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Agrément Certificate
18/5509
Product Sheet 1 Issue 3

DELTA MEMBRANE SYSTEMS

KÖSTER DEUXAN 2C

This Agrément Certificate Product Sheet(1) relates to KÖSTER Deuxan 2C, for use in waterproofing new or existing horizontal and vertical surfaces in basement constructions to form a damp-proof and waterproof membrane on solid floors and tanking below ground.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

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

Process factors:

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

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

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

The BBA has awarded this Certificate to the company named above for the 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 Third issue: 1 March 2024
Originally certified on 4 April 2018

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

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

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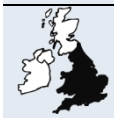
SUMMARY OF ASSESSMENT AND COMPLIANCE

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

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that KÖSTER Deuxan 2C, 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 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 3 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The system is acceptable. See sections 8 and 9 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Fitness and durability of materials and workmanship**
Comment:		The system can contribute to a construction satisfying this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards – 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 clause 3.4.7[(1)(2)]. See section 3 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system 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 – conversion**
Comment:		Comments given for the system 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(1)(a)(i)**	**Fitness of materials and workmanship**
Comment:	**(ii)(iii)(b)(i)**	The system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**28(a)**	**Resistance to moisture and weather**
Comment:		The system will enable a structure to satisfy this Regulation. See section 3 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, KÖSTER Deuxan 2C, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards,* Chapter 5.1 *Substructure and ground-bearing floors*, Clause 5.1.20 *Damp-proofing concrete floors* and Chapter 5.4 *Waterproofing of basements and other below ground structures.*

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 must be used in combination with either a Type B or C waterproofing protection, as defined in BS 8102 : 2022.

In the opinion of the BBA, the system is suitable for use on existing structures when installed and used in accordance with this Certificate and *NHBC Standards for Conversions and Renovations*, taking account of other relevant guidance within this document on the suitability of the substrate to receive the system, and where necessary, the relevant Chapters of *NHBC Standards*.

Fulfilment of Requirements

The BBA has judged KÖSTER Deuxan 2C to be satisfactory for use as described in this Certificate. The system has been assessed for use in waterproofing new or existing horizontal and vertical surfaces in basement constructions to form a damp-proof and waterproof membrane on solid floors and tanking below ground.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the system under assessment. KÖSTER Deuxan 2C consists of:

- KÖSTER Deuxan 2C — a two-component, cold-applied, fibrated, polymer modified bitumen waterproofing coating
- KÖSTER Glass Fibre Mesh — a nominal 75 $g \cdot m^{-2}$ glass fibre mesh used as a reinforcement at areas where there is a high risk of cracking in the substrate, eg at changes of direction, over existing cracks and at corners
- KÖSTER Polysil TG 500 — a penetrating primer
- KÖSTER Joint Tape — for sealing expansion joints prior to the application of KÖSTER Deuxan 2C coating.

Ancillary items

The Certificate holder recommends the following ancillary items for use with the system, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- KÖSTER Repair Mortar Plus — used for the installation of fillets in the wall/floor junction prior to the application of KÖSTER Deuxan 2C
- proprietary drainage and protection boards
- cleaning solvents.

Applications

KÖSTER Deuxan 2C is satisfactory for use as a fully bonded, Type A waterproofing protection as defined in BS 8102 : 2022, for waterproofing of new and existing structures and as a damp-proofing membrane for solid floors in accordance with the relevant clauses of CP 102 : 1973, Section 3.

The system can be used internally and externally on concrete, brickwork, blockwork or masonry, or as a damp-proof and waterproof membrane for solid floors and tanking below ground to provide an effective barrier to the transmission of liquid water where Grades 1 to 3 waterproofing protection is required, as defined in BS 8102 : 2022, Table 2.

Product assessment – key factors

The system was assessed for the following key factors, and the outcome of the assessment is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Not applicable.

2 Safety in case of fire

Not applicable.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Resistance to water and water vapour

3.1.1 Results of resistance to water and water vapour tests are given in Table 1.

Table 1 Results of resistance to water and water vapour tests

System assessed	Assessment method	Requirement	Result
KÖSTER Deuxan 2C	Watertightness under 75 kPa pressure to EN 15820 : 2011	No leakage	Pass
KÖSTER Deuxan 2C	Diffusion equivalent air layer thickness (s_d) to BS EN 1931 : 2000 (23°C / 75% RH)	Value achieved	141 m
KÖSTER Deuxan 2C	Resistance to water to EN ISO 2812-2 : 2007	No discolouration of the water or changes in the material	Pass
KÖSTER Deuxan 2C - on concrete	Delamination to EOTA TR-004 : 2004	≥ 50 kPa	Pass

3.1.2 On the basis of data assessed, the system will adequately resist the passage of water under hydrostatic pressure and moisture into the structure and so satisfy the relevant requirements of the national Building Regulations.

3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 2.

