



Isocrete Floor Screeds Ltd

A Division of Flowcrete Plc
The Flooring Technology Centre
Booth Lane
Moston, Sandbach
Cheshire CW11 3QF
Tel: 01270 753000 Fax: 01270 753333

**Agrément
Certificate
No 91/2678**
Second issue*

Designated by Government
to issue
European Technical
Approvals

K-SCREED FLOOR SCREEDS

Chape pour plancher
Fußbodenbestrich

Product



K-Screed being installed in an airport terminal

• THIS CERTIFICATE REPLACES AND EXTENDS CERTIFICATE No 83/1210 AND RELATES TO K-SCREED FLOOR SCREEDS, A RANGE OF SAND/CEMENT FLOOR SCREEDS WITH SPECIAL ADDITIVES, AS DESCRIBED IN THE ACCOMPANYING DETAIL SHEETS.

• K-Screed Floor Screeds are levelling screeds for use as a surfacing to concrete floor slabs, to provide a substrate for the application of floor finishes.

• The screeds are manufactured and marketed by Isocrete Floor Screeds Ltd and are installed only by their approved licensees.

Regulations

1 The Building Regulations 1991 (as amended) (England and Wales)



In the opinion of the British Board of Agrément, there are no requirements in these Regulations relating to the use of K-Screed Floor Screeds.

2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, there are no requirements in these Regulations relating to the use of K-Screed Floor Screeds.

3 The Building Regulations (Northern Ireland) 1994 (as amended)



In the opinion of the BBA, there are no requirements in these Regulations relating to the use of K-Screed Floor Screeds.

4 Construction (Design and Management) Regulations 1994

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations

See sections:

7 Delivery and site handling (7.4).

Technical Specification

5 Description

5.1 K-Screed Floor Screeds consist of a sand/cement floor levelling screed modified by the incorporation of K-Additive, a plasticiser/accelerator with colouring.

5.2 K-Additive is supplied in four pack sizes, the choice of pack size depending on the size of K-Screed batch to be mixed (see Table 1).

Table 1 K-Additive packaging

Pack size	Use	Packs per 25 kg box
1	Small mixers using one 15 litre bucket of cement	60
3	Mixers using 25 kg of cement	50
4	Mixers using 50 kg of cement	25
5	Mixers producing a 1 tonne batch of screed	15

5.3 The proportions of constituents of typical K-Screed mixes are described in the accompanying Detail Sheets.

5.4 Isocrete Polymer 70 is a terpolymer in liquid form, used to assist the bonding of the screed to concrete substrates where required.

6 Manufacture and quality control

6.1 The incoming raw materials for K-Additive are supplied to agreed specifications and are batch-weighted, mixed and dispensed in pre-weighed quantities into the appropriate sized polythene bags.

6.2 Quality control checks are conducted to ensure correct proportioning of the material constituents.

7 Delivery and site handling

7.1 K-Additive is delivered to site in 25 kg boxes (see Table 1). These should be stored under cover and protected from the effects of weather.

7.2 Isocrete Polymer 70 is supplied in 25 kg plastic drums and should be stored under cover and protected from freezing.

7.3 Cement, sand and graded aggregates should be stored in accordance with normal practice, away from any possible contamination by soils or vegetable matter.

7.4 When handling materials such as cements and K-Additive, operators should avoid contact with skin, eyes or respiratory system.

Design Data

8 General

8.1 K-Screed Floor Screeds (as described in the accompanying Detail Sheets) are satisfactory as levelling screeds for application to concrete floor slabs, to provide a suitable substrate for the

application of floor finishes (for example, PVC tile or sheet floorings). The products are suitable for use in a range of industrial, commercial and similar situations and should be specified after consideration of the performance requirements at each site and the performance levels and limitations of each material.

8.2 The product is for use on concrete substrates of:

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

8.3 The screeds are laid, using normal floor screeding techniques, to concrete substrates which must be clean and free from contamination by mortar droppings, oil, etc.

