	25mm	35mm	-	-

Notes:

* minimum application thickness for light duty usage (residential)

** minimum application thickness for light duty usage (residential) when used with 16mm diameter underfloor heating pipework. Minimum 20mm cover to pipework to be maintained.

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Mix Designs and Physical Properties

Mix Design	Mix A	Mix A1	Mix B	Mix G
Cement (CEM II 42.5)	50kg	50kg	50kg	50kg
0/4mm screeding sand	125kg	200kg	150kg	100kg
3-6mm granite chips	-	-	50kg	-
6-10mm pea shingle	-	-	-	100kg
Ronafix SBR	9 litres	5 litres	10 litres	5 litres
Water addition	See note below	See note below	See note below	See note below
Yield (approximately)	0.1m ³	0.12m ³	0.12m ³	0.14m ³

Compressive Strength

1 day	38N/mm ²	16N/mm ²	20N/mm ²	23N/mm ²
7 days	56N/mm ²	34N/mm ²	45N/mm ²	47N/mm ²
28 days	70N/mm ²	40N/mm ²	60N/mm ²	58N/mm ²

Tensile Strength

7 days	5.0N/mm ²	3.0N/mm ²	4.5N/mm ²	4.5N/mm ²
28 days	7.1N/mm ²	3.5N/mm ²	5.0N/mm ²	6.0N/mm ²

Flexural Strength

7 days	12.9N/mm ²	6.5N/mm ²	9.0N/mm ²	17.0N/mm ²
28 days	16.2N/mm ²	7.0N/mm ²	10.0N/mm ²	18.0N/mm ²

Abrasion Resistance

Value	AR0.5	N/A	AR0.5	N/A
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All quoted data is based on tests conducted at 20°C by casting 100mm cubes which are air cured. Results shown are typical strengths achieved by casting and curing cubes in laboratory conditions; site strengths will be lower.

Note: Water addition

Water addition will depend on the sand water content. To test for correct consistency a ball should be made of the mortar, squeezing of the ball should not produce free liquid. When the ball is pulled apart it should separate in two pieces without crumbling.

Underfloor Heating Screeds

Ronafix SBR Mix Designs A & A1 may be used with underfloor heating systems and can be laid to a minimum thickness of 40mm, when used with 16mm diameter pipework. Thin section heated screeds provide improved thermal output from the underfloor heating system, saving on energy consumption. Screeds containing Ronafix SBR also dry faster than conventional sand : cement screeds meaning the commissioning process can begin earlier (after only 7 days @ 40mm thickness) and can also be opened to foot traffic after 24 hours.

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Preparation

Preparation—Bonded Screeds

The substrate to which Ronafix SBR screeds are to be bonded must be structurally sound and stable. Minimum compressive strength should be 25N/mm² and minimum pull-off strength should be 0.8N/mm². Surfaces should ideally be vacuum shot blasted or similar to expose the aggregate and provide a mechanical key. All grease and oil must be removed. Dust, debris and loose material must be removed by vacuuming. Any defect or weakness in the substrate may result in failure of the topping placed in contact with it. The recommendations given in BS8204-3: 2004 Part 7 should be followed, to assess the suitability of the substrate and maximise the performance of the topping. Note the minimum and maximum application depths for each mix design. Surfaces must be cut back to allow the minimum depth of mortar to be placed without feather edging.

Damping

The prepared surfaces must be thoroughly damped with clean water. Very porous surfaces may require soaking for up to 24 hours. All surplus water must be removed before the primer is applied.

Priming

Brush apply a coat of Ronafix SBR / cement primer mixed 1:1 by volume to the damp surface immediately before applying the screed, at the rate of 3-4m² approximately per litre of Ronafix SBR. Mix the primer thoroughly and apply evenly over the surfaces ensuring total and uniform coverage, taking care to avoid ponding. Only prime an area of floor which can be covered by the mortar within the working time of the primer.

Note that the primer must not be allowed to dry. If it dries it must be thoroughly scratched and reapplied.

Preparation—Unbonded Screeds

Position isolation joints in doorways and on all perimeter upstands and openings in the screed to ensure that the screed is not restrained by fixed building elements.

Sudden deviations in substrate levels may be points of restraint and should be removed where possible.

Remove all loose materials and apply a polythene slip membrane.

Preparation—Floating Screeds (unheated or heated)

Ensure the slab provides a level bearing surface for the insulation, to prevent rocking.

Ensure the insulation is sufficiently strong to support the anticipated load transmitted through the screed without deforming.

After the insulation has been laid, apply a suitable slip membrane (typically 500 gauge polythene)

Position isolation joints in doorways and on all perimeter upstands and openings in the screed to ensure that the screed is not restrained by fixed building elements.

