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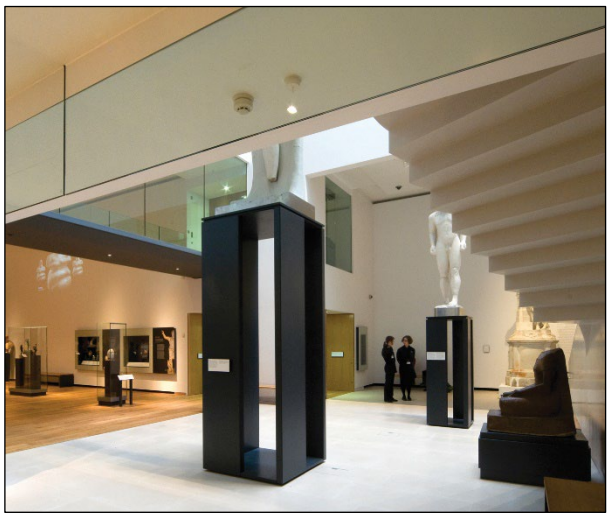
Agrément Certificate
00/3761
Product Sheet 1

SIKA WATERPROOFING SYSTEMS

SIKA-1 WATERPROOFING SYSTEMS

This Agrément Certificate Product Sheet(1) relates to Sika-1 Waterproofing Systems, consisting of a liquid admixture and a range of pre-bagged cementitious mortars, used to produce waterproof renders and screeds.

(1) Hereinafter referred to as 'Certificate'.



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

Resistance to water penetration and water vapour resistance — when applied to a concrete substrate, the systems will resist the passage of moisture into the structure (see sections 6 and 7).

Behaviour in relation to fire — the systems are classified as A1 to BS EN 13501-1 : 2018 and their use is therefore unrestricted by the national Building Regulations (see section 8).

Durability — under normal service conditions, the systems will provide an effective barrier to the transmission of liquid water for the life of the building in which they are incorporated (see section 15).

The BBA has awarded this Certificate to the company named above for the systems described herein. These systems have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Fourth issue: 26 May 2022

Originally certificated on 8 January 2001

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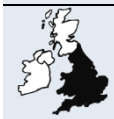
Regulations

In the opinion of the BBA, Sika-1 Waterproofing Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement: **B4(1)** **External fire spread**
Comment: The systems are unrestricted by this Requirement. See sections 8.1 and 8.2 of this Certificate.

Requirement: **C2(a)(b)** **Resistance to moisture**
Comment: The systems satisfy this Requirement. See sections 6 and 7 of this Certificate.

Regulation: **7(1)** **Materials and workmanship**
Comment: The systems are acceptable. See section 15 and the *Installation* part of this Certificate.

Regulation: **7(2)** **Materials and workmanship**
Comment: The systems are unrestricted by this Regulation. See sections 8.1 and 8.2 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation: **8(1)** **Durability, workmanship and fitness of materials**
Comment: The systems can contribute to a construction satisfying this Regulation. See section 15 and the *Installation* part of this Certificate.

Regulation: **9** **Building standards applicable to construction**
Standard: 2.6 Spread to neighbouring buildings
Comment: The systems are unrestricted by this Standard with respect to clauses 2.6.4[(1)(2)], 2.6.5[(1)] and 2.6.6[(2)]. See sections 8.1 and 8.2 of this Certificate.

Standard: 2.7 Spread on external walls
Comment: The systems are unrestricted by this Standard with respect to clause 2.7.1[(1)(2)]. See sections 8.1 and 8.2 of this Certificate.

Standard: 3.3 Flooding and ground water
Standard: 3.4 Moisture from the ground
Standard: 3.10 Precipitation
Comment: The systems provide an effective barrier to liquid water and water vapour, with reference to clauses 3.3.1[(1)(2)], 3.4.1[(1)(2)], 3.4.2[(1)(2)], 3.4.5[(1)(2)], 3.4.6[(1)(2)], 3.4.7[(1)(2)], 3.4.10[(1)(2)] and 3.10.1[(1)(2)] of these Standards. See sections 6 and 7 of this Certificate.

