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Agrément Certificate
24/7250
Product Sheet 2 Issue 1

TREMCO CPG UK FLOOR SCREEDS

FLOWCRETE ISOCRETE COMPOSITE K-SCREED

This Agrément Certificate Product Sheet(1) relates to Flowcrete Isocrete Composite K-Screed, a medium grade lightweight aggregate base screed, used with a Flowcrete Isocrete Standard K-Screed levelling screed, for fully bonded, partially bonded and unbonded floor constructions.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

The BBA has awarded this Certificate to the company named above for the product described herein. This 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

Date of issue: 5 September 2024

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.
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The Certificate should be read in full as it may be misleading to read clauses in isolation.
Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that the use of Flowcrete Isocrete Composite K-Screed is not subject to the national Building Regulations.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, Flowcrete Isocrete Composite K-Screed, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 9.3 *Floor finishes*, Clause 9.3.4 *Screed*.

Fulfilment of Requirements

The BBA has judged Flowcrete Isocrete Composite K-Screed to be satisfactory for use as described in this Certificate. The product has been assessed as a medium grade lightweight aggregate base screed, used with a Flowcrete Isocrete Standard K-Screed levelling screed, for fully bonded, partially bonded and unbonded floor constructions.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Flowcrete Isocrete Composite K-Screed is Flowcrete Isocrete Standard K-Screed (see Product Sheet 1 of this Certificate) applied on a medium lightweight aggregate, no fines base. The aggregate may be sintered pulverised-fuel ash (PFA) or expanded clay.

Flowcrete Isocrete Standard K-Screed is a sand/cement levelling screed modified by the incorporation of K-Additive, a pigmented plasticising/accelerating admixture used to modify and enhance the performance of sand/cement floor levelling screeds.

A typical Flowcrete Isocrete Standard K-Screed mix is shown in Table 1.

Table 1 Typical Flowcrete Isocrete Standard K-Screed mix

Material	Standard	Specification	Weight
Cement	BS EN 197-1 : 2011	Class 42.5 N	25 kg
Sand	BS EN 13139 : 2013	Using K-Additive 0/4 mm (MP) Category 1 with not more than 10% passing a 150 µm sieve	90 kg
K-Additive	—	Pack size K3(1)	One bag
Water	BS EN 1008 : 2002	—	To give a suitable working mix, using the 'snowball' test

(1) See Table 6.

K-additive is also available as K-Screed Binder when pre-bagged with the hydraulic binder and polypropylene fibres, requiring only the addition of sand (as described in Table 1) and water, mixed at a ratio of 300 : 1500, bagged K-screed binder : sand by weight. Water is added to give the required workability as judged by the standard 'snowball test' described in BS 8000-9 : 2003.

The density of the Flowcrete Isocrete Composite K-Screed is approximately 1200 kg·m^{-3} for sintered PFA/cement (ratio 7:1), or 600 kg·m^{-3} or expanded clay aggregate/cement (ratio 6:1).

Ancillary items

Isocrete Polymer 70 is a terpolymer in liquid form used to improve the adhesion of the screed to the concrete substrate and has been assessed with the product.

Applications

The product is suitable for use in a range of commercial and domestic situations and must be specified after consideration of the specific performance requirements for a particular application.

The product has been assessed use on concrete substrates of:

- in situ suspended floors
- beam-and-block floors
- precast floor slabs
- treads and risers of concrete staircases
- ground floor slabs.

The product is not suitable for use as a final wearing course and must be overcoated using Flowcrete Isocrete Standard K-Screed.

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessment is shown below.

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Results of mechanical resistance tests are given in Table 2.

Table 2 Results of mechanical resistance tests

Product assessed	Assessment method	Requirement	Result
Flowcrete Isocrete Standard K- Screed	Compressive strength to BS 4551 : 1980	>25 $N \cdot mm^{-2}$	Pass
Flowcrete Isocrete Standard K- Screed	Flexural strength to BS 4551 : 1980	Value achieved	5.3 $N \cdot mm^{-2}$
Flowcrete Isocrete Standard K-Screed using K Screed Binder	Compressive strength to BS EN 13892-2 : 2002	>25 $N \cdot mm^{-2}$	Pass
Flowcrete Isocrete Standard K-Screed using K Screed Binder	Flexural strength to BS EN 13892-2 : 2002	Value achieved	4.1 $N \cdot mm^{-2}$

1.2 On the basis of data assessed, the product has adequate strength for use on concrete bases and has adequate resistance to normal loading, point loading and loads associated with light-wheeled traffic comparable (eg trolleys used in hospitals and offices).