8.4 When K-Screeds are to be laid over suitable insulation to provide thermal or impact sound insulation properties, the advice of Isocrete Floor Screeds Ltd should be sought.

8.5 Isocrete Floor Screeds Ltd offer a specification advice service to advise specifiers and architects on the preparation of the contract, base and screeding. Isocrete Floor Screeds Ltd attend sites to monitor the progress of the screed installation and to conduct random soundness testing of the completed screeds.

9 Strength and stability

The product has adequate strength for use in floor structures and is more resistant to normal loading and loads associated with light-wheeled traffic (such as trolleys used in hospitals and offices) than ordinary sand/cement floor levelling screeds.

10 Bond to substrate

Under normal circumstances the bond between the concrete and the product is satisfactory. Tests have shown that heat affects this bond and therefore the recommendations concerning the use of underfloor heating must be followed strictly.

11 Soundness and resistance to cracking

On-site investigations using the BRE Screed Tester in accordance with BS 8204 : Part 1 : 1987 show that K-Screed Floor Screeds may be installed effectively to comply with categories A and B of the screed test specification. They may be laid without serious cracking and have a sound surface.

12 Resistance to wear

The product will, under normal circumstances, resist the wear from light foot traffic better than sand/cement levelling screeds. However, 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.

13 Maintenance and repair

Under normal circumstances of use no maintenance or repair will be necessary. However, if damage to the screed does occur or some cracking takes place, repair may be achieved easily by cutting out the damaged area and re-laying. Minor cracks may be repaired using a levelling compound.

14 Durability

14.1 K-Screed Floor Screeds are durable materials and should last the life of the building when correctly installed and covered by a floor covering such as vinyl sheet.

14.2 No estimate of the life expectancy of an unprotected levelling screed can be made, due to the variability of use of buildings.

Installation

15 General

15.1 Installation of K-Screed Floor Screeds is conducted only by Isocrete Floor Screeds Ltd's approved licensees in accordance with BS 8204 : Part 1 : 1987.

15.2 The standard of installation should comply with BS 8000 : Part 9 : 1989.

16 Base preparation

16.1 The concrete sub-floor must be prepared in accordance with BS 8204 : Part 1 : 1987 and be structurally sound, clean, and free from laitance, organic or other extraneous matter which might impair adhesion of the screed.

16.2 Where K-Screeds are to be laid over a damp-proof membrane, reference should be made to BRE Current Paper 94/74 *The rippling of thin floor finishes over discontinuities in 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 should also be followed in situations where K-Screeds are applied over insulation.

16.3 In certain situations steel reinforcing mesh should be incorporated in the screed, particularly in conjunction with unbonded screeds and especially over pipes, conduits, trunking and major joints in precast concrete floors. Attention is drawn to the manufacturer's installation instructions.

17 Application

The application of the various K-Screeds is summarised in the accompanying Detail Sheets and must be conducted in accordance with Isocrete Floor Screeds Ltd's installation instructions.

Technical Investigations

The tests and technical investigations on K-Screed Floor Screeds are described in the accompanying Detail Sheets.

Bibliography

- BS 8000 *Workmanship on building sites*
Part 9 : 1989 *Code of practice for cement/sand floor screeds and concrete floor toppings*
- BS 8204 *Screeds, bases and in-situ floorings*
Part 1 : 1987 *Code of practice for concrete bases and screeds to receive in-situ floorings*

Conditions of Certification

18 Conditions

18.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) is copyright of the BBA.

18.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked by the BBA or its agents; and
- (c) are reviewed by the BBA as and when it considers appropriate.

18.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

18.5 Any recommendations relating to the use or installation 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 & 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 or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future 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 installation and use of this product.



In the opinion of the British Board of Agrément, K-Screed Floor Screeds are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 91/2678 is accordingly awarded to Isocrete Floor Screeds Ltd.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'P. C. Hewitt'.