Regulation: **7.1(a)** **Statement of sustainability**
Comment: The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

Regulation: **12** **Building standards applicable to conversions**
Comment: All comments given for the systems under Regulation 9, Standards 1 to 6, also apply to this Regulation with reference to clause 0.12.1[(1)(2)] and Schedule 6[(1)(2)].

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	**23**	**Fitness of materials and workmanship**
Comment:		The systems are acceptable. See section 15 and the *Installation* part of this Certificate.
Regulation:	**28(a)**	**Resistance to moisture and weather**
Comment:		The systems satisfy the requirements of this Regulation. See sections 6 and 7 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The systems are unrestricted by this Regulation. See sections 8.1 and 8.2 of this 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.

See section: 3 *Delivery and site handling* (3.1 to 3.3 and 3.5) of this Certificate.

Additional Information

NHBC Standards 2022

In the opinion of the BBA, Sika-1 Waterproofing Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 5.1 *Substructure and ground bearing floors* and 5.4 *Waterproofing of basements and other below ground structures*.

Where Grade 3 waterproofing protection is required and the below-ground wall retains more than 600 mm measured from the top of the retained ground to the lowest finished floor level, the systems should be used in combination with either Type B or C waterproofing protection.

In the opinion of the BBA, Sika-1 Waterproofing Systems, on existing structures, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards* for *Conversions and Renovations*, taking account of other relevant guidance within the chapter and the suitability of the substrate to receive the systems.

Technical Specification

1 Description

1.1 Sika-1 Waterproofing Systems are a range of pre-bagged cementitious mortars and a liquid admixture, used to produce multi-coat waterproofing renders and coatings, and waterproof screeds.

1.2 Sika-1 Waterproofing Systems comprise:

- Sika-1 Spritz and Bonding Mortar — for use in wall renders and floor screeds
- Sika-1 Render Mortar — for use in wall renders
- Sika-1 Finishing Mortar — for surface preparation and in wall renders
- Sika-1 Floor Screed Mortar — for use in floor screeds
- Sika-1 Liquid Admixture — an integral waterproofing solution used with the pre-bagged mortars
- Sika Damp-Proofing Slurry — a one-component, polymer-modified, cement-based, protective and waterproof slurry coating, available in grey and off-white.

1.3 The characteristics of the mortars are shown in Table 1.

Table 1 Sika-1 mortar characteristics

Mortar type	Aggregate/cement ratio	Mixed wet density ($kg \cdot m^{-3}$)
Sika-1 Spritz and Bonding	1.0	2080
Sika-1 Render	1.5	2220
Sika-1 Finishing	2.5	2130
Sika-1 Screed	3.0	2100
Sika Damp-Proofing Slurry	1.76	1880 to 2080

2 Manufacture

2.1 The systems components are manufactured by batch-blending processes.

2.2 Sika-1 mortars are pre-batched blends of dried graded aggregates and Portland cement(1).

(1) Versions of all four mortars are available using sulfate-resisting Portland cement for use where sulfates are present in the soil (see section 7). Advice from the Certificate holder can be sought in such circumstances.

2.3 Sika-1 Liquid Admixture is an aqueous colloidal silicate solution with chemical additives, produced by a batch-blending process.

2.4 Sika Damp-Proofing Slurry is a mixture of Portland cement, aggregate, polymers and additives.

2.5 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out 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.

2.6 The management system of Sika Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate FM 12504).

3 Delivery and site handling

3.1 The mortars are supplied in 25 kg bags, colour coded as detailed in Table 2.

Table 2 Sika-1 bag colour codes

Mortar type	Colour
Sika-1 Spritz and Bonding	red band
Sika-1 Render	brown band
Sika-1 Finishing	green band
Sika-1 Floor Screed	blue band

3.2 Sika-1 Liquid Admixture is supplied in 25 and 200 litre containers bearing the BBA logo incorporating the number of this Certificate, or in bulk by tanker.

3.3 Sika Damp-Proofing Slurry is supplied in 12.5 kg plastic buckets and 25 kg bags.

3.4 The mortars must be stored in dry conditions in unopened bags. The admixture should be stored in frost-free conditions. The shelf-life of the materials, when stored unopened in temperatures between 10 and 30°C, is at least six months.