1.3 Under normal circumstances the bond between the concrete and the product is satisfactory. Heat affects this bond and therefore the Certificate holder's recommendations concerning the use of underfloor heating must be strictly followed.

1.4 On-site investigations using the BRE Screed Tester in accordance with BS 8204-1 : 2003 show that the product may be installed effectively to comply with categories A and B of the screed test specification. It may be laid without serious cracking and has a sound surface.

1.5 The product has similar movement characteristics to concrete and traditional sand/cement-based mortars.

2 Safety in case of fire

Not applicable.

3 Hygiene, health and the environment

Not applicable.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the product were assessed.

8.1.2 Visits were made to existing sites to assess the performance of the product in service.

8.1.3 A visit was made to a site in progress to assess the in-situ crushing resistance of floor screed using pre-bagged K-Screed Binder.

8.1.4 A user survey was conducted to establish the product's ease of use and performance in service.

8.2 Service life

8.2.1 Under normal service conditions, the product will have a life of at least that of the building in which it is incorporated provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.2.2 When the product is installed and maintained as described in this Certificate, sulfate attack will not occur.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA and the following requirements apply in order to satisfy the performance specified in this Certificate.

9.1.2 The product must be installed to comply with categories A, B or C of BS 8204-1 : 2003 as given in Table 3 of this Certificate.

Table 3 Floor use categories

Category	Type of use	Examples of types of use
A	Areas expected to take very heavy traffic and/or where later disruption would be unacceptable	Hospital operating theatres, X-ray rooms Research rooms where radioactive material is handled Store rooms with heavy use Telecommunications rooms Areas of heavy trucking Workshop areas
B	Areas expected to take heavy traffic	Areas where heavy trolleys are used Public areas, corridors, main lift and lobby areas Canteens and restaurants Public rooms in residential accommodation Classrooms, hospital wards
C	Other areas subjected to mainly foot traffic and light use	Light office use, consulting rooms, domestic housing

9.1.3 Ground floors must have an effective damp proof membrane (DPM) below the screed or base slab, installed in accordance with CP 102 : 1973, BS 8215 : 1991 and BS 8102 : 2022.

9.1.4 When an existing substrate cannot be guaranteed to have an existing DPM below, either a physical or chemical DPM must be applied to its surface.

9.1.5 The designer must ensure that the construction programme allows sufficient time for a base slab to dry adequately before the product is applied. Where these conditions cannot be met, a DPM must be installed between the base and the screed, in unbonded or floating screed construction.

9.1.6 The product has not been assessed for use in areas which are permanently wet or that could become saturated in service, as considerable loss in strength could result. Where these service conditions exist, the screed must be protected with a resilient floor covering, with welded joints and coved skirtings.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with BS 8000-0 : 2014, BS 8000-9 : 2003, BS 8204-1 : 2003, this Certificate and the Certificate holder's instructions. Further guidance is provided in Annex A of this Certificate.

9.2.3 The concrete sub-floor must be prepared in accordance with BS 8204-1 : 2003 and BS 8204-7 : 2003, and be structurally sound, clean, and free from laitance and organic or other extraneous matter which might impair adhesion of the screed. Any weak or yielding substrate must be removed.

9.2.4 The thickness of the screed is given in Tables 4 and 5. Care must be taken to ensure that the maximum and minimum thickness is achieved at the maximum point of departure from the datum of the base.

9.2.5 The product can be applied at temperatures between 5 and 35°C using normal floor screeding techniques at the thicknesses shown in Table 4, depending on installation details, the use of the building and the imposed loads. The overall floor thicknesses are given in Table 5.

Table 4 Minimum Flowcrete Isocrete Composite K-Screed and weights per unit area

Thickness (mm)		Weight ($kg \cdot m^{-2}$)		
Overall	Flowcrete Isocrete Standard K-Screed	Lightweight aggregate	Sintered pfa aggregate	Expanded clay aggregate
65	25	40	94	69
75	25	50	105	75
85	25	60	116	81
95	25	70	128	87
105	30	75	144	95
115	30	85	156	105
150	30	120	198	126

Table 5 Overall and Flowcrete Isocrete Standard K-Screed thicknesses

Overall thickness (mm)	Flowcrete Isocrete Standard K-Screed thickness (mm)
65–100	25
101–150	30
151–200	40
>200	50

9.2.6 The advice of the Certificate holder must be sought if the product is to be used over insulation or with underfloor heating systems, but such advice is outside the scope of this Certificate.