Date of Second issue: 27th August 1998

Director

**Original Certificate issued 28th October 1991. This amended version includes change of name and address of Certificate holder, reference to revised Building Regulations and Conditions of Certification, revised packaging size, additional Delivery and site handling information, and inclusion of CONDRAM Regulations and Bibliography section.*



Isocrete Floor Screeds Ltd

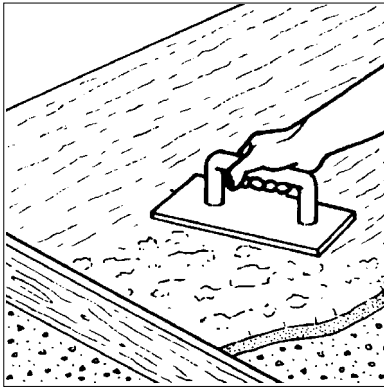
Certificate No 91/2678

DETAIL SHEET 1

Second issue*

STANDARD K-SCREED

Product



• THIS DETAIL SHEET RELATES TO STANDARD K-SCREED, A MODIFIED SEMI-DRY SAND/CEMENT LEVELLING SCREED FOR CONCRETE SUBSTRATES, PROVIDING QUICK-DRYING AND HARD-WEARING PROPERTIES.

• The Front Sheets give the Technical Specification and Design Data common to all K-Screed Floor Screeds, the position under the Building Regulations and Conditions of Certification. The Front Sheets and this Detail Sheet must be consulted together.

Technical Specification

1 Description

1.1 Standard K-Screed is a sand/cement levelling screed modified by the incorporation of K-Additive.

1.2 A typical Standard K-Screed mix is:
 20 kg Portland cement to BS 12 : 1996,
 Class 42.5 N
 90 kg of sand to BS 882 : 1992, grading limit M,
 but with not more than 10% passing a 150 µm
 sieve
 one Size 1 bag of K-Additive
 water to give a suitable working mix, using the
 'snowball' test.

1.3 The density of the product is dependent on the grade of sand used, but will be approximately 1800 kgm⁻³.

Design Data

2 General

2.1 Standard K-Screed is satisfactory for use as a floor levelling screed with a suitable floor covering, when applied to a suitably prepared and adequately strong concrete base.

2.2 It has satisfactory resistance to impact and point loading, and also to abrasion from light-wheeled trolleys and foot traffic.

2.3 The product may be laid on the concrete substrate fully bonded, partially bonded or unbonded depending on the proposed use.

3 Thickness

The product may be laid to the minimum thicknesses shown in Table 1, depending on installation details.

Table 1 Minimum thicknesses

Substrate	Standard K-Screed thickness (mm)
shot-blasted or scabbled normal dense concrete slab with Isocrete Polymer 70	20
prepared precast concrete planks with Isocrete Polymer 70	30
over underfloor heating systems	50
over damp-proof membrane	40
over 35 mm ISD grade expanded polystyrene	60

4 Strength and stability

4.1 When fully bonded, the product has a strong and durable bond to the base concrete. It has higher compressive and flexural strengths compared to a good quality sand/cement levelling screed.

4.2 The product has similar movement characteristics to concrete and normal mortars.

5 Setting and curing times

5.1 Curing should take place under polythene for the periods listed in Table 2.

Table 2 Curing times

Standard K-Screed specification	Curing time (days)
bonded	5
unbonded or floating	10

5.2 Once laid, Standard K-Screed 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.

5.3 An average drying time of seven days per 25 mm of Standard K-Screed thickness should be allowed before laying the floor covering.

5.4 The flooring contractor must check the moisture content of the screed before commencing to lay the floor covering.

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

6 Durability

The product has been the subject of an Agrément Certificate since 1980, and the early installations, in situations described in this Certificate, are continuing to perform satisfactorily. When correctly installed in combination with a suitable floor covering the product should provide a durable in-situ flooring for the life of the building.

Installation

7 Base preparation

Bonded screeds

7.1 The concrete base is either shot-blasted or scabbled, and vacuum cleaned to entirely remove any laitance and expose the main aggregate.

Partially bonded screeds

7.2 Where a high degree of bond is not required the concrete should have a suitable, tamped surface, free from excessive laitance or loose material.

