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Agrément Certificate
89/2150
Product Sheet 1

RONACRETE FLOORING ADMIXTURES

RONAFIX ADMIXTURE FOR THIN SCREEDS AND FLOORINGS

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Ronafix Admixture for Thin Screeds and Floorings, a liquid admixture for sand-cement mortar used as a thin screed or flooring.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Strength and stability — Sand-cement screeds containing the product can achieve flexural and tensile strengths which are typically 1.5 times those of the equivalent unmodified sand-cement screed. They also have movement characteristics similar to those of traditional concrete and mortar (see section 6).

Bond to concrete — Sand-cement screeds containing the product have a strong bond to prepared concrete (see section 7).

Durability — Screeds and floorings containing the product can provide durable surfaces and be designed to have a performance superior to that of traditional screed materials (see section 13).

The BBA has awarded this Agrément Certificate to the company named above for the product described herein. The product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to be 'Simon Wroe'.

Simon Wroe
Head of Approvals — Materials

A handwritten signature in black ink, appearing to be 'Greg Cooper'.

Greg Cooper
Chief Executive

Date of First issue: 21 December 2010

Originally certificated on 2 February 1989

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, there are no requirements in these regulations relating to the use of Ronafix Admixture for Thin Screeds and Floorings:



The Building Regulations 2010 (England and Wales)



The Building (Scotland) Regulations 2004 (as amended)



The Building Regulations (Northern Ireland) 2000 (as amended)

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: *2 Delivery and site handling* (2.1 and 2.2) of this Certificate.

Non-regulatory Information

NHBC Standards 2010

In the opinion of the BBA, the use of Ronafix Admixture for Thin Screeds and Floorings in relation to this Certificate is not subject to the requirements of these Standards.

Technical Specification

1 Description

1.1 Ronafix Admixture for Thin Screeds and Floorings is a one-part styrene butadiene rubber (SBR) aqueous dispersion, containing 47% solids, which is mixed on site with cement, specified aggregate and water.

1.2 A bonding coat of slurry primer, consists of one part Ronafix Admixture for Thin Screeds and Floorings and one part cement.

1.3 Ronafix may be used with Portland cement CEM I 52,5R complying with the requirements of BS EN 197-1 : 2000. It must not be used with masonry cement.

1.4 Quality Control is exercised over the incoming raw materials, during the production process and on the final product.

2 Delivery and site handling

2.1 The product is delivered to site in 5, 25 and 220 litre containers bearing the manufacturer's name and the BBA identification mark incorporating the number of this Certificate.

2.2 The product should be stored under cover and protected from freezing and when stored under these conditions it has a shelf life of 9 months.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Ronafix Admixture for Thin Screeds and Floorings.

Design Considerations

3 General

Ronafix Admixture for Thin Screeds and Floorings is suitable for use in conjunction with a designed sand-cement mortar mix as a thin screed or flooring, for application to suitably prepared and adequately strong concrete substrates.

4 Practicability of installation

The product should only be installed by operatives who have been trained and experienced with this type of product.

5 Resistance to moisture

Sand-cement screeds containing the product have a considerably greater resistance to the passage of moisture than the equivalent unmodified sand-cement screed. The slurry primer is impervious to liquid water under the pressure conditions likely to be met in service. However, it should not be considered suitable for use as a damp-proofing barrier.

6 Strength and stability

Sand-cement screeds containing the product have a compressive strength comparable to the equivalent unmodified sand-cement screed. It has movement characteristics similar to those of traditional concrete and mortars with flexural and tensile strengths typically 1.5 times those of the equivalent unmodified sand-cement screed.

7 Bond to concrete

Sand-cement screeds containing the product have a strong bond to prepared concrete, and this, together with good strength characteristics, makes it possible for thin screeds and floorings to be laid with minimal risk of cracking or curling.

8 Abrasion resistance

Flooring incorporating the product can be designed to have a high resistance to abrasion by the inclusion of suitable aggregates.

9 Resistance to chemicals

Sand-cement screeds containing the product have better resistance to the effects of some mild acids and alkalis than the equivalent unmodified sand-cement screed, but should not be considered as highly resistant to chemical attack.

10 Properties in relation to fire

The product is an aqueous emulsion and therefore presents no fire hazard during preparation and mixing.

11 Maintenance

As the product is confined within the floor and has suitable durability, maintenance is not required.

12 Durability

Sand-cement screeds containing the product can provide durable surfaces and be designed to have a performance superior to that of traditional screed materials.

Installation

13 General

13.1 Ronafix Admixture for Thin Screeds and Floorings can be used in all conditions normal to sand-cement screed work, using similar techniques.

13.2 The Certificate holder maintains a comprehensive design service and manufactures a range of factory batched pre-bagged Ronafix mortars based on the mixes detailed in section 15.3 of this Certificate. Each bag of Ronafix mortar is supplied to site with a pre-diluted bottle of the Ronafix product. It is recommended that their advice is sought when any doubt exists as to the correct mix.

