



# RonaScreed Rapid

## Cement replacement system for rapid drying screeds

### Description

RonaScreed Rapid is a cement replacement for rapid drying screeds used when laying bonded, unbonded or floating screeds prior to the application of floor coverings such as LVT, carpet, timber, resin coatings and tiles. The fast drying properties allow screeds to be covered with moisture sensitive finishes as early as one day after application.

RonaScreed Rapid may be used in residential and commercial environments, including shops, schools, factories, garages, leisure facilities, etc and is suitable for internal and external application. RonaScreed Rapid does not produce a wearing screed, it is designed to be covered with a floor finish.

### Features

- light foot traffic after 3 hours
- rapid drying - floor coverings after 24 hours
- rapid early strength development
- internal and external application
- bonded screeds from 15mm thickness
- unbonded screeds from 50mm
- floating screeds from 65mm
- compatible with UFH systems
- can be laid to falls

### Drying Times & Physical Data

The data is based on drying @ 20°C and 60±5% relative humidity. Low temperature, high humidity, increased screed thickness and changing the mix design will delay drying. 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. RH at the surface must be below 75%. Standard practices should be followed. Drying time on site will vary according to site conditions.

Drying Times	1:4	1:5.5	1:7
Foot traffic	2-3 hours	2-3 hours	3-4 hours
Floor tiles	3 hours	3 hours	4 hours
Resilient flooring	24 hours	24 hours	36 hours

Physical data	1:4	1:5.5	1:7
Mixing time	4-6 mins	5-7 mins	6-9 mins
Working time	20-30 mins	25-35 mins	30-45 mins
Compressive strength	50N/mm <sup>2</sup>	38N/mm <sup>2</sup>	25N/mm <sup>2</sup>
Flexural strength	11N/mm <sup>2</sup>	8.5N/mm <sup>2</sup>	6N/mm <sup>2</sup>

Strength data at 28 days.

### Mix Designs & Yields

Mix ratio by weight	1:4	1:5.5	1:7
RonaScreed Rapid	0.4kg/m <sup>2</sup> /	0.31kg/m <sup>2</sup> /	0.25kg/m <sup>2</sup> /
0/8mm sand	1.6kg/m <sup>2</sup> /	1.69kg/m <sup>2</sup> /	1.75kg/m <sup>2</sup> /
Water addition	See note	See note	See note

Mix design by unit	1:4	1:5.5	1:7
RonaScreed Rapid	20kg	20kg	20kg
0/8mm sand	80kg	110kg	140kg
Water addition	See note	See note	See note
Yield per mix	0.05m <sup>3</sup>	0.06m <sup>3</sup>	0.08m <sup>3</sup>

### Slurry bond coat

RonaScreed Rapid	0.8kg/m <sup>2</sup>
RonaScreed Self Smooth Primer	0.2kg/m <sup>2</sup>

### 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.

### Application

Screed application is to be in accordance with the requirements of BS 8204: Part 1 (in-situ floorings), BS 5385: Part 3 Appendix C (ceramic floor tiling) and/or BS 5325 (textile floor coverings)

RonaScreed Rapid may be applied directly to a concrete slab which is above 75% RH, or to a slab which does not have a functioning damp proof membrane. However, if resilient floor coverings are to be installed it is important a damp proof membrane is incorporated either onto the slab before application of RonaScreed Rapid, or, onto the surface of RonaScreed Rapid (after minimum of 3 hours), before application of floor coverings. Refer to RonaFloor Epoxy DPM data for details.

RonaScreed Rapid screeds can be laid either bonded, unbonded or floating and may be used in conjunction with underfloor heating pipework.

### Bonded Screed (from 15mm - 50mm)

- concrete substrate, mechanically prepared to expose coarse aggregate and primed with a mix of RonaScreed Rapid : RonaScreed Self Smooth Primer : water (2:1:1). Refer to 'Mix Designs & Yields' for coverage.
- The primer is to be wet or tacky when the screed is applied. Dry primer must be thoroughly abraded and re-applied.

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### Unbonded Screed (from 50mm)

- To be laid on to 500 gauge polythene or other suitable slip membrane.
- The substrate must be free from all contamination to prevent puncturing of the slip membrane.
- Sudden changes of level in the substrate are points of restraint and should be removed to prevent cracking.