Unbonded screeds

7.3 The damp-proof membrane must be well bonded to the concrete substrate and the surface kept clean prior to screeding.

8 Priming and grouting

For bonded screeds, the concrete surface should be primed not less than 12 hours before screeding with a solution of one part Isocrete Polymer 70 to three parts water. This solution is brushed into the surface and allowed to dry. The primed concrete surface is grouted immediately before screeding with one part screeding sand mixed to 'just flowing' consistency with diluted Isocrete Polymer 70 bonding agent (one part Polymer 70 to three parts water).

Standard K-Screed is mixed in the proportions defined by Isocrete Floor Screeds Ltd, in a Cretriangle, Mixocrete, Screedmaster, or similar forced action mixer, in accordance with the manufacturer's instructions.

10 Application

10.1 For bonded and partially bonded screeds, Standard K-Screed is laid onto the cement grout, which must not dry prematurely.

10.2 If the thickness is to be 75 mm or more the product should be laid in two applications, with not more than two hours between applications. Each layer should be of approximately equal thickness and compacted separately.

10.3 In thick screeds over 75 mm, 25% of the normal sharp sand is replaced with 6 mm single size, graded, clean aggregate.

10.4 Standard K-Screed should be placed and compacted within 20 minutes of mixing.

10.5 The screed is compacted to the required thickness using a weighted roller, hand rammer or similar method. The surface should be closed with a plastic or wooden float and given a light steel trowel or power floated finish.

10.6 The screed is applied over construction joints, but movement joints are continued through the Standard K-Screed surface and sealed, for example, with a polysulphide or polyurethane sealant.

10.7 The surface regularity should comply with the requirements detailed in Table 2 of BS 8204 : Part 1 : 1987. The screed should be protected if it is likely to be subjected to excessive wear before the floor finish is applied.

10.8 The screed should be damped down if rapid over-drying takes place.

10.9 When the product is used with underfloor heating systems, the heat can be turned on 14 days after screeding [rather than the 28 days recommended by CP 1018 : 1971(1993), clause 5.3]. In the case of hot water systems, the initial temperature setting must not exceed 2°C above the existing temperature of the screed, or be increased by more than 2°C per day until the full operating temperature is reached. Electrical systems should also be brought into operation gradually, from an initial heating period of two hours.

Technical Investigations

The following is a summary of the technical investigations carried out on Standard K-Screed.

11 Tests

11.1 As part of the assessment resulting in the issue of previous Certificates Nos 80/738 and 83/1210, tests were conducted on the product to determine:

mix characteristics
resistance to impact damage
resistance to static loading
bond strength/effect of heat and effect of moisture
surface soundness.

11.2 As part of the assessment leading to the issue of this Detail Sheet and Agrément Certificate, tests were conducted on Standard K-Screed to determine:

flexural strength to BS 4551 : 1980
compressive strength to BS 4551 : 1980
bond strength
mix characteristics.

12 Investigations

12.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

12.2 An assessment was made of existing data to determine:

resistance to static loading
impact resistance
abrasion resistance
compatibility with materials in contact
water resistance
soundness.

12.3 An assessment was made of the product's scope of use and durability in service.

12.4 An assessment was made of Isocrete Floor Screeds Ltd's criteria for appointing and monitoring their approved licensees.

12.5 Visits were made to sites in progress and existing sites to assess the practicability of installation and performance of the products in service.

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

12.7 An examination was made of Isocrete Floor Screeds Ltd's safety assessments for Isocrete Polymer 70 and Isocrete K-Additive made under Regulation 12 of the Control of Substances Hazardous to Health (COSHH) Regulations 1994.

12.8 No failures of Standard K-Screed in use have been reported to the BBA.

Bibliography

BS 12 : 1996 *Specification for Portland cement*

BS 882 : 1992 *Specification for aggregates from natural sources for concrete*

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

BS 8204 *Screeds, bases and in-situ floorings*
Part 1 : 1987 *Code of practice for concrete bases and screeds to receive in-situ floorings*

CP 1018 : 1971(1993) *Electric floorwarming systems for use with off-peak and similar supplies of electricity*



On behalf of the British Board of Agrément

Date of Second issue: 27th August 1998

A handwritten signature in black ink, appearing to read 'P. C. Hewson'.