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

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Sika-1 Waterproofing Systems.

Design Considerations

4 General

4.1 Sika 1 Waterproofing Systems are satisfactory for use as fully bonded Type A waterproofing protection, as defined in BS 8102 : 2009, for the waterproofing of new or existing structures.

4.2 The systems can be used internally and externally on concrete, brickwork or blockwork substrates to provide an effective barrier to the transmission of liquid water where Grades 1 to 3 waterproofing protection are required, as defined in BS 8102 : 2009, Table 2.

4.3 Where Grade 3 waterproofing protection is required, the environment must also be controlled by use of ventilation, dehumidification and/or air conditioning (as appropriate) to ensure that dampness does not occur. See also the *Additional Information* part of this Certificate relating to the NHBC Standards.

4.4 New buildings must be designed to withstand the hydrostatic pressure expected in service. The system should not be applied until as much as practicable of the structure's dead load has been applied and until structural movement owing to curing is complete.

4.5 Sika-1 Liquid Admixture is used with the pre-batched mortars in the proportions defined in Table 1 to produce Sika-1 renders or screeds.

4.6 Sika-1 renders are satisfactory for use as:

- a two- or three-coat system for external or internal waterproofing above ground level
- a three- or four-coat system for waterproofing basements, swimming pools or water-retaining structures by internal rendering.

4.7 Sika-1 screeds are satisfactory for use as a three-coat system to waterproof:

- basement floors in conjunction with Sika-1 internal render to the walls
- floors in wet areas (eg shower rooms).

4.8 The surface is installed using conventional rendering and screeding techniques. Inter-coat adhesion is achieved by the use of spatter coats rather than by scratching, and all joints between successive applications are lapped.

4.9 The nominal coat thicknesses are given in Table 3.

Table 3 Sika-1 nominal coat thickness

Coat type	Thickness (mm)
Two-coat render	12
Three-coat render	20
Four-coat render	26
Three-coat screed	30 (minimum)

4.10 Sika Damp-Proofing Slurry is satisfactory for use:

- as interior and exterior waterproofing of concrete, brickwork and blockwork structures
- as a waterproofing system for tanks and pools.

4.11 Sika Damp-Proofing Slurry is not a decorative treatment [although it can be overcoated(1)] and may display signs of blooming after rain or in damp conditions.

(1) Contact the Certificate holder for further advice; such products are outside of the scope of this Certificate.

5 Practicability of installation

Sika-1 Waterproofing Systems are designed to be installed by suitably competent and experienced contractors in accordance with the Certificate holder's instructions.

6 Resistance to water penetration

Sika-1 Waterproofing Systems provide an effective barrier to the transmission of liquid water.

7 Water vapour resistance

The measured water vapour resistances of various Sika-1 systems are given in Table 4.

Table 4 Measured water vapour resistances

Component	Water vapour resistance ($MN \cdot s \cdot g^{-1}$)
Sika-1 two-coat render	5.76
Sika-1 three-coat render	27.57
Sika-1 four-coat render	32.31
Sika-1 Screed	47.49
Sika-1 Damp-Proofing Slurry	3.0

8 Behaviour in relation to fire

8.1 The systems are classified as A1 to BS EN 13501-1 : 2018 in accordance with EU Decision 96/603/EC as they contain less than 1% organic material.

8.2 The systems are not subject to any restriction on building height or proximity to boundaries.

8.3 Designers should refer to the relevant national Building Regulations and guidance for alternative approaches and detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers and combustibility limitations for other materials and components used in the overall wall construction (for example, thermal insulation).

9 Resistance to movement

9.1 A Sika-1 render or screed is unable to accommodate substrate movement. However, a structure showing live cracks can be waterproofed by following the procedure given in section 18.20.

9.2 Sika Damp-Proofing Slurry is slightly flexible and can be used to bridge hairline cracks, but cannot accommodate substrate movement of designed expansion joints. The Certificate holder can advise on such details.

10 Resistance to damage

The coatings are vulnerable to damage during installation and in service, particularly when left unprotected in heavily trafficked areas where there is a risk of impact or abrasion.