13.3 It is recommended that the Certificate holder is consulted over the on-site instruction and use of the mortar, making periodic checks if necessary to ensure that the correct procedures are being followed.

14 Preparation

It is important that areas intended to receive a sand-cement screed containing the product are adequately prepared and any necessary remedial work undertaken. Concrete surfaces must be thoroughly cleaned and prepared by bush hammering or other methods to give a strong mechanical key, free of laitance. On fresh concrete this may be achieved by brushing and washing the surface before the final set, using a set retarder if necessary. On set concrete, the surface should ideally be scabbled, although acid etching or other methods may be used.

15 Mixing

15.1 The screed constituents are mixed in a pan type force action mixer; an ordinary drum type mixer should not be used.

15.2 Aggregates should be clean and dry with a sharp texture and depending on the required thickness comply with the requirements of a fine aggregate 0/2 or 0/4 in accordance with BS EN 12620 : 2002. Allowance must be made for moisture in damp aggregates and the amount of water added to the mix adjusted accordingly.

15.3 Typical mixes for suitable screeds are given. The mix is based on dry aggregate;

Sample mix 1 — for repairing screeds and floorings

| | |
|--------------------------------|----------------------|
| Portland cement (kg) | — 50 |
| Fine aggregate 0/2 or 0/4 (kg) | — 125 |
| Ronafix (litres) | — 9 |
| Water (litres) | — 9 ⁽²⁾ . |

Sample mix 2 — for heavy-duty floorings up to 25 mm thick⁽¹⁾

| | |
|--------------------------------------|-----------------------|
| Portland cement (kg) | — 50 |
| 3 to 6 mm granolithic aggregate (kg) | — 75 |
| Fine aggregate 0/2 or 0/4 (kg) | — 75 |
| Ronafix (litres) | — 9 |
| Water (litres) | — 10 ⁽²⁾ . |

(1) For floorings thicker than 25 mm, the proportion of Ronafix in the may be reduced.

(2) Due to the differing moisture content and grading of sands available on site, the quantity of water shown in the mix designs can only be taken as approximate. The quantity of water must be kept to the minimum compatible with workability and compaction.

15.4 The screed will remain workable for 40 to 50 minutes, depending on ambient conditions. A mix must not be re-gauged once it has begun to stiffen.

16 Application

16.1 All aspects of application must be strictly in accordance with the Certificate holder's instructions and in accordance with the relevant general guidelines of BS 8204-3 : 2004.

16.2 Mixed screeds can be applied in temperatures between 5°C and 25°C.

16.3 Concrete should be dampened before the slurry primer is applied. A slurry primer of one part Ronafix to one part cement by weight is used to coat all surfaces to be bonded.

16.4 The prepared screed is applied to the slurry primer while it is still wet. If drying occurs, the surface should be scratched and a second application made.

16.5 A sand-cement screed containing the product may be laid as a single layer up to 60 mm thick. For greater thicknesses, the screed should be laid in a number of stages. The first layer is applied compacted and the surface textured, then the second layer laid on top while the original layer is still wet. However, where this is not possible, each layer should be allowed to set prior to being prepared ready to receive the next coat (see section 16.4).

16.6 Applied screeds should be well compacted and finished smooth and level. They should be protected from freezing and from over-rapid drying until set.

16.7 The setting time of a sand-cement screed containing the product will be dependent on a number of factors but screeds may generally be subjected to light traffic after 24 hours. It is recommended that screeds are not subjected to heavy traffic for at least seven days.

Technical Investigations

17 Tests

17.1 As part of the assessment resulting in the issue of the original Certificate:

Tests were carried out to investigate:

- strength of bond to concrete
- resistance to the effects of temperature cycling
- resistance to the effects of under floor heating
- impact resistance
- abrasion resistance

Independent test reports relating to the following were examined:

- strength and movement characteristics
- behaviour in fire
- moisture resistance
- resistance to the effects of aggressive chemicals
- bond to concrete.

17.2 As part of the assessment resulting in the issue of the previous Certificate, tests were carried out to assess the maintenance of product quality and to re-examine the bond strength to concrete.

18 Investigations

18.1 A re-examination was made of the data and investigations on which the previous Certificates were based. The conclusions drawn from the original data remain valid.

18.2 Regular factory inspections have been carried out to ensure that quality is being maintained.

18.3 A user survey was conducted to evaluate performance in use.

Bibliography

BS 882 : 1983 *Specification for aggregates from natural sources for concrete*

BS 8204-2 : 2003 *Screeds, bases and in-situ floorings — Concrete wearing surfaces — Code of practice*

BS EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*

BS EN 12620 : 2002 *Aggregates for concrete*

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

19.2 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

19.4 In granting this Certificate, the BBA is not responsible for:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

19.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.