Director

*Original Detail Sheet issued 28th October 1991. This amended version includes revised British Standard references, revised priming and grouting procedure and inclusion of Bibliography section.

Electronic Copy

British Board of Agrément

P O Box No 195, Bucknalls Lane
Garston, Watford, Herts WD25 9BA
Fax: 01923 665301

©1998

e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk



For technical or additional information,
contact the Certificate holder (see
front page).
For information about the Agrément
Certificate, including validity and
scope, tel: Hotline 01923 665400,
or check the BBA website.

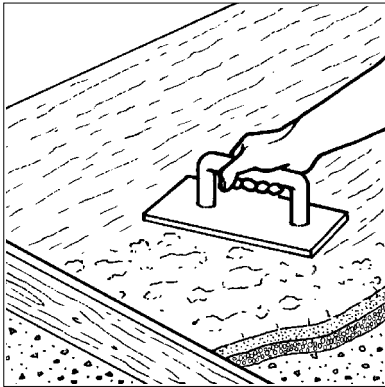


Isocrete Floor Screeds Ltd

Certificate No 91/2678

DETAIL SHEET 2

Second issue*

COMPOSITE K-SCREED**Product**

• THIS DETAIL SHEET RELATES TO COMPOSITE K-SCREED, A MEDIUM GRADE LIGHTWEIGHT AGGREGATE BASE SCREED WITH A STANDARD K-SCREED LEVELLING SCREED FOR USE ON CONCRETE SUBSTRATES, PROVIDING QUICK-DRYING AND HARD-WEARING PROPERTIES.

• The Front Sheets give the Technical Specification and Design Data common to all K-Screed Floor Screeds, the position under the Building Regulations and Conditions of Certification. The Front Sheets and this Detail Sheet must be consulted together.

Technical Specification**1 Description**

1.1 Composite K-Screed is a Standard K-Screed levelling screed on a medium lightweight aggregate, no-fines base screed. The aggregate may be sintered pfa (pulverized-fuel ash) or expanded clay.

1.2 Standard K-Screed is a sand/cement levelling screed modified by the incorporation of K-Additive (see Detail Sheet 1).

1.3 The density of the the product base is approximately 1200 kgm^{-3} for sintered pfa/cement (ratio 7:1), or 600 kgm^{-3} for expanded clay aggregate/cement (ratio 6:1).

Design Data**2 General**

2.1 Composite K-Screed is satisfactory for use as a floor levelling screed with a suitable floor covering, when applied to a suitably prepared and adequately strong concrete base.

2.2 It has satisfactory resistance to impact and point loading, and to abrasion from light-wheeled trolleys and foot traffic.

3 Thickness

3.1 The product may be laid to the thicknesses shown in Table 1, depending on installation details.

Table 1 Minimum Composite K-Screed thicknesses and weights per unit area

Overall	Standard K-Screed minimum	Thicknesses (mm)			Weight (kgm^{-2})		
		Lightweight aggregate	Sintered pfa aggregate	Expanded clay aggregate	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			

3.2 For Composite K-Screed the minimum thickness of Standard K-Screed is given in Table 2.

Table 2 Overall and Standard K-Screed thicknesses

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

4 Strength and stability

4.1 The product has an adequately strong and durable bond to the base concrete. It has similar compressive and flexural strengths compared to a good quality sand/cement levelling screed.

4.2 The product has similar movement characteristics to concrete and normal mortars.

5 Setting and curing times

5.1 Composite K-Screed should be cured under polythene for five days.

5.2 Once laid, Composite K-Screed 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.

5.3 An average drying time of 28 days per 25 mm of Composite K-Screed thickness should be allowed before laying the floor covering.