11 Resistance to sulfates

A conventional Sika-1 system based on Portland cement or Sika Damp-Proofing Slurry may only be used in soils of Class DS1 as defined in BRE Special Digest 1 : 2005, Table C1. A Sika-1 render based on sulfate-resisting Portland cement may be used in soils of Class 2 (See Table 5 of this Certificate).

Table 5 Concentrations of sulfate in the ground expressed as SO_4

Class	In soil		In ground water
	Total SO_4 (%)	SO_4 in 2:1 soil extract (mg per litre)	(mg per litre)
DS1(1)	<0.24	<0.5	<0.4
DS2(2)	0.24 to 0.6	0.5 to 1.5	0.4 to 1.4

(1) Use Portland cement-based product.

(2) Use sulfate-resisting Portland cement-based product.

12 Condensation

Internal application on a basement wall

12.1 When the systems are applied to the inside of a basement wall, the wall structure behind the waterproofing may remain wet, with subsequent risk of condensation and frost damage in cold conditions.

12.2 The condensation risk can be reduced by the application of a coat of proprietary lightweight cement-based renovating plaster, the provision of adequate heating and ventilation and, if required, the use of a dehumidifier.

13 Fixings

13.1 To avoid breaching the waterproofing when attaching fixings, one of the following should be used:

- epoxy resin or polyurethane adhesive to bond lightweight fixings to the surface (the Certificate holder should be consulted for advice on suitable materials)
- recesses made in the substrate and lined with the render to form waterproof pockets to accept heavy duty fittings. The pockets are packed with mortar to hold the fixings in position
- floor-standing supports.

13.2 If these techniques cannot be applied and it is necessary to breach the waterproof coating, recesses formed in the substrate must be packed with the waterproof system.

14 Maintenance and repair

Under normal circumstances, no maintenance or repair will be necessary. However, if damage or cracking occurs, repairs may be achieved using an appropriate method as described in BS 8102 : 2009, Clause 11. In such circumstances, the advice of the Certificate holder should be sought.

15 Durability

Under normal service conditions, the systems will provide an effective barrier to the transmission of liquid water for the life of the building in which they are incorporated.

Installation

16 General

16.1 Installation of Sika-1 Waterproofing Systems should be carried out by suitably competent and experienced contractors, in accordance with the Certificate holder's instructions and this Certificate. Workmanship should comply with BS 8000-0 : 2014, BS 8000-3 : 2020, BS 8000-4 : 1989 and BS 8102 : 2009.

16.2 The systems may be installed under most normal site conditions but external application should not be attempted during rain, or at temperatures below 5°C.

17 Surface preparation

17.1 Before application, all surfaces must be clean, sound and free from previous coatings and surface water.

17.2 Before application as an external waterproofing treatment for brickwork or blockwork masonry, the surface must be wire-brushed, all defective mortar joints raked out squarely 10 to 12 mm deep, and the surface washed thoroughly.

17.3 All joints and surface defects should be made good using Sika-1 Finishing Mortar made up with clean water.

17.4 Before application as internal tanking, the surface is bush-hammered, all mortar joints are raked out, and the surface is washed thoroughly.

17.5 When casting new concrete, a suitable surface for the application of the systems can be obtained using shutters treated with a surface retarder(1). When the shutters are removed, the surface is wire-brushed and washed thoroughly. Other concrete surfaces are prepared by bush-hammering or grit/water blasting.

(1) The Certificate holder should be consulted for advice on suitable materials; such materials are outside of the scope of this Certificate.

17.6 For floors, all existing coverings must be removed and the surface prepared by blasting, followed by washing to remove debris.

17.7 Any defects are made good, and water infiltration through the surface to be treated is either diverted by drainage or concentrated at points to be plugged(1) after three coats of a four-coat Sika-1 render have been applied.

(1) The Certificate holder should be consulted for advice on suitable materials; such materials are outside of the scope of this Certificate.

17.8 Immediately prior to application, the substrate should be soaked with clean water; however, free surface water must not be present.