### Floating Screed (65mm minimum)

- **Light residential use only**
- insulation board or acoustic layer of sufficient strength to withstand deformation under the anticipated loading. 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.

### Floating Screed (75mm minimum)

- **All uses other than light residential**
- insulation board or acoustic layer of sufficient strength to withstand deformation under the anticipated loading. 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.

### Heated Screeds

RonaScreed Rapid screeds incorporating underfloor heating pipework are typically applied floating therefore the minimum thickness must be as stated for floating application. In all instances there must be a minimum of 20mm cover to pipework.

RonaScreed Rapid screeds must be at least 3 days old before commencing commissioning of the underfloor heating system. The water flow temperature is to commence at 25°C and then be increased by 5°C per day until the service temperature is achieved (27°C surface temperature / 55°C water temperature. The maximum service temperature must be maintained for 4 days and then allowed to cool to room temperature (approx. 15°C) before applying floor coverings.

Throughout the drying and commissioning period the screed must be protected from draughts

### Working temperatures

The substrate and ambient temperature must not be less than 5°C on a rising thermometer at time of application. Note that at high ambient temperatures the working time 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. **Protect the fresh screed from direct sunlight and drying winds during the hydration/drying process.**

### Substrate requirements

The base should be dry (<75%RH) and should incorporate an effective DPM. In the absence of a functioning DPM, use RonaFloor Epoxy DPM or Monoprufe DPM beneath the screed (refer to separate data sheets).

### Mixing/Laying

RonaScreed Rapid is mixed and applied as a traditional sand & cement screed, with the exception the working times are reduced - see 'Drying Times & Physical Data'.

When the available screeding sand is generally of acceptable quality but does not contain the required amount of coarse fraction, a nominal 6mm aggregate can be mixed with the sand. The ratio of screeding sand to aggregate will depend on the relative grading of each, the resultant workability of the mix and the water demand, e.g. 20kg of RonaScreed Rapid, 30kg of nominal 6mm aggregate with 50kg of nominal 0/4mm sand for a 1:4 mix and up to 50kg of nominal 6mm aggregate and 90kg of 0/4mm sand for a 1:7 mix.

RonaScreed Rapid must be machine mixed in a forced action mixer (e.g. Baron or CreteAngle pan mixer). Do not use a free fall mixer. Ensure the equipment is clean and do not use other cements, lime or any screed additives in the mix as this could affect the physical properties of the screed.

Pre-blend RonaScreed Rapid and the selected aggregate before adding sufficient clean water to obtain a workable mix - refer to 'Water addition' on page 1. When an evenly graded, fairly dry sand is used, the water demand will be approximately 7 - 9 litres per 20kg of RonaScreed Rapid. It is important no more than 9 litres of water is added per 20kg of RonaScreed Rapid.

Screeds 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.

### Bay proportions

Screed bay proportions should ideally be 1:1 length to width and should not exceed 3:2 to avoid the risk of stress relief cracking, the risk increases with the difference between bay length and width. 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 unless steel mesh, heating pipes or conduits require a shallower cut. Stress relief joints may also be formed by early age saw cutting but care must be taken to ensure that cutting is carried out before stress relief cracks can form. Where rigid finishes such as tiles are to be laid, bay joints should be positioned to coincide with tile joints and the use of an uncoupling layer should be considered.

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### Joins

Joins 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. Joins should also be formed between any hot and cold areas of the floor. For further information refer to BS8204-3.

Day joints are to be vertical, roughened, and are to receive a slurry bonding coat, as described for bonded screeds. The new screed bay is to be placed whilst the bond coat is still wet or tacky. Dry primer must be abraded and re-applied.

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 40m<sup>2</sup> with a length no greater than 8m, see BS 8204-1 Design Considerations. Separate heating zones should be divided by expansion joints

### Cleaning

Tools and equipment should be cleaned with water immediately after use. Cured material can be removed mechanically.

### Packaging

Supplied in 20kg bags

### Shelf life and storage

Store in a cool dry place. Shelf life in correct storage conditions for sealed bags is 12 months. High temperature and high humidity will lead to a reduced shelf life.

### Health & 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.