5.4 The flooring contractor must check the moisture content of the screed before commencing to lay the floor covering.

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

6 Durability

The product has been the subject of an Agrément Certificate since 1980, and the early installations in situations described in this Certificate are continuing to perform satisfactorily. When correctly installed in combination with a suitable floor covering the product should provide a durable in-situ flooring for the life of the building.

Installation

7 Base preparation

The concrete base should have a suitable, tamped surface, free from excessive laitance or loose materials.

8 Priming and grouting

For bonded screeds, the concrete surface should be primed not less than 12 hours before screeding with a solution of one part Isocrete Polymer 70 to three parts water. This solution is brushed into the surface and allowed to dry. The primed concrete surface is grouted immediately before laying the lightweight aggregate base with one part screeding sand mixed to 'just flowing' consistency with diluted Isocrete Polymer 70 bonding agent (one part Polymer 70 to three parts water).

9 Mixing

9.1 Composite K-Screed aggregate base is mixed in the proportions specified by Isocrete Floor Screeds Ltd in a free-fall mixer, in accordance with the manufacturer's instructions.

9.2 Standard K-Screed is mixed in the proportions defined by Isocrete Floor Screeds Ltd in a Creteangle, Mixocrete, Screedmaster, or similar forced action mixer, in accordance with the manufacturer's instructions.

10 Application

10.1 Prior to mixing, Composite K-Screed lightweight aggregate is wetted to reduce suction. The base is laid onto the primed surface, which must not dry prematurely.

10.2 Normally, the Standard K-Screed is applied the day after laying the lightweight Composite K-Screed base, but in colder weather this period may need to be extended.

10.3 Application of the Standard K-Screed is conducted in accordance with the manufacturer's instructions and Detail Sheet 1.

10.4 Composite K-Screed is applied over construction joints, but movement joints are continued through the Composite K-Screed surface with the Standard K-Screed being laid for the full depth of the screed in a fillet adjacent to the joint. The joint is then sealed, for example, with a polysulphide or polyurethane sealant.

10.5 The surface regularity should comply with the requirements detailed in Table 2 of BS 8204 : Part 1 : 1987. The screed should be protected if it is likely to be subjected to excessive wear before the floor finish is applied.

10.6 The screed should be damped down if rapid over-drying takes place.

Technical Investigations

The following is a summary of the technical investigations carried out on Composite K-Screed.

11 Tests

As part of the assessment resulting in the issue of previous Certificates Nos 80/738 and 83/1210, tests were conducted on the product to determine:

- mix characteristics
- resistance to impact damage
- resistance to static loading
- bond strength/effect of heat and effect of moisture
- surface soundness
- flexural strength to BS 4551 : 1980
- compressive strength to BS 4551 : 1980.

12 Investigations

12.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

12.2 An assessment was made of existing data to determine:

- resistance to static loading
- impact resistance
- abrasion resistance
- compatibility with materials in contact
- water resistance
- soundness.

12.3 An assessment was made of the product's scope of use and durability in service.

12.4 An assessment was made of Isocrete Floor Screeds Ltd's criteria for appointing and monitoring their approved licensees.

12.5 Visits were made to sites in progress and existing sites to assess the practicability of installation and performance of the products in service.

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

12.7 An examination was made of Isocrete Floor Screeds Ltd's safety assessments for Isocrete Polymer 70 and Isocrete K-Additive made under Regulation 12 of the Control of Substances Hazardous to Health (COSHH) Regulations 1994.

12.8 No failures of Composite K-Screed in use have been reported to the BBA.

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

BS 8204 *Screeds, bases and in-situ floorings*
Part 1 : 1987 *Code of practice for concrete bases and screeds to receive in-situ floorings*



On behalf of the British Board of Agrément

Date of Second issue: 27th August 1998

Director

**Original Detail Sheet issued on 28th October 1991. This revised version includes British Standard references, revised priming and grouting procedure, and inclusion of Bibliography section.*

Electronic Copy

British Board of Agrément

P O Box No 195, Bucknalls Lane
Garston, Watford, Herts WD25 9BA
Fax: 01923 665301

©1998

e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk



For technical or additional information,
contact the Certificate holder (see
front page).
For information about the Agrément
Certificate, including validity and
scope, tel: Hotline 01923 665400,
or check the BBA website.



