RonaScreed Fast Drying Underfloor Heating Screed Additive

Rapid drying additive for underfloor heating screeds

FEATURES

- **conforms to BS EN 934-3**
- **promotes rapid drying of floor screeds**
- **only 30mm of cover to heating pipes**
- **commissioning of underfloor heating system can begin after only 15 days**
- **reduces waiting time before laying floor coverings**
- **allows early foot trafficking—24 hours**
- **can be purchased and applied by competent flooring contractors**
- **minimises site delays and access**
- **simple and cost effective**
- **can be pumped to raised levels**

Description

RonaScreed Fast Drying Underfloor Heating Screed Additive is an additive for site batched screeds is used to quickly reduce the level of retained moisture within the screed allowing floor coverings to be laid over the screed much sooner than with conventional screeds. It also promotes high early strength, permitting early access by following trades.

RonaScreed Fast Drying Underfloor Heating Screed Additive is supplied in concentrated form and used in low dilution. It provides rapid drying and early laying of floor coverings such as sheet vinyl, tiles, carpet etc. When laying onto insulation the minimum screed thickness is 65mm. Heating pipes require a minimum cover of only 30mm of screed. RonaScreed Fast Drying Underfloor Heating Screed Additive must be applied by competent screeding contractors.

Drying Time of 75mm screed

Time to reach 75% RH **15 days**

When applied at 75mm thickness a RonaScreed Fast Drying Underfloor Heating Screed Additive will achieve 80% RH at the surface of the screed after 8 days and 75% RH after 15 days when laid and cured at 20°C and 60% relative air humidity. Poor drying conditions such as low temperature, high humidity and insufficient air movement will delay drying. Increased sand content will also result in slower drying. If the screed is covered with a curing membrane such as polythene, 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 before proceeding to lay floor coverings; see BS 8203:2001+A1:2009.

Note that the screed mix designs are formulated to be covered with carpet, vinyl, tiles or other coverings and are not designed as wearing screeds or toppings. For wearing screeds, Ronafix screeds should be used.

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Product Performance

Determination of Thermal Output (35°C)

water flow litre per minute	ν_V feed water °C	ν_R return water °C	ν_i standard room °C	$\nu_{F,m}$ average surface °C	*q thermal output* Wm^{-2}
1.0	35.1	31.7	20.0	25.2	60.8
2.0	35.1	32.9	20.0	25.7	63.7
3.0	35.2	33.8	20.0	25.9	66.0
4.0	35.1	34.1	20.1	25.9	66.1

Determination of Thermal Output (45°C)

water flow litre per minute	ν_V feed water °C	ν_R return water °C	ν_i standard room °C	$\nu_{F,m}$ average surface °C	*q thermal output* Wm^{-2}
1.0	45.2	39.6	19.8	28.9	102.5
2.0	45.2	42.1	20.0	29.9	107.7
3.0	45.2	43.1	20.0	30.2	110.0
4.0	45.1	43.6	19.9	30.4	111.4

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'***

Physical Properties

Compressive Strength

1 day	23N/mm²
28 days	44N/mm²

The above are typical laboratory results @ 20°C. Site strengths will be lower.

Mix Design and Yield

Portland cement CEM II 42.5	**50kg**
0/4mm screeding sand**	**150kg**
RonaScreed Fast Drying Underfloor Heating Screed Additive	**1 litre**
Water	**15.7 litres approx***
Yield	**0.1m³**

* add diluted RonaScreed Fast Drying Underfloor Heating Screed Additive to cement and sand to achieve working consistency

** mix designs are based on dry sand and aggregate. The amount of water added to the screed should be adjusted accordingly. Overdosing with RonaScreed Fast Drying Underfloor Heating Screed Additive will not improve drying and may even extend drying times.

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Instructions for Use

Surface Preparation
The surface on to which RonaScreed Fast Drying Underfloor Heating Screed Additive is to be applied must be clean and the insulation board must be appropriate for the application, joints must be taped..

Mixing
RonaScreed Fast Drying Underfloor Heating Screed Additive must be mixed using a forced action mixer to ensure full dispersion of the contents. Dry mix the cement and sand then dilute RonaScreed Fast Drying Underfloor Heating Screed Additive with 5-8 litres of clean water and add to the mix. Add more clean water as required to achieve the correct gauging liquid content. The screeder should be able to make a ball of the mixed mortar and pull it apart without crumbling of the mortar. The mix must not be overdosed with RonaScreed Fast Drying Underfloor Heating Screed Additive liquid.

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.

Placing
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 possible without damaging the surface. Cover for 24 hours then remove and air cure.

Pumping
RonaScreed Fast Drying Underfloor Heating Screed Additive modified screeds can be pumped to the point of laying. Tests have been conducted using Putzmeister equipment and specific guidance should be sought from Ronacrete Ltd.

Unlike other screeds of a similar nature RonaScreed Fast Drying Underfloor Heating Screed Additive can be purchased and applied by competent screeding contractors throughout the country.

The use of RonaScreed Fast Drying Underfloor Heating Screed Additive is simple and straightforward and satisfactory performance will be achieved provided the correct methods are followed. There are obvious advantages in selecting a contractor who has previous experience of the material but if

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Contractors (continued)

requested the Ronacrete Technical Department will provide guidance and assistance to other contractors.

Contractors

Ronacrete Ltd maintains a list of national and local contractors who are familiar with this type of flooring system and their application procedure.

Other Flooring Materials

Depending on the specific requirements of the floor system being laid Ronacrete may recommend an alternative product and specification which may be more suited to the application.

To discuss the use of Ronacrete materials for any application please contact the Ronacrete Technical Department for full technical and practical guidance at design and specification stage together with site assistance and practical backup.

Packaging

RonaScreed Fast Drying Underfloor Heating Screed Additive is supplied in 20 and 210 litre units.

Shelf Life and Storage

Shelf life in unopened containers is 9 months. Store in a cool dry place. Protect from frost.

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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Ronacrete Ltd,
Flex Meadow, Harlow
Essex, CM19 5TD, UK

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0836-CPR-15/F043

BS EN 934-3
Admixtures for Masonry Mortar

Product: RonaScreed Fast Drying Underfloor Heating Screed Additive
Chloride ion content: ≤ 0.1%
Dampness Test: 75% RH at 20C at 15 Days
75mm depth of 1:4 cement / sand mix

Ronacrete
Ronac House, Flex Meadow, Harlow, Essex CM19 5TD, U.K.
Tel: +44 (0)1279 638700 www.ronacrete.co.uk technical@ronacrete.co.uk