

## RonaScreed Flowable Underfloor Heating Screed

Fast setting, rapid drying, self smoothing underfloor heating screed



### FEATURES

- conforms to BS EN 13813
- self smoothing, does not require trowelling
- can be pumped or poured
- early return to light foot traffic—24 hours @ 20°C
- commissioning process can begin after 10 days
- 40mm minimum application thickness
- very fast application
- water resistant—suitable for wet areas
- manufactured under a Quality Assurance Scheme to BS EN ISO 9001

### Description

RonaScreed Flowable Underfloor Heating Screed is a flow applied floating screed product suitable for underfloor heating. It provides a durable base for floor finishes or it can be left uncovered to provide a wearing surface. The material gains strength quickly and can be accessed by light foot traffic in 24 hours and by heavier traffic after 7 days @ 20°C.

When applied correctly, RonaScreed Flowable Underfloor Heating Screed provides a smooth, durable surface. Application thickness is from 40mm to 60mm. For optimum performance and appearance RonaScreed Flowable Underfloor Heating Screed should be applied by specialist contractors with expert knowledge of preparation, mixing and application.

### Performance Data

<b>Water addition per 22kg</b>	<b>3.1—3.3 litres</b>
<b>Workability @ 20°C</b>	<b>up to 30 minutes</b>
<b>Commissioning time @ 40mm thickness</b> (time to achieve 75% RH at surface of screed)	<b>10 days @ 20°C</b>
<b>Foot traffic @ 20°C</b>	<b>24 hours</b>
<b>Application thickness (min / max)</b>	<b>40mm / 60mm</b>
<b>Shrinkage @ 28 days</b>	<b>≤ 0.02% linear</b>
<b>Compressive strength @ 14 days</b>	<b>20N/mm<sup>2</sup></b>
<b>Compressive strength @ 28 days</b>	<b>30N/mm<sup>2</sup></b>
<b>Flexural strength @ 28 days</b>	<b>9N/mm<sup>2</sup></b>
<b>Tensile strength</b>	<b>4N/mm<sup>2</sup></b>

Results shown are from samples mixed, conditioned and tested in ideal laboratory conditions (20°C, 65% RH). Site results will be lower. Drying times may be longer. When opening to foot traffic do not subject to potential impact damage for 14 days @ 20°C.

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## Product Performance

### Determination of Thermal Output (35°C)

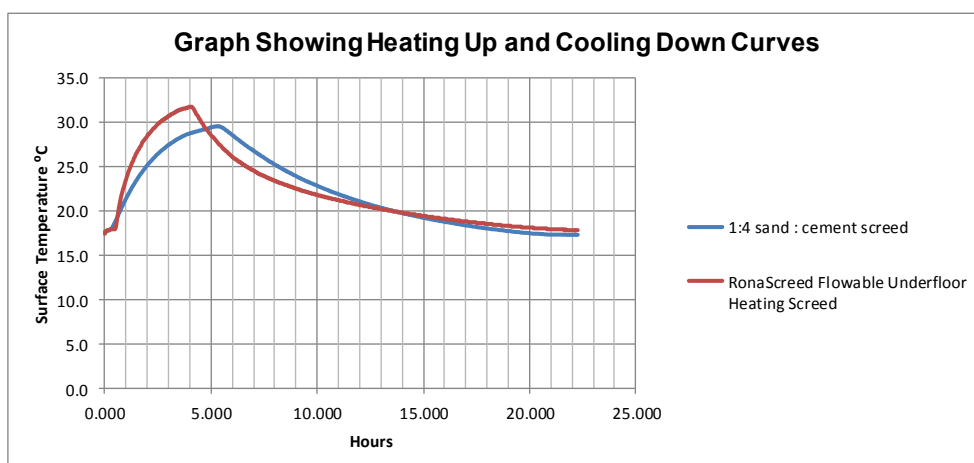
water flow litre per minute	v <sub>v</sub> feed water °C	v <sub>R</sub> return water °C	v <sub>i</sub> standard room °C	v <sub>F,m</sub> average surface °C	q thermal output Wm <sup>-2</sup>
1.0	35.1	31.2	19.9	26.3	71.4
2.0	35.0	33.0	20.2	27.3	74.7
3.0	34.7	33.5	20.2	27.4	75.4
4.0	35.1	34.0	20.0	27.5	78.9

### Determination of Thermal Output (45°C)

water flow litre per minute	v <sub>v</sub> feed water °C	v <sub>R</sub> return water °C	v <sub>i</sub> standard room °C	v <sub>F,m</sub> average surface °C	q thermal output Wm <sup>-2</sup>
1.0	45.2	38.7	20.3	31.2	116.6
2.0	45.2	41.6	20.1	32.2	126.2
3.0	45.2	42.6	19.8	32.5	130.6
4.0	45.2	43.2	20.1	32.4	130.7

The above results were obtained through tests carried out using a 2m x 2m test bed at a thickness of 40mm (20mm cover over the top of the pipes. Pipe spacing *T* set at 200mm and thermally decoupled with 50mm thickness expanded polystyrene  $\lambda$  0.036 Wm<sup>-1</sup>K<sup>-1</sup>.