Isocrete Floor Screeds Ltd

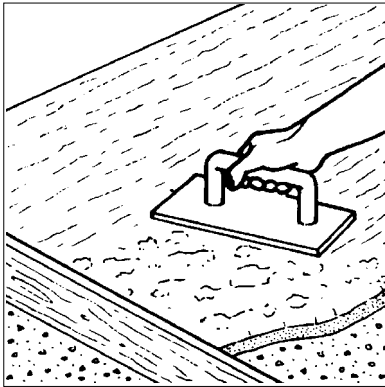
Certificate No 91/2678

DETAIL SHEET 3

Second issue*

HEAVY DUTY K-SCREED

Product



• THIS DETAIL SHEET RELATES TO HEAVY DUTY K-SCREED, A MODIFIED SEMI-DRY SAND/CEMENT LEVELLING SCREED FOR CONCRETE SUBSTRATES, PROVIDING QUICK-DRYING AND HARD-WEARING PROPERTIES.

• The Front Sheets give the Technical Specification and Design Data common to all K-Screed Floor Screeds, the position under the Building Regulations and Conditions of Certification. The Front Sheets and this Detail Sheet must be consulted together.

Technical Specification

1 Description

1.1 Heavy Duty K-Screed is a sand/cement/aggregate levelling screed modified by the incorporation of K-Additive.

1.2 A typical Heavy Duty K-Screed mix is:
20 kg Portland cement to BS 12 : 1996,
Class 42.5 N

67.5 kg of sand to BS 882 : 1992, grading
limit M, but with not more than 10% passing a
150 µm sieve

22.5 kg of 6 mm single size or 10-5 mm
aggregate to BS 882 : 1992

one Size 1 bag of K-Additive
water to give a suitable working mix, using the
'snowball' test.

1.3 The density of the product is dependent on the
grade of sand and aggregate used, but will be
approximately 1900 kgm⁻³.

Design Data

2 General

2.1 Heavy Duty K-Screed is satisfactory for use as
a floor levelling screed in heavily trafficked
situations when used with a suitable floor covering
and when applied to a suitably prepared and
adequately strong concrete base.

2.2 It has satisfactory resistance to impact and
point loading, and also to abrasion from wheeled
trolleys and foot traffic.

2.3 The product may be laid on the concrete
substrate fully bonded, or unbonded over a damp-
proof membrane.

3 Thickness

The product may be laid to the minimum
thicknesses shown in Table 1, depending on
installation details.

Table 1 Minimum thicknesses

Substrate	Heavy Duty K-Screed thickness (mm)
precast concrete slab with Isocrete Polymer 70	40
normal dense concrete slab with Isocrete Polymer 70	40
over damp-proof membranes with D49 reinforcement mesh	60

4 Strength and stability

4.1 When fully bonded, the product has a strong
and durable bond to the base concrete. It has
higher compressive and flexural strengths
compared with a good quality sand/cement
levelling screed.

4.2 The product has similar movement
characteristics to concrete and normal mortars.

5 Setting and curing times

5.1 Curing should take place under polythene for
the periods given in Table 2.

Table 2 Curing times

Heavy Duty K-Screed specification	Curing time (days)
bonded	5
unbonded	10

5.2 Once laid, Heavy Duty K-Screed may be subjected to light foot traffic after 36 to 48 hours, depending on ambient conditions, provided it is protected by a suitable temporary covering.

5.3 An average drying time of seven days per 25 mm of Heavy Duty K-Screed thickness should be allowed before laying the floor covering.

5.4 The flooring contractor must check the moisture content of the screed before commencing to lay the floor covering.

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

6 Durability

The product has been the subject of an Agrément Certificate since 1980, and the early installations in situations described in this Certificate are continuing to perform satisfactorily. When correctly installed in combination with a suitable floor covering the product should provide a durable in-situ flooring for the life of the building.

