

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

Water addition per 25kg	3.50—3.70 litres
Workability @ 20°C	up to 30 minutes
Initial flow properties @ 20°C (using 65mm diameter x 40mm flow ring)	190mm ±15mm
Commissioning time @ 40mm thickness (time to achieve 75% RH at surface of screed)	10 days @ 20°C
Foot traffic @ 20°C	24 hours
Application thickness (min / max)	40mm / 60mm
Shrinkage @ 28 days	≤ 0.02% linear
Compressive strength @ 14 days	20N/mm²
Compressive strength @ 28 days	30N/mm²
Flexural strength @ 28 days	9N/mm²
Tensile strength	4N/mm²

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.

Estimating Guide

Consumption rates

1.7kg / m² / mm
68kg / m² @ 40mm
102kg / m² @ 60mm

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Product Performance

Determination of Thermal Output (35°C)

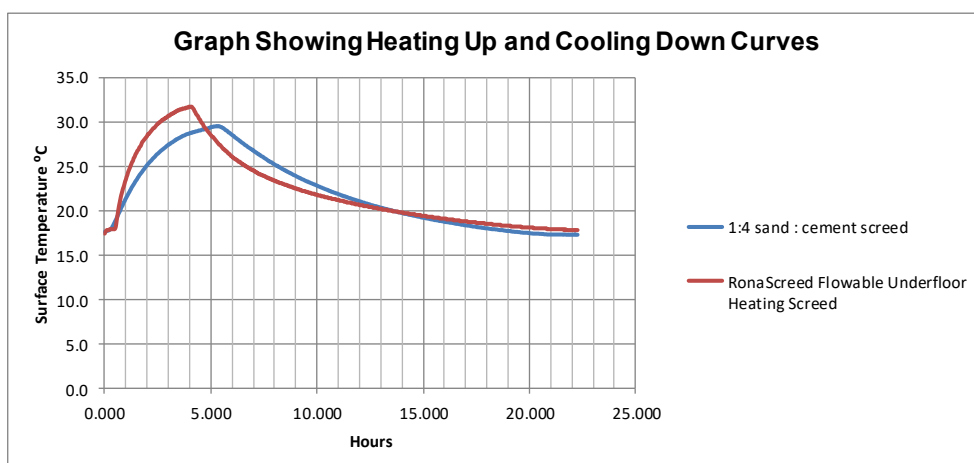
water flow litre per minute	v_v feed water °C	v_R return water °C	v_i standard room °C	$v_{F,m}$ average surface °C	q thermal output Wm^{-2}
1.0	35.1	31.2	19.9	26.3	71.4
2.0	35.0	33.0	20.2	27.3	74.7
3.0	34.7	33.5	20.2	27.4	75.4
4.0	35.1	34.0	20.0	27.5	78.9

Determination of Thermal Output (45°C)

water flow litre per minute	v_v feed water °C	v_R return water °C	v_i standard room °C	$v_{F,m}$ average surface °C	q thermal output Wm^{-2}
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 λ 0.036 $Wm^{-1}K^{-1}$.

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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Composition

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.

Uses

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.

Insulation boards

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.

Achievable surface finish

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.

Joints

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 40m² (as BS 8204-1) and expansion joints should be positioned between separate heating zones.

Instructions for Use

Preparation

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.

Mixing/Laying

RonaScreed Flowable Underfloor Heating Screed may be applied either by mixer/pump Putzmeister SP 11 THF (or similar, note that continuous feed pumps may not provide adequate dispersal of components) or when mixing smaller quantities, mix with a slow speed drill \leq 450RPM fitted with an MR3 type helical paddle and pour onto the floor. Pump or pour RonaScreed Flowable Underfloor Heating Screed onto the prepared and sealed/primed surface and level with a pin rake. Spike rolling is necessary to expel entrapped air and must be completed before the mix begins to gel, to avoid leaving spike marks in the surface.

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Instructions for Use (continued)

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.

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

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 25kg 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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<p>Ronacrete Ltd, Flex Meadow, Harlow Essex, CM19 5TD, UK</p> <p>15</p>
<p>BS EN 13813</p> <p>Floor Screed</p>
<p>Product: RonaScreed Flowable Underfloor Heating Screed Reaction to Fire: A2-s1,d0 Release of Corrosive Substances: None Capillary Water Absorption: < 0.40kg / m² . min0.5 Compressive Strength: ≥ C20 Flexural Strength: > F4 Wear Resistance BCA method: AR1 Dampness Test (40mm thickness headspace): 75% RH @ 20°C at 10 days Release of Dangerous Substances: Refer to Safety Data Sheet</p>

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.