9.2.7 For bonded screeds the concrete base must be either shot-blasted or scabbled, and vacuum cleaned to completely remove any laitance and expose the main aggregate. Any holes or gaps in the substrate must be filled, sealed and left to set prior to screeding in accordance with the Certificate holder's instructions.

9.2.8 For a partially bonded screed where a high degree of bond is not required, the concrete must have a suitable, tamped surface, free from excessive laitance or loose material.

9.2.9 For unbonded screeds where the product is to be laid over a DPM, reference must be made to BRE Current Paper 94/74 The rippling of thin floor finishes over discontinuous screeds. This gives guidance on measures to be adopted after the screed has been laid to prevent curling of the screed and subsequent rippling of a thin floor finish. These recommendations must also be followed in situations where the product is applied over insulation. The DPM must be well bonded to the concrete substrate and the surface kept clean prior to screeding.

9.2.10 For bonded screeds, the concrete surface must be primed not less than 12 hours before screeding with a solution of one part Isocrete Polymer 70 to three parts water.

9.2.11 Isocrete Polymer 70 must be applied evenly to the prepared concrete surface using a soft brush, to avoid ponding, and then allowed to dry. The primed concrete surface must be grouted immediately before screeding with one part Portland cement mixed to 'just flowing' consistency with diluted Isocrete Polymer 70 bonding agent (one-part Isocrete Polymer 70 to three parts water).

9.2.12 To ensure the correct application and curing properties, the primer must not be applied at temperatures below 10°C.

9.2.13 Flowcrete Isocrete Composite K-Screed must be mixed in the proportions defined by the Certificate holder, in a free fall mixer, in accordance with the Certificate holder's instructions.

9.2.14 Flowcrete Isocrete Standard K-Screed must be mixed in the proportions defined by the Certificate holder in a Creteangle, Mixocrete, Screedmaster or similar forced action mixer, in accordance with this Certificate and the Certificate holder's instructions.

9.2.15 For bonded and partially bonded screeds, the product is laid onto the cement grout, which must not dry prematurely.

9.2.16 The mixed product must be placed and compacted within 30 minutes of mixing.

9.2.17 Prior to mixing, Flowcrete Isocrete Composite K-Screed must be wetted to reduce suction. The base is laid onto the primed surface, which must not dry prematurely.

9.2.18 Flowcrete Isocrete Composite K-Screed is applied over construction joints, but movement joints must be continued through the Flowcrete Isocrete Composite K-Screed surface and the Flowcrete Isocrete Standard K-Screed must be laid for the full depth of the screed in a fillet adjacent to the joint. The joint must then be sealed; the Certificate holder can recommend suitable materials for this purpose, but such advice and products are outside the scope of this Certificate.

9.2.19 The Flowcrete Isocrete Standard K-Screed is normally applied the day after laying Flowcrete Isocrete Composite K-Screed base layer but in colder weather this period may need to be extended.

9.2.20 Application of the Flowcrete Isocrete Standard K-Screed must be conducted in accordance with the Certificate holder's instructions and Product Sheet 1 of this Certificate.

9.2.21 K-Screed must be cured under polythene for five days.

9.2.22 The screed must be damped down if rapid over-drying takes place.

9.2.23 The flooring contractor must check the moisture content of the screed before commencing to lay the floor covering in accordance with the recommendations of BS 8203 : 2017. Typically, floor coverings can be installed after one to three weeks depending on the screed thickness and drying conditions.

9.3 Workmanship

Practicability of installation was assessed by the BBA on the basis of the Certificate holder's information and a visit to a site in progress. To achieve the performance described in this Certificate, installation of the product must be carried out by contractors approved by the Certificate holder.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the product in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate. The following requirements apply in order to satisfy the performance assessed in this Certificate:

9.4.1.1 Under normal circumstances, maintenance or repair will not be necessary.

9.4.1.2 If damage or cracking occurs repairs may be achieved by cutting out the damaged area and relaying. Minor cracks can be repaired using a suitable remedial compound. The Certificate holder can advise on suitable materials, but such advice and materials are outside the scope of this Certificate.

