

Ronafix Underfloor Heating Screed Admixture

Polymer admixture for thin section underfloor heating screeds



FEATURES

- conforms to BS EN 13813
- for use with underfloor heating systems
- high early strength and fast drying allows earlier commissioning of heating systems
- 40mm minimum thickness with 16mm diameter heating pipes
- requires only 20mm cover over heating pipes
- ready for foot traffic after 24 hours
- rapid drying—can receive floor coverings such as vinyl, tiles and carpet after 10 days @ 50mm thick
- excellent resistance to passage of water and water vapour

Description

Ronafix Underfloor Heating Screed Admixture is a liquid polymer admixture which provides a high strength screed. The increased strength of the screed allows it to be laid in thin section, from 40mm, which in turn ensures improved thermal output from the underfloor heating system saving money on energy consumption. Screeds containing Ronafix Underfloor Heating Screed Admixture also dry faster than conventional sand : cement screeds meaning the commissioning process can begin earlier (after only 7 days) and can also be opened to foot traffic after 24 hours.

Performance Data

Advantages

- Thin section—from 40mm
- Faster commissioning of heating
- Improved thermal output—heats up much quicker than traditional screeds
- Can be walked on after only 24 hours

Commissioning time @ 40mm thickness

(time to achieve 75% RH at surface of screed) 7 days @ 20°C

Foot traffic @ 20°C

24 hours

Application thickness (min / max)

40mm+

Shrinkage @ 28 days

≤0.02% linear

Compressive strength @ 7 days

36N/mm²

Compressive strength @ 28 days

47N/mm²

Flexural strength @ 28 days

9.5N/mm²

Tensile strength @ 28 days

4.5N/mm²

Results shown are from samples mixed, conditioned and tested in ideal laboratory conditions (20°C, 60% 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)

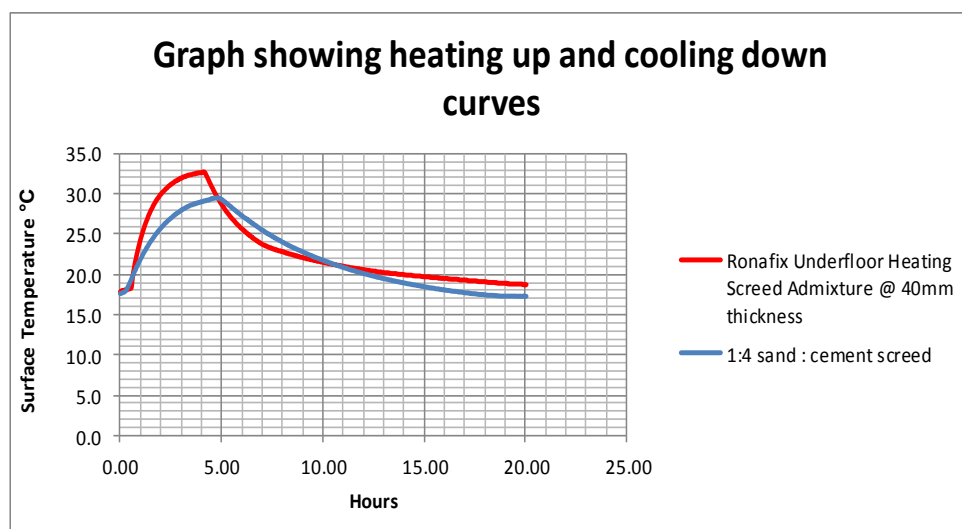
water flow litre per minute	v_F feed water °C	v_R return water °C	v_i standard room °C	$v_{F,m}$ average surface °C	q thermal output Wm^{-2}
1.0	34.7	30.7	19.7	26.3	70.5
2.0	35.1	32.7	19.8	27.2	76.3
3.0	35.1	33.4	20.0	27.3	77.2
4.0	35.1	33.8	20.0	27.5	78.3

Determination of Thermal Output (45°C)

water flow litre per minute	v_F 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	45.1	38.1	19.6	30.4	118.3
2.0	45.1	41.3	20.1	32.0	125.0
3.0	45.1	42.3	20.1	32.2	128.5
4.0	45.2	43.1	20.1	32.4	129.3

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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Mix Design	Portland cement CEM II 42.5	50kg
	0/4mm sharp sand	150kg
	Ronafix Underfloor Heating Screed Admixture	4.5 litres
	Water	up to 13.5 litres
	Yield per mix	0.1m³ (approx)

Instructions for Use

Preparation

The insulation on which the Ronafix Underfloor Heating Screed Admixture is being placed must be suitable for floating floor screeds and for the thickness of screed to be laid.

Joints

Position isolation joints in doorways and around all perimeters and openings in the screed. Expansion joints for heated screeds 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. If there are separate heating zones, they should be divided by expansion joints. Screed bay joint proportions should ideally be 1:1 length to width and should not exceed 1.5:1. Long narrow bays should be avoided because of the risk of stress relief cracking.

Mixing

Ronafix Underfloor Heating Screed Admixture must be mixed by forced action mixer such as a Baron or CreteAngle mixer. Free fall mixers must not be used. Mix for approximately 3 minutes. Over mixing will entrain air which may reduce performance. 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 substrate, compacted, ruled and closed with a float or trowel. Avoid overworking the surface, this will increase the tackiness of the mortar. The float should be regularly washed, to prevent build up of polymer/cement paste. The screed mix must be well compacted, levelled and finished using a suitable float. Thicker screeds may be applied in two layers, wet on wet to aid compaction. Layers should be of approximately equal thickness. The base layer should be raked after compaction. To ensure satisfactory adhesion the lower layer should be raked to provide a key for the next layer. Should an intermediate layer begin to harden, a priming coat must be applied before application of the next layer.

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 it is possible to do so without damaging the surface. Cover for 24 hours then remove and air cure.

Working Temperatures

Ronafix Underfloor Heating Screed Admixture can be used in most weather conditions and in a wide temperature range, typically from +3°C to 25°C.

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Traffic	Ronafix Underfloor Heating Screed Admixture can receive foot traffic after 24-36 hours (typically at 20°C). This time will vary according to temperature, amount of liquid added during mixing, air circulation and general conditions.
Drying Times	Drying times are dependent on screed thickness, ambient conditions, mixing, air circulation, substrate conditions and other variables. At 20°C & 60% humidity, mortar to the mix design shown will reach 75% RH after 10 days air curing at 50mm thickness. Measure RH with a hair hygrometer.
Contractors	Ronacrete Ltd maintains a list of approved contractors whose knowledge and experience may help to ensure a satisfactory outcome to the works. 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.
Packaging	Ronafix Underfloor Heating Screed Admixture is supplied in 5, 25, 210 and 1000 litre units.
Coverage	5 litres of Ronafix Underfloor Heating Screed Admixture will cover approximately 2.775m ² at 40mm thick. All quoted figures are approximate.
Shelf Life and Storage	Ronafix Underfloor Heating Screed Admixture should be stored unopened between 5°C and 25°C in dry warehouse conditions and out of direct sunlight. 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.



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15 0836-CPR-13/F043
BS EN 934-3 Admixture for masonry mortar
Product: Ronafix Underfloor Heating Screed Admixture Chloride ion content: $\leq 0.1\%$ Alkali content: $\leq 0.1\%$

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.