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**Agrément
Certificate
No 89/2150**

Designated by Government
to issue
European Technical
Approvals

RONAFIX ADMIXTURE FOR THIN SCREEDS AND FLOORINGS

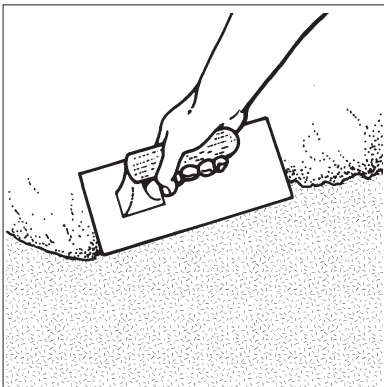
Adjuvant pour chapes et sols minces
Zusatzmittel für dünne Estriche und Fußbodenbeläge

Product

- *THIS CERTIFICATE REPLACES CERTIFICATE NO 85/1530 AND RELATES TO RONAFIX ADMIXTURE FOR THIN SCREEDS AND FLOORINGS, A LIQUID ADMIXTURE FOR SAND-CEMENT MORTAR FOR USE AS A THIN SCREED OR FLOORING.*

- *The product is for use as an admixture in suitably designed sand-cement mortars, to produce a floor screed or flooring over a sound and adequately prepared concrete base.*

- *Mixing and application needs extra care; operatives must be fully trained in the use of the product.*



Building Regulations

1 The Building Regulations 1985 (England and Wales)



In the opinion of the British Board of Agrément, there are no requirements in these Regulations relating to the use of Ronafix Admixture for Thin Screeds and Floorings.

2 The Building Standards (Scotland) Regulations 1981 to 1987



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.

3 The Building Regulations (Northern Ireland) 1977 (as amended)



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.

Technical Specification

4 Description

4.1 Ronafix is a one-part styrene butadiene rubber (SBR) aqueous dispersion, containing 47% solids, which is mixed on site with carefully determined quantities, batched by weight, of ordinary Portland cement, specified aggregate and water.

4.2 Manufacture involves the polymerisation in a reaction vessel of styrene, butadiene and other components and the later addition of colourant, fillers and bactericides.

4.3 Ronafix is checked for solids content, pH value, residual styrene and 'large' particle content. A standard mortar mix is also used to check workability.

4.4 A bonding coat of Ronafix grout, consisting of one part Ronafix and one part ordinary Portland cement, is also used.

4.5 Ronafix may be used with ordinary and rapid-hardening Portland cements complying with BS 12 : Part 2 : 1978 *Specification for ordinary and rapid-hardening Portland cement*.

5 Delivery to site and storage

5.1 Ronafix is delivered to site in 5, 25 and 202 litre containers bearing the manufacturer's name and the BBA identification mark incorporating the number of this Certificate.

5.2 Ronafix should be stored under cover and at a temperature between +5°C and +25°C. It has a shelf life of 12 months.

Design Data

6 General

Ronafix mortar admixture is suitable for use in conjunction with a carefully designed sand-cement mortar mix as a thin screed or flooring applied to suitably prepared and adequately strong concrete substrates. Screeds and floorings containing Ronafix should generally have a minimum thickness of 12 mm although a 6 mm thickness may be successfully achieved using suitable aggregates (consult Ronacrete Ltd).

7 Strength and stability

Mortars incorporating Ronafix have:

- (1) generally, compressive strengths comparable with higher strength ordinary mortars,
- (2) movement characteristics similar to those of concrete and ordinary mortars,
- (3) flexural and tensile strengths at 1.5 times those of comparable ordinary mortars.

8 Properties in relation to fire

8.1 Ronafix is an aqueous emulsion and therefore presents no fire hazard during application.

8.2 When tested in accordance with BS 476 : Part 6 : 1968 *Fire tests on building materials and structures — Method of test for fire propagation for products (as amended)*, a typical Ronafix mortar was found to have a final fire propagation index (I) and intermediate indices (i_1 , i_2 , i_3) thus:

$$I = 0.00, i_1 = 0.00, i_2 = 0.00, i_3 = 0.02$$

8.3 When tested in accordance with BS 476 : Part 7 : 1971 *Surface spread of flame tests for materials*, Ronafix mortar was found to have a Class 1 surface.

8.4 Tests have shown that in fire, mortars incorporating Ronafix maintain their integrity and will not produce any additional fire hazard in a building.

9 Resistance to moisture

Screeds and flooring containing Ronafix have a considerably greater resistance to the passage of moisture than normal sand-cement screeds. Ronafix grout, provided it is supported, is impervious to liquid water under the pressure conditions likely to be met in service. It should not, however, be considered adequate as a damp-proofing barrier.

10 Bond to concrete

Screeds incorporating Ronafix have a very good bond to adequately prepared concrete, and this, together with its good strength characteristics, makes it possible for thin screeds and floorings to be laid without risk of cracking or curling.

11 Abrasion resistance

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

12 Resistance to chemicals

Screeds containing Ronafix have better resistance to the effects of some mild acids and alkalis than ordinary sand/cement screeds, but should not be considered as highly resistant to chemical attack.

13 Setting and hardening time

The setting time of a Ronafix screed 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.