10 Manufacture

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

11 Delivery and site handling

11.1 The Certificate holder stated that the K-Additive is delivered to site in 25 kg boxes and is supplied in three pack sizes, the choice of pack size depending on the size of K-Screed batch to be mixed (see Table 6).

Table 6 K-Additive Packaging

Pack size	Use	Packs per 25 kg box
K3	Mixers using 25 kg of cement	50
K4C	Mixers using 50 kg of cement	50
K5	Mixers producing a 1 tonne batch of screed	14

11.2 The pre-bagged K-Screed Binder is suppled in 25 kg paper sacks.

11.3 Isocrete Polymer 70 is supplied in 25 litre containers.

11.4 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.4.1 K-Additive must be stored under cover and protected from the effects of weather.

11.4.2 Pallets of pre-bagged K-Screed Binder must not be stored more than two high.

11.4.3 Isocrete Polymer 70 must be stored in sealed containers in dry, frost-free conditions.

11.4.4 Cement, sand and graded aggregates must be stored in accordance with normal good practice, away from any possible contamination by soil or organic matter.

11.4.5 Suitable personal protective clothing and equipment must be used when handling the product.

ANNEX A – SUPPLEMENTARY INFORMATION †

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

CLP Regulations

The Certificate holder has taken the responsibility of classifying and labelling the product under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate FM/01764).

Additional Guidance

A.1 The Certificate holder offers a specification advice service to advise specifiers and architects on the preparation of the contract, base and screeding. The Certificate holder will attend sites to monitor the progress of the screed installation and to conduct random soundness testing of the completed screeds.

A.2 In certain situations, steel reinforcing mesh must be incorporated in the screed, particularly in conjunction with unbonded screeds and especially over pipes insulation, conduits and trunking in precast concrete floors. Attention is drawn to the Certificate holder's installation instructions and *NHBC Standards* 2024.

A.3 Once laid, the product may be subjected to light foot traffic after 36 to 48 hours, depending on ambient conditions, provided it is protected with a suitable temporary covering. This time will be extended at lower temperatures.

A.4 An average drying time of 28 days per 25 mm of product thickness must be allowed before laying the floor covering.

A.5 Very low temperatures or excessive moisture in the underlying concrete will delay the hardening and drying of the screed.

A.6 When the product is used with underfloor heating systems, the heat can be turned on 21 days after screeding, as recommended by BS EN 1264-4 : 2021. In the case of hot water systems, the initial temperature setting must not exceed 5°C above the existing temperature of the screed or be increased by more than 5°C per day until the full operating temperature is reached. Electrical systems must also be brought into operation gradually, from an initial heating period of two hours.

A.7 Where following trades are to work on an uncovered screed, it is recommended that the screed be protected until the permanent floor covering is applied.

Bibliography

BRE Current Paper 94/74 *The rippling of thin floor finishes over discontinuous screeds*

BS 4551 : 1980 *Methods of testing mortars, screeds and plasters*

BS 8000-0 : 2014 + A1 : 2024 *Workmanship on construction sites — Introduction and general principles*
BS 8000-9 : 2003 *Workmanship on building sites — Cementitious levelling screeds and wearing screeds*

BS 8102 : 2022 *Protection of below ground structures against water ingress — Code of practice.*

BS 8203 : 2017 *Code of practice for installation of resilient floor coverings*

BS 8204-1 : 2003 + A1 : 2009 *Screeds, bases and in situ floorings — Concrete bases and cementitious levelling screeds to receive floorings — Code of practice*
BS 8204-7 : 2003 *Screeds, bases and in-situ floorings — Pumpable self-smoothing screeds — Code of practice*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*

BS EN 197-1 : 2011 *Cement — Composition, specifications and conformity for common cements*

BS EN 1008 : 2002 *Mixing water for concrete — Specification for sampling, testing and assessing the suitability of water, including water recovered from process in the concrete industry as mixing water for concrete*

BS EN 1264-4 : 2021 *Water based surface embedded heating and cooling systems*

BS EN 13139 : 2013 *Aggregates for mortar*

BS EN 13892-2 : 2002 *Methods of test for screed materials — Determination of flexural and compressive strength*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

Conditions of Certificate

Conditions

1 This Certificate:

- relates only to the product that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- 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.

2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product and its manufacture and/or fabrication, including all related and relevant parts and 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.

4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product
- actual installations of the product, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to UKCA marking and CE marking.

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue 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.

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