18 Procedure

18.1 Sika-1 Liquid Admixture is diluted (1:10 by volume) with clean water. Care must be taken to prevent lumps forming.

18.2 Unless otherwise indicated, all mixes are prepared using the appropriate pre-batched mortar and the 1:10 diluted Sika-1 solution.

18.3 The approximate quantities of solution required are given in Table 6.

Table 6 Sika-1 1:10 solution quantities

Mortar type	Quantity (litres)
Sika-1 Spritz and Bonding	5.7
Sika-1 Render	3.3
Sika-1 Finishing	3.3
Sika-1 Floor Screed	2.5

18.4 Mixing of the diluted Sika-1 Liquid Admixture with the mortars should be carried out in a force-action mixer or in a clean drum using a paddle mixer. A tumble-action mixer is not suitable.

18.5 Other materials must not be added to the mix at any stage.

Rendering

18.6 Sika-1 Spritz and Bonding Mortar is prepared and vigorously applied as a 6 mm coat over the wall surface.

18.7 Four to five hours later, when the first coat has stiffened, a 6 mm thick coat of Sika-1 Render Mortar is applied by trowel, with a cove trowel used at internal corners. A spatter coat of the same mortar, gauged with plain water to form a slurry, is applied to serve as a key for the next coat.

18.8 The next day, a Sika-1 Finishing Mortar is applied 6 mm thick and finished with a wooden float.

18.9 In a two-coat external application, above ground level, the Sika-1 Render Mortar coat is omitted.

18.10 In a four-coat internal application, the Sika-1 Render Mortar coat is repeated and Sika-1 Finishing Mortar applied on the third day.

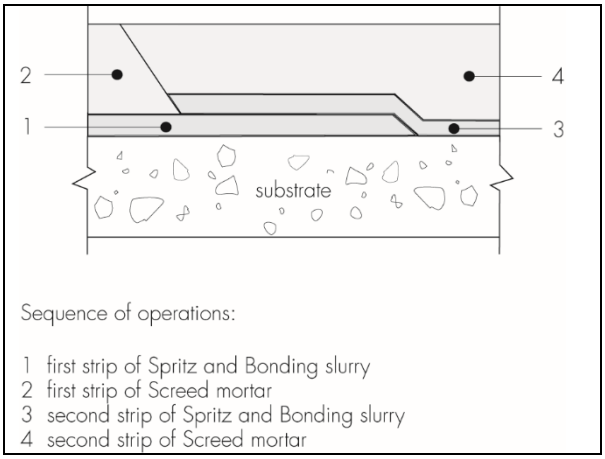
Floor screed

18.11 Sika-1 Spritz and Bonding Mortar is prepared and applied in strips by brush or broom.

18.12 While the first coat is still wet, a Sika-1 Spritz and Bonding Mortar coat is trowel applied at a plastic consistency, to a minimum thickness of 10 mm.

18.13 While the bonding coat is still wet, Sika-1 Floor Screed Mortar is prepared and applied to a minimum thickness of 30 mm, and tamped vigorously. Care is taken to leave a strip of the bonding coat uncovered at the edge, ensuring that a lap joint is formed with the next strip, as shown in Figure 1.

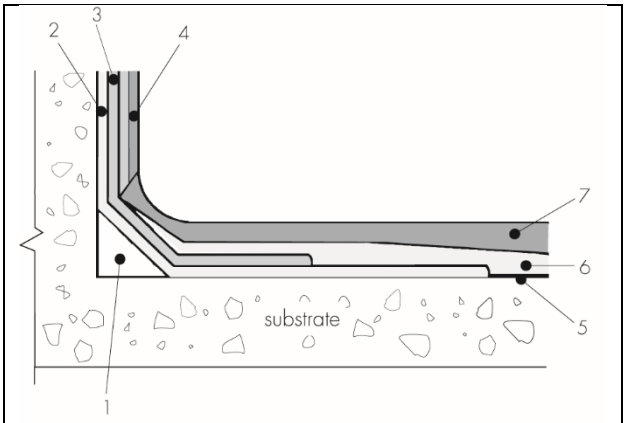
Figure 1 Formation of lap joint



Continuity between waterproofing on wall and floor

18.14 The first two coats on the wall are continued over a corner fillet onto the floor surface. The corner fillet mortar can be omitted if a corner strip is used (the Certificate holder can provide details). The whole corner lap sequence is illustrated in Figure 2.