14 Practicability of application

14.1 Ronafix mortar can be used to produce screeds and floorings in all conditions normal to sand-cement screed work, using similar techniques. However, considerable care and supervision is required to ensure a satisfactory job.

14.2 Ronafix mortar will remain workable for 40 to 50 minutes depending on the mix being used and the conditions prevailing. A mix must not be re-gauged once it has begun to stiffen.

15 Maintenance

Repair by patching can be carried out using the methods indicated in the Agrément Certificate covering Ronafix concrete repair admixture (Certificate No 89/2151).

16 Durability

Screeds and floorings incorporating Ronafix can provide durable surfaces and can be designed to have a performance superior to that of conventional materials.

Installation

17 Preparation

It is most important that areas intended to receive a Ronafix mortar screed 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.

18 Mixing

18.1 The mortar constituents can be mixed by hand or (preferably) in a pan type mixer; an ordinary drum type mixer is not recommended. Extra care is needed to ensure a satisfactory standard of work.

18.2 Mixes incorporating Ronafix should be designed after consulting Ronacrete Ltd's *Ronafix Waterproof Bonding Additive Technical Data Sheet*.

18.3 Aggregates should be of sharp texture, generally Medium grade, dry fine aggregate as defined in BS 882 : 1983 *Specification for aggregates from natural sources for concrete*, and should comply with the requirements of BS 882 : 1983 regarding cleanliness, silt and clay content, etc.

18.4 Two typical mixes follow; these are based on dry aggregate, and allowance must therefore be made for moisture in damp aggregates:

Sample mix 1 — for repairing screeds and floorings

ordinary Portland cement — 50 kg
Medium grade fine aggregate — 125 kg
Ronafix — 9 litres
water — 9 litres.

Sample mix 2 — for heavy-duty floorings up to 25 mm thick*

ordinary Portland cement — 50 kg
6 to 3 mm granolithic aggregate — 75 kg
Medium grade fine aggregate — 75 kg
Ronafix — 9 litres
water** — 10 litres.

*For floorings thicker than 25 mm, the proportion of Ronafix in the gauging liquid may be reduced.

**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.

18.5 Ronacrete Ltd maintains a comprehensive design service and it is recommended that use be made of this when any doubt exists as to the correct mix to be used.

19 Application

19.1 All aspects of application must be strictly in accordance with the manufacturer's instructions. Attention is drawn to the relevant general guidelines of BS 8204 : Part 2 : 1987 *In-situ floorings — Code of practice for concrete wearing surfaces*.

19.2 Concrete should be well dampened before grouting. A grout of one part Ronafix to one part cement by weight is used to coat all surfaces to be bonded. The prepared screed is applied to the grout while it is still wet. If drying occurs, the surface should be scratched and a second application should be made.

19.3 A screed or flooring incorporating Ronafix may be laid as a single layer up to 60 mm thick. Greater thicknesses should be laid in a number of stages, each stage being allowed to set and adequately prepared to receive the next.

19.4 Applied mortar should be well compacted and finished smooth and level. It should be protected from freezing and from over-rapid drying until set.

19.5 Ronacrete Ltd can give on-site instruction in the use of Ronafix Admixture for Thin Screeds and Floorings and can make periodic checks to ensure that the correct procedures are being followed. It is recommended that use be made of this service.

Technical Investigations

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

20 Tests

20.1 As part of the assessment resulting in the issue of the original Certificate No 78/603,

(1) 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.

(2) 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.

20.2 As part of the assessment resulting in the issue of the previous Certificate No 85/1530, tests were carried out to assess the maintenance of product quality and to re-examine the bond strength to concrete.

21 Other investigations

21.1 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.

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

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

21.4 The behaviour of the product in use continues to be satisfactory and no failure has been reported to the BBA.

Conditions of Certification

22 Conditions

22.1 The quality of materials, quality control procedures and the method of manufacture have been examined and found satisfactory by the BBA and must be maintained to this standard during the period of validity of this Certificate. This Certificate will remain valid for an unlimited period provided that:

- (a) the specification of the product is unchanged, and
- (b) the manufacturer continues to have the product checked by the Board.

22.2 Where reference is made in this Certificate to any act of Parliament, Regulation made thereunder, Statutory Instrument, Code of Practice, British Standard, manufacturer's instruction or similar publication it shall be construed as reference to such publication in the form in which it is in force at the date of this Certificate.

22.3 In granting this Certificate, the BBA makes no representation as to the presence or absence of patent rights subsisting in the product and/or as to the legal right of Ronacrete Ltd to market, install or maintain the product.

22.4 It should be noted that any recommendations relating to the safe use of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health and Safety at Work etc Act 1974, or of any other statutory or Common Law duties of care, or of any duty of care which may in the futures exist; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any other present or future statutory or Common Law duties of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage incurred in respect of personal injury arising as a direct or indirect result of the use of the product.



In the opinion of the British Board of Agrément, Ronafix Admixture for Thin Screeds and Floorings is satisfactory if used as set out in the above text. This Certificate No 89/2150 is accordingly awarded to Ronacrete Ltd.

On behalf of the British Board of Agrément

Date of issue: 2nd February 1989

Director

British Board of Agrément

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