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Agrément Certificate

19/5621

Product Sheet 1

SIKA LIQUID-APPLIED WATERPROOFING SYSTEMS

SIKALASTIC 8800 LIQUID APPLIED WATERPROOFING SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Sikalastic⁽²⁾ 8800 Liquid Applied Waterproofing System, based on a spray-applied polyurea waterproofing membrane, for use externally in below ground waterproofing applications on concrete and steel substrates.

(1) Hereinafter referred to as 'Certificate'.

(2) Sikalastic is a registered trademark.

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 and water vapour — the system provides an effective barrier to the passage of water under hydrostatic pressure and water vapour from the ground (see section 6).

Resistance to mechanical damage — the system will accept the limited foot traffic and loads associated with installation and in service (see section 7).

Durability — under normal service conditions, the system will provide an effective barrier to the transmission of moisture for the life of the structure in which it is incorporated (see section 9).



The BBA has awarded this Certificate to the company named above for the system described herein. This system 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 First issue: 14 February 2019

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body – Number 113.

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

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

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

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Regulations

In the opinion of the BBA, the Sikalastic 8800 Liquid Applied Waterproofing System, 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: | C2(a) | Resistance to moisture |
| Comment: | | The system will enable a structure to satisfy this Requirement. See section 6.1 of this Certificate. |
| Regulation: | 7 | Materials and workmanship (applicable to Wales only) |
| Regulation: | 7(1) | Materials and workmanship (applicable to England only) |
| Comment: | | The system is acceptable. See section 9 and the <i>Installation</i> part of this Certificate. |



The Building (Scotland) Regulations 2004 (as amended)

| | | |
|--------------------|---------------|--|
| Regulation: | 8(1) | Durability, workmanship and fitness of materials |
| Comment: | | The system satisfies the requirements of this Regulation. See section 9 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 9 | Building standards applicable to construction |
| Standard: | 3.4 | Moisture from the ground |
| Comment: | | The system will enable a structure to satisfy the requirements of this Standard, with reference to clauses 3.4.1 ⁽¹⁾⁽²⁾ , 3.4.2 ⁽¹⁾⁽²⁾ and 3.4.5 ⁽¹⁾⁽²⁾ to 3.4.7 ⁽¹⁾⁽²⁾ . See section 6.1 of this Certificate. |
| Standard: | 7.1(a) | Statement of sustainability |
| Comment: | | The system can contribute to meeting 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 system under Regulation 9, 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(a) | Fitness of materials and workmanship |
| Comment: | (b)(i) | The system is acceptable. See section 9 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 28(a) | Resistance to moisture and weather |
| Comment: | | The system will enable a structure to satisfy the requirements of this Regulation. See section 6.1 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, 3.2 and 3.4) of this Certificate.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, the Sikalastic 8800 Liquid Applied Waterproofing System, 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*, Clause 5.1.20 *Damp proofing concrete floors* and 5.4 *Waterproofing of basements and other below ground structures*, and Technical Requirement R3.

Where Grade 3 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 system should be used in combination with either a Type B or C waterproofing protection.

In addition, in the opinion of the BBA, the system when installed and used 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 system.

Technical Specification

1 Description

1.1 The Sikalastic 8800 Liquid Applied Waterproofing System is a rapid-cure, spray-applied polyurea elastomeric waterproofing membrane.

1.2 The system comprises:

- Sikalastic 8800 — a two-part, spray-applied polyurea based waterproofing membrane
- Sikafloor 161 — a two-part epoxy primer for use on cementitious substrates prior to the application of Sikalastic 8800 for use at air and substrate temperatures between 10 and 30°C
- Sika Concrete Primer — a two-part, rapid curing polyurea based primer for use on cementitious substrates prior to application of Sikalastic 8800 for use at air and substrate temperatures between 5 and 30°C
- SikaCor Zinc R — a two-part epoxy based primer for use on metal substrates prior to the application of Sikalastic 8800
- Sikalastic 810 — a two-part polyurethane adhesion promoting coating for bond bridging between coats of Sikalastic 8800
- Sika Thinner C — a solvent mixture for use with Sikalastic 810 for bond bridging between coats of Sikalastic 8800. The product can also be used as a cleaning solvent.

1.3 Other products which may be used with the system, but which are outside the scope of this Certificate, include:

- specialist primers
- waterstops
- specialist sealants
- protection boards/membranes
- drainage boards
- concrete repair systems.

Details of suitable products/specifications may be obtained from the Certificate holder.

2 Manufacture

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

2.2 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.

2.3 The management systems of the manufacturers have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate FM 12504) and SQS (Certificate 31982).

3 Delivery and site handling

3.1 The system is delivered to site in sealed containers with each component packed separately in the specified mix proportions. Each pack is labelled with the Certificate holder’s name, product name, component identification, batch number, date of manufacture/expiry date and health and safety information.