Figure 2 Formation of corner joint



Sequence of operations (for a four-coat application to the walls):

1 corner fillet of Sika-1 Render mortar
2 Sika-1 Spritz and Bonding slurry 6 mm thick
3 Sika-1 Render mortar 6 mm thick plus spatter coat
4 Sika-1 Finishing mortar 6 mm thick
5 Sika-1 Spritz and Bonding slurry
6 Sika-1 Spritz and Bonding mortar 10 mm thick
7 Sika-1 Screed mortar 20 mm thick, tamped vigorously and finished with a cove trowel at the floor-wall junction

18.15 The applied system must be cured by keeping it moist for seven days. Sudden changes in temperature and humidity should be avoided during this period. The systems must be protected from frost during curing.

Sika Damp-Proofing Slurry

18.16 The powder is mixed with water using a drill and paddle stirrer (speed 500 rpm) in a plastic or steel bucket, until the mix is free from lumps. The volume of water needed to mix the 25 kg pack(1) is dependent on the method of application. Quantities are given in Table 7.

(1) Half the amount of water is required for the 12.5 kg pack size.

Table 7 Sika-1 1:10 solution quantities

Application method	Quantity of water (litres)
Brush	4.5 to 4.7
Trowel	4.0 to 4.25
Spray	4.0 to 4.5

18.17 The resultant mortar mix should be applied within its workable life (approximately 30 minutes at 20°C).

18.18 The product should be applied in a minimum of two layers to give a total thickness of between 2 and 5 mm using one of the following methods:

- brush — the product should be applied in even layers using a flat fibre brush on vertical surfaces and a rubber squeegee or brush for horizontal surfaces. The first coat is allowed to stiffen (normally after two to six hours) and a second coat applied within 24 hours at the same coverage rate
- trowel — the first layer may be applied using a trowel with 3 to 4 mm teeth. Once the first coat has hardened, a smooth-edged trowel may be used to apply the second coat
- spray — both coats are applied using wet spray equipment, ensuring that the first coat has hardened sufficiently to prevent damage from the second spray application. The second coat may be smoothed using a brush or trowel.

18.19 Whilst curing, the product should be protected from direct sunlight and strong winds, using damp hessian or polythene sheeting.

Detailing

18.20 In all cases, joints or live cracks should be sealed and reflected through the waterproofing system with a flexible sealant suitable for the particular application.

18.21 Penetrations by such features as pipes, must be securely sealed to maintain watertightness. The advice of the Certificate holder should be sought on suitable systems.

Technical Investigations

19 Tests

Tests were carried out on Sika-1 Waterproofing Systems and the results assessed to determine:

- resistance to water penetration
- water vapour transmission rate
- adhesion to substrates
- inter-coat adhesion
- water diffusion
- water vapour diffusion
- compressive and flexural strength
- static modulus of elasticity
- coefficient of thermal expansion
- frost resistance
- pull-off strength (adhesion)
- alkali resistance.

20 Investigations

20.1 An evaluation was made of test data for Sika-1 Damp-Proofing Slurry covering:

- flow
- density
- air content
- compressive strength
- drying shrinkage
- modulus of elasticity
- pull-off strength (adhesion).

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

20.3 The methods of application and the durability of the systems were assessed.

20.4 Visits were made to sites to assess the practicability of installation.

20.5 User surveys of treated properties were conducted.

20.6 An evaluation was made of the effect of the products on the potability of water.

Bibliography

BRE Special Digest 1 : 2005 *Concrete in aggressive ground*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*
BS 8000-3 : 2020 *Workmanship on building sites — Code of practice for masonry*
BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8102 : 2009 *Code of practice for protection of below ground structures against water from the ground*

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

21 Conditions

21.1 This Certificate:

- relates only to the product/system 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.

21.2 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.

21.3 This Certificate will remain valid for an unlimited period provided that the product/system 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.

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

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

21.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal 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, 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.