Installation

7 Base preparation

Bonded screeds

7.1 The concrete base is either shot-blasted or scabbled, and vacuum cleaned to entirely remove any laitance and expose the main aggregate.

Unbonded screeds

7.2 The damp-proof membrane must be well bonded to the concrete substrate and the surface kept clean prior to screeding.

8 Priming and grouting

For bonded screeds the concrete surface should be primed not less than 12 hours before screeding with a solution of one part Isocrete Polymer 70 to three parts water. This solution is brushed into the surface and allowed to dry. The primed concrete surface is grouted immediately before screeding with one part screeding sand mixed to 'just flowing' consistency with diluted Isocrete Polymer 70 bonding agent (one part Polymer 70 to three parts water).

9 Mixing

Heavy Duty K-Screed is mixed in the proportions defined by Isocrete Floor Screeds Ltd, in a Creteangle, Mixocrete, Screedmaster, or similar forced action mixer, in accordance with the manufacturer's instructions.

10.1 For bonded screeds, Heavy Duty K-Screed is laid onto the primed surface, which must not dry prematurely.

10.2 If the thickness is to be 75 mm or more, the product should be laid in two applications, with not more than two hours between applications. Each layer should be of approximately equal thickness and compacted separately.

10.3 Heavy Duty K-Screed should be placed and compacted within 20 minutes of mixing.

10.4 The screed is compacted to the required thickness using a weighted roller, hand rammer or similar method. The surface should be closed with a plastic or wooden float and given a light steel trowel or power floated finish.

10.5 The screed is applied over construction joints, but movement joints are continued through the Heavy Duty K-Screed surface and sealed, eg with a polysulphide or polyurethane sealant.

10.6 The surface regularity should comply with the requirements detailed in Table 2 of BS 8204 : Part 1 : 1987. The screed should be protected if it is likely to be subjected to excessive wear before the floor finish is applied.

10.7 The screed should be damped down if rapid over-drying takes place.

Technical Investigations

The following is a summary of the technical investigations carried out on Heavy Duty K-Screed.

11 Tests

As part of the assessment leading to the issue of this Detail Sheet, tests were conducted on Heavy Duty K-Screed to determine:

flexural strength to BS 4551 : 1980
compressive strength to BS 4551 : 1980
bond strength
mix characteristics.

12 Investigations

12.1 The manufacturing process was examined, including the methods adopted for quality control, and details obtained of the quality and composition of the materials used.

12.2 An assessment was made of existing data to determine:

resistance to static loading
impact resistance
abrasion resistance
compatibility with materials in contact
water resistance
soundness.

12.3 An assessment was made of the product's scope of use and durability in service.

12.4 An assessment was made of Isocrete Floor Screeds Ltd's criteria for appointing and monitoring their approved licensees.

12.5 An examination was made of Isocrete Floor Screeds Ltd's safety assessments for Isocrete Polymer 70 and Isocrete K-Additive made under Regulation 12 of the Control of Substances Hazardous to Health (COSHH) Regulations 1994.

12.6 No failures of Heavy Duty K-Screed in use have been reported to the BBA.

Bibliography

BS 12 : 1996 *Specification for Portland cements*

BS 882 : 1992 *Specification for aggregates from natural sources for concrete*

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

BS 8204 *Screeds, bases and in-situ floorings*
Part 1 : 1987 *Code of practice for concrete bases and screeds to receive in-situ floorings*



On behalf of the British Board of Agrément

Date of Second issue: 27th August 1998

Director

**Original Detail Sheet issued 14th February 1992. This amended version includes revised British Standard references and inclusion of Bibliography section.*

Electronic Copy

British Board of Agrément

P O Box No 195, Bucknalls Lane
Garston, Watford, Herts WD25 9BA
Fax: 01923 665301

©1998

e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk



For technical or additional information,
contact the Certificate holder (see
front page).
For information about the Agrément
Certificate, including validity and
scope, tel: Hotline 01923 665400,
or check the BBA website.