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Mixing & Application

Mixing

Ronafix SBR screeds should be mixed by forced action mixer or high powered, slow speed drill and suitable spiral paddle. Machine mixing will more easily provide a mortar with even dispersion of mix components and a lower water/cement ratio. The use of a forced action mixer (e.g.. Creteangle or Baron) will provide optimum performance; free fall mixers cause the mortar to ball up with a resultant reduction in performance and their use is not recommended. When using an efficient mixer, a mixing time of 2-3 minutes is normally sufficient. Do not overmix as this will entrain air and may affect performance. It is essential to the performance of the screed that there is sufficient gauging liquid in the mix and that the correct amount of Ronafix SBR is used. **Ronafix SBR must not be pre-diluted before adding to the mix.** The consistency of the screed must **not** be semi-dry, good compaction cannot be achieved with a semi-dry mix. To test for correct consistency, make a ball of the mixed material. If the ball can be pulled apart without crumbling, the mortar will contain sufficient gauging liquid to fully hydrate the cement and allow proper compaction. Once mixed the mortar should be used as quickly as possible.

Placing

As soon as the mortar is mixed, it should be placed onto the wet/tacky primer (if bonded), compacted, ruled and closed with a float or trowel. Avoid overworking the surfaces, this will increase the tackiness of the mortar. The float should be regularly washed, to prevent build up of polymer/cement paste. Some Ronafix SBR Wearing Screeds contain granite and may need to be polished and finished by final trowelling after placing.

Screeds and toppings with an overall thickness greater than the maximum depth per layer, 50mm approximately, must be placed monolithically (wet on wet) in more than one layer to ensure compaction. Each layer should be of approximately equal thickness and using the same mix design. To ensure satisfactory adhesion the lower layer(s) should be lightly combed, raked or roughened to provide a key for the next layer. Should intermediate layers dry, a priming coat must be applied between layers.

Joints

Joints

Joints should be formed in the floor screed/topping in line with expansion, contraction and movement joints and, on suspended floors, over support positions to accommodate movement. Isolation joints should also be placed around the perimeter of floor slabs and around columns, manholes and fixed bases. Joints should also be formed between any hot and cold areas of the floor. For further information refer to BS8204-3.

Expansion joints for heated screeds to receive most types of rigid floorings and some types of resilient floorings should be positioned so that screed bays are no larger than 40m² with a length no greater than 8m, see BS 8204-1 Design Considerations. Separate heating zones should be divided by expansion joints

Bay Proportions

Bay Proportions

Bay length should preferably not exceed bay width by more than a multiple of 1.5. Bay proportions exceeding 1.5:1 are at increasing risk of stress relief cracking when the difference becomes greater than that. Stress relief joints may be cut into fresh screed with the edge of a steel float and trowelled over to produce a smooth surface, or formed by laying separate bays. The depth of the cut should extend to at least 50% of the screed thickness.

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Curing

Curing

As soon as possible after finishing the surface, cure with Ronacrete Curing Membrane. Alternatively use tight fitting polythene leaving in place for at least 24 hours @ 20°C to prevent rapid moisture loss and surface cracking and crazing. Take care not to damage the surface. The use of Ronacrete Curing Membrane is preferred, because curing may commence immediately after trowelling is complete.

External screeds exposed to drying winds and direct sunlight may be cured with a combination of Ronacrete Curing Membrane and polythene. The finished screed is to be cured initially with Ronacrete Curing Membrane, as soon as an area has been laid and then with tight fitting polythene, when the screed has hardened sufficiently, for minimum 24 hours @ 20°C. Care must be taken to fully seal the edges to prevent air movement under the polythene.

Using the Surface

Ronafix SBR screeds, toppings and repairs can receive foot traffic after 24-36 hours (typically at 20°C) and after 3-5 days (typically at 20°C) heavy traffic may be allowed. This time will vary according to temperature, amount of liquid added during mixing, air circulation and general conditions.

Drying Times & Overlaying

Mix Design	RH	Thickness (mm)				
		25	40	50	75	85
Mix A	75% RH	13 days	9days	8 days	7 days	7 days

Mix designs containing less Ronafix SBR will take longer to achieve 75%RH.

The time at which floor coverings can be laid over a Ronafix SBR screed is dependent on residual moisture content. The above data is based on drying @ 20°C and 60±5% relative humidity. Low temperature, high humidity and changing the mix design 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 be measured with a hygrometer, **as required by BS 8203 Annex B**, before proceeding to lay floor coverings. Standard practices should be followed. Drying time on site will vary according to site conditions. Dehumidifiers should not be introduced until the screed has gained sufficient strength and lost sufficient moisture to reduce the risk of cracking.

Working Temperatures

Ronafix SBR screeds can be used in most weather conditions and in a wide temperature range, typically from +5°C to 25°C and above. Note that at high ambient temperatures the working time of the mix will be reduced; it will be increased at lower temperatures. In cold weather the surface temperature of the laid screed (not the air temperature) should be maintained at above 5°C during construction and for four to five days after laying. In this way the screed will normally achieve sufficient strength to resist damage by freezing.

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Shelf Life and Storage

Ronafix SBR should be stored unopened between 5°C and 25°C in dry warehouse conditions and out of direct sunlight. Do not allow to freeze. In these conditions shelf life is approximately 6 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.

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.