The above test results have been carried out in line with **BS EN 1264-2 'Water based surface embedded heating and cooling systems—Part 2: Floor Heating: Prove methods for the determination of the thermal output using calculation and test methods'**



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<b>Composition</b>	RonaScreed Flowable Underfloor Heating Screed is supplied as a cement based dry powder which requires a specified quantity of clean water to produce a free flowing self-smoothing mix ready to pump or pour onto prepared surfaces. It is manufactured by blending special cements, selected fillers, polymers and plasticisers. It is free from casien, other proteins and ammonia and is consequently suitable for use in hospitals and food processing areas. It has been carefully formulated to provide high performance and ease of application.
<b>Uses</b>	RonaScreed Flowable Underfloor Heating Screed is a thin section floating screed. Its exceptional self smoothing properties allows the topping to be laid quickly to the most demanding tolerances.
<b>Insulation boards</b>	When specifying insulation boards for use with thin floating screeds, consideration should be given to the increased load transmission through the screed. It may be necessary to specify boards with greater compressive strength to ensure that the screed remains supported, particularly under high point loads. Advice should be sought from insulation board manufacturers.
<b>Achievable surface finish</b>	RonaScreed Flowable Underfloor Heating Screed is designed to provide a surface suitable to receive floor finishes. Due to the nature of the product the risk of entrapped air, pinholes, shade variation and surface undulations cannot be eliminated. However, correct mixing and application will provide optimum results. It is recommended that a specialist applicator is employed. The presence of surface imperfections will not impair the performance of the product.
<b>Joints</b>	Isolation joints must be positioned at screed perimeters including doorways and openings such as columns. Formed screed joints must be grout tight. Bay proportions should preferably not exceeded 1.5:1 length to width ratio, to limit uneven curing stresses. Expansion joints in heated screeds should be positioned to ensure that bays do not exceed 40m <sup>2</sup> (as BS 8204-1) and expansion joints should be positioned between separate heating zones.
<b>Instructions for Use</b>	<p><b>Preparation</b> RonaScreed Flowable Underfloor Heating Screed is a fluid pumpable or pourable screed and the substrate must be grout tight to prevent leakage of materials at screed perimeters and at board joints. Loss of material at perimeters or joints may result in plastic settlement cracking.</p> <p><b>Mixing/Laying</b> RonaScreed Flowable Underfloor Heating Screed may be applied either by pouring or using a specialist mixer/pump. For pump applications it is recommended that a contractor with the necessary experience to carry out this type of work is employed. For a list of such contractors contact the Ronacrete Technical Department.</p> <p>For poured application place the specified quantity of clean water into a mixing vessel. Gradually add the RonaScreed Flowable Underfloor Heating Screed</p>

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## Instructions for Use (continued)

whilst continuously mixing with a slow speed drill and helical paddle until fully blended. A forced action mixer such as Baron or CreteAngle may also be used.

The mixed material is poured or pumped onto the prepared surface and levelled with a pin rake. Spike rolling is necessary to release entrapped air. Pumped screeds should be filtered by a fine mesh attachment at the end of the hose.

**It important to allow the screed to dry naturally and the screed should therefore remain uncovered during the drying process.**

## Estimating Guide

Consumption rate	1.7kg / m <sup>2</sup> / mm
Packs per m <sup>3</sup>	77 bags (approx.)
Yield per pack	13 litres (approx.)

## Application Temperature

The substrate and ambient temperature must not be less than 5°C on a rising thermometer at time of application. Materials should be at a temperature of 15°C - 20°C at time of application; lower temperatures will impair flow and surface finish. There should be light ventilation during and after laying. Apply the material within 15 minutes of mixing (at 20°C). **Protect the fresh screed from direct sunlight during the hydration/drying process.** Low temperatures will reduce the flow of the wet screed and increase the risk of surface undulations and imperfections. Take extra care when working at low temperatures.

## Cleaning

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

## Packaging

RonaScreed Flowable Underfloor Heating Screed is supplied in 22kg high density polythene lined bags. Deliveries from the factory are shrink wrapped.

## Shelf Life and Storage

Store in a cool dry place. Shelf life in correct storage conditions for sealed bags is 6 months. High temperature and high humidity will lead to a reduced shelf life.

## 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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<b>BS EN 13813</b> <b>Floor Screed</b>
<b>Product: RonaScreed Flowable Underfloor Heating Screed</b> <b>Reaction to Fire: A2-s1,d0</b> <b>Release of Corrosive Substances: None</b> <b>Capillary Water Absorption: &lt; 0.40kg / m<sup>2</sup> . min0.5</b> <b>Compressive Strength: ≥ C20</b> <b>Flexural Strength: ≥ F4</b> <b>Wear Resistance BCA method: AR1</b> <b>Dampness Test</b> <b>(40mm thickness headspace): 75% RH @ 20°C at 10 days</b> <b>Release of Dangerous Substances: Refer to Safety Data Sheet</b>

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.