3.2 The system components are available in the pack weights given in Table 1.

| <i>Table 1 Pack weights and storage life</i> | | | |
|--|---------------------|----------------|---------------------|
| Component | Packaging Type | Pack size | Shelf life (months) |
| Sikalastic 8800 | | | |
| Part A | Metal drums | 212 kg | 12 |
| Part B | Metal drums | 191 kg | 12 |
| Sika Concrete Primer | | | |
| Part A | Metal cans | 9.0 ℓ | 12 |
| Part B | Metal cans | 2.5 ℓ | 12 |
| Sikafloor 161 | | | |
| Part A | Metal cans or drums | 23.7 or 220 kg | 24 |
| Part B | Metal cans or drums | 6.3 or 177 kg | 24 |
| SikaCor Zinc R | | | |
| Part A | Metal cans | 14.1 kg | 12 |
| Part B | Metal cans | 0.9 kg | 12 |
| Sikalastic 810 | | | |
| Part A | Metal cans | 9.0 kg | 12 |
| Part B | Metal cans | 4.5 kg | 12 |
| Sika Thinner C | Metal cans | 3.0 ℓ | 12 |

3.3 The system components should be stored in cool, dry conditions in unopened sealed containers away from chemicals and sources of ignition. When stored in accordance with the Certificate holder’s instructions, the components will have a shelf life as detailed in Table 1.

3.4 The Certificate holder has taken the responsibility of classifying and labelling the system 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 the Sikalastic 8800 Liquid Applied Waterproofing System.

Design Considerations

4 General

4.1 The Sikalastic 8800 Liquid Applied Waterproofing System is satisfactory for use in sandwich construction as a damp-proofing membrane for solid ground floors in accordance with the relevant requirements of CP 102 : 1973 Section 3, and as a fully bonded Type A waterproofing protection as defined in BS 8102 : 2009 for the waterproofing of new or existing structures.

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

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.

4.4 Detailing requirements, eg at service penetrations, movement joints, must be evaluated on a case-by-case basis. The Certificate holder has standard details or can advise of suitable details for a particular application.

5 Practicability of installation

The system is installed by installers approved by the Certificate holder.

6 Resistance to water and water vapour



6.1 The system will adequately resist the passage of water under hydrostatic pressure and moisture from the ground and enable a structure to comply with the requirements of the national Building Regulations.

6.2 The system is impervious to water and will provide a waterproof layer capable of accepting minor structural movements without damage.

7 Resistance to mechanical damage

7.1 The system has adequate resistance to damage that might be caused by sharp implements or stones. However, unnecessary traffic should be avoided.

7.2 Provided sufficient care is taken, the system will not be damaged by normal foot traffic.

8 Maintenance

As the system is confined between the structure and backfill and has satisfactory durability (see section 9), maintenance is not required. Any damage occurring during construction works must be repaired in accordance with section 12, prior to enclosing in the structure.

9 Durability



When subjected to normal service conditions, the system will provide an effective barrier to the transmission of moisture for the life of the structure in which it is incorporated.

Installation

10 General

10.1 Installation of the Sikalastic 8800 Liquid Applied Waterproofing System must be carried out in accordance with the relevant requirements of CP 102 : 1973 Section 3, BS 8102 : 2009, BS 8000-0 : 2014, BS 8000-4 : 1989, the Certificate holder's instructions and this Certificate.

10.2 Concrete structures should be designed and built in accordance with BS EN 1992-1-1 : 2004 and its UK National Annex.

10.3 Substrates to which the system is to be applied must be sound, clean, free from laitance and corrosion, dry and free from ice and frost.

10.4 Concrete surfaces must be free from sharp projections such as nail heads and concrete nibs. Power floated concrete must be shot blasted or mechanically abraded to help ensure the primer can penetrate into the surface. The Certificate holder's advice must be sought for the suitability of the substrate to receive the system and for suitable cleaning procedures, including the use of a proprietary surface cleaner/HSE approved fungicidal wash where required.

10.5 Steel substrates should be blast-cleaned to level SA 2 ½ to ISO 12944-4 : 2017 by shot-blasting or other suitable method, and be free from oil and/or grease.

10.6 Defects such as large cracks must be repaired prior to application of the system in accordance with the Certificate holder's instructions.

10.7 A minimum curing period of 28 days is normally required before new concrete surfaces are primed. The Certificate holder must be consulted for advice if priming is to be carried out before this period. The Certificate holder's instructions must be observed with respect to maximum moisture content levels in the substrate.

10.8 The substrate temperatures must exceed the dew-point by more than 3°C during application and hardening. The Certificate holder's product data sheets must be followed for minimum and maximum application temperatures.

10.9 Previously coated areas must be checked for integrity and adequate adhesion to the substrate. Adhesion checks must be carried out to ensure that the system is compatible with the existing surfaces. The Certificate holder must be consulted for details of suitable test methods and requirements before use. If the substrate requires preparing after bond testing the appropriate methods, such as high pressure washing, captive shot blasting or other mechanical abrasive methods, can be used. Advice must be sought from the Certificate holder.

10.10 To assess the suitability of a substrate to receive the membrane, bond tests should be carried out generally in accordance with EN 1542 : 1999 in consultation with the Certificate holder. If bonding problems occur, advice should be sought from the Certificate holder.

10.11 The system build-up specification is detailed in Table 2.

Table 2 Sikalastic 8800 Liquid Applied Waterproofing System – build-up specification

| Product | Application rate (kg·m ⁻²) |
|--|--|
| Primer | |
| Sika Concrete Primer | 0.35 ⁽¹⁾ |
| Sikafloor 161 | 0.35 ⁽¹⁾ |
| SikaCor Zinc R | 0.250 – 0.335 |
| Sikalastic 8800 waterproofing membrane | ≥ 2.1 ⁽²⁾ |

(1) Typical coverage rate per coat. Actual coverage will depend on surface roughness and porosity.

(2) To achieve a dry film thickness of ≥ 2.0 mm.

10.12 Following installation, the treated surface must be tested using a non-destructive test, eg holiday test, before the system is enclosed by backfilling. Damaged areas must be repaired in accordance with section 12.

10.13 The membrane must be protected with a suitable protection board prior to backfilling. The Certificate holder should be consulted for suitable products.

11 Procedure

Priming

11.1 Sika Concrete Primer, Sikafloor 161 and SikaCor Zinc R must be prepared and mixed in accordance with the Certificate holders instructions using a suitable slow speed drill fitted with a suitable mixing paddle.

11.2 Sika Concrete Primer and Sikafloor 161 are applied to the prepared concrete substrate using a short-piled roller or brush. Sikafloor 161 can also be applied by squeegee.

11.3 SikaCor Zinc R should be applied using suitable spray equipment. The Certificate holder can advise on suitable equipment for this purpose.

11.4 If necessary, a second coat of primer should be applied to ensure the minimum application rate is achieved and that a continuous pore free primer film is achieved.

11.5 The primer coat must be allowed to dry prior to overcoating with Sikalastic 8800 waterproofing membrane ensuring that any minimum/maximum dry times are observed in accordance with the Certificate holder's instructions.

Sikalastic 8800 waterproofing membrane

11.6 Sikalastic 8800 waterproofing membrane is applied using suitable air driven or electrical plural component heated spray equipment to achieve a minimum dry film thickness of 2 mm.

11.7 Prior to spraying, the Part B component must be thoroughly stirred using a suitable drum stirrer until a homogenous colour is achieved.

11.8 Both components must be heated and maintained at between 65 and 70°C during spraying.

11.9 The product temperature, accuracy of the dosage and adequacy of the mixing must be monitored regularly throughout the process by the installer.

11.10 At day joints, a 100 mm overlap of new material over clean existing membrane should be ensured. A light coat of Sikalastic 810, mixed in accordance with the Certificate holder's instructions, is applied at a rate of approximately 0.05 kg·m⁻² to the clean existing Sikalastic 8800 membrane to act as a bond bridge.

12 Repair

12.1 Any damage to the system must be repaired as soon as possible to ensure that the integrity of the waterproofing is maintained.

12.2 Minor damage to the system can be repaired by removing loose material by abrading the surface of the affected area and surrounding installation to allow an overlap of 100 mm onto sound well bonded coating. A light coat of Sikalastic 810, mixed in accordance with the Certificate holder's instructions, is applied at a rate of approximately 0.05 kg·m⁻² to the clean and sound existing Sikalastic 8800 membrane to act as a bond bridge. The system is then installed to the original specification as described in section 11.

Technical Investigations

13 Tests

Tests were carried out and the results assessed to determine:

- delamination strength
- resistance to dynamic impact
- resistance to static indentation
- resistance to fatigue cycling
- tensile characteristics
- water absorption
- effect of long term water exposure (for 180 days at 23°C)
- effect of short term exposure to UV-A (20 MJ·m⁻²)
- effect of heat ageing (for 100 days at 80°C)
- characterisation by IR
- characterisation by thermogravimetric analysis.

14 Investigations

14.1 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.

14.2 Test reports from independent test laboratories were assessed to establish:

- dry film thickness by consumption
- watertightness (2.5 bar water pressure maintained for 72 hours – generally to EN 1928 : 2000)
- water vapour transmission rate (to EN 1931 : 2000)
- crack bridging ability (to EN 1062-7 : 2004, Principle A).

Bibliography

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

BS 8000-4 : 1989 *Workmanship on construction 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 1992-1-1 : 2004 + A1 : 2014 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*
NA to BS EN 1992-1-1 : 2004 + A1 : 2014 *UK National Annex to Eurocode 2 — Design of concrete structures — General rules and rules for buildings*

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

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

EN 1062-7 : 2004 *Paints and varnishes — Coating materials and coating systems for exterior masonry and concrete — Determination of crack bridging properties*

EN 1542 : 1999 *Products and systems for the protection and repair of concrete structures — Test methods — Measurement of bond strength by pull-off*

EN 1923 : 2000 *Cellular plastics and rubbers — Determination of linear dimension*

EN 1931 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of water vapour transmission properties*

ISO 12944-4 : 2017 *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Types of surface and surface preparation*

15 Conditions

15.1 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.

15.2 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.

15.3 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.

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

15.5 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.

15.6 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.