Table 2 Results of resistance to mechanical damage tests

System assessed	Assessment method	Requirement	Result
KÖSTER Deuxan 2C - on aluminium	Dynamic impact to BS EN 12691 : 2006	Value achieved	700 mm
KÖSTER Deuxan 2C - on concrete	Static loading to BS EN 12730 : 2015	Value achieved	5 kg
KÖSTER Glass Fibre Mesh	Tensile strength to BS EN 29073-3 : 1992 Longitudinal direction Transverse direction	Value achieved	 949 N·(50 mm)$^{-1}$ 1164 N·(50 mm)$^{-1}$
KÖSTER Glass Fibre Mesh	Elongation to BS EN 29073-3 : 1992 Longitudinal direction Transverse direction	Value achieved	 3.9% 4.7%
KÖSTER Glass Fibre Mesh	Low temperature flexibility to DIN 52123 : 1985 Tested at 0°C	No cracks or damage	Pass

3.2.2 On the basis of data assessed, the system can accept, without damage, the limited foot traffic and light concentrated loads associated with installation. Reasonable care is required, however, to avoid puncture by sharp objects or concentrated loads.

3.2.3 The system is unable to accommodate cyclic movement and must only be used where such movement is not anticipated, or in conjunction with waterproof movement joints. The system can accommodate minor cracking of the substrate while remaining watertight.

3.2.4 The system can be detailed to accommodate the movement of designed construction joints and crack-inducing joints. The Certificate holder must be consulted for advice on suitable designs, but such advice is outside the scope of this Certificate.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in this system were assessed.

8.2 Specific test data were assessed as given in Table 3.

Table 3 Results of durability tests

System assessed	Assessment method	Requirement	Result
KÖSTER Deuxan 2C	Dimensional stability at high temperature to DIN 52123 : 1985	No slump	Pass
KÖSTER Deuxan 2C	Crack bridging ability to EN 15812 : 2011 Tested at 4°C	Bridge a 2 mm crack	Pass
KÖSTER Deuxan 2C	Reduction of layer thickness when fully dry to DIN 18195-6 : 1983	≤ 50%	Pass
KÖSTER Deuxan 2C - on concrete	Delamination to EOTA TR-004 : 2004 after water exposure at 23°C for 180 days	≥ 50 kPa	Pass
KÖSTER Deuxan 2C - on concrete	Static loading to BS EN 12730 : 2015 after water exposure at 23°C for 180 days	Value achieved	5 kg

8.3 Service life

When fully protected and under normal service conditions, the system will provide an effective barrier to the transmission of liquid water and water vapour for the service life of the structure in which it is incorporated.

PROCESS ASSESSMENT

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

9 Design, installation, workmanship and maintenance

9.1 Design

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

9.1.2 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.

9.2 Installation

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

9.2.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions.

9.2.3 To assess the suitability of a particular substrate to receive the system, bond tests must be carried out. If bonding problems occur, advice must be sought from the Certificate holder, but such advice is outside the scope of this Certificate.

9.2.4 The system must only be applied between 5 and 35°C to substrates that are free from ice and frost and must not be installed during inclement weather (eg rain, fog or snow).

9.2.5 For waterproofing against ground moisture and non-retained seepage as well as non-pressurised water, the minimum dry layer thickness must be 3 mm (wet layer thickness 4 mm or 4 $kg \cdot m^{-2}$).

9.2.6 For waterproofing against retained seepage, the minimum dry layer thickness must be 4 mm (wet layer thickness 6 mm or 6 $kg \cdot m^{-2}$).

9.2.7 KÖSTER Glass Fibre Mesh must be embedded at corners, fillets and areas strongly at risk of cracking.

9.2.8 Checks carried out on site include:

- before installation — a technically qualified representative from the licensee/sub-contractor will visit the site to determine the correct pre-treatment and specification to the project
- during installation — continuous monitoring of environmental conditions and uniformity of coverage of the various layers composing the system
- after installation — a visual inspection is carried out to ensure the system complies with the specification. Checks are made on film thickness, consistency of finish and to identify any faults which must be rectified.

9.2.9 Concrete structures must be designed and built in accordance with BS EN 1992-1-1 : 2023 and its UK National Annex.

9.2.10 New concrete must be well compacted and finished, preferably by power floating and power trowelling to a dense, smooth finish, free from defects. The substrate must be prepared by captive blasting, hydro-blasting or other methods approved by the Certificate holder. Concrete toppings and screeds must be properly formulated, applied and compacted. They must be bonded to the substrate and have a floated finish with minimum laitance.

9.2.11 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, but such advice is outside the scope of this Certificate.

9.2.12 Surfaces must be dry and free from laitance and other contaminants likely to affect the adhesion of the system. Any existing coatings must be removed. All loose material must be removed by vacuum cleaning or sweeping the surface.

9.2.13 Cracks and other defects in the substrate must be repaired using an approved repair material. The advice of the Certificate holder must be sought for suitable products, but such advice is outside the scope of this Certificate.

9.2.14 Substrates must be primed with KÖSTER Polysil TG 500.

9.2.15 KÖSTER Polysil TG 500 must not be applied when the surface temperature is less than 0°C.

9.2.16 KÖSTER Polysil TG 500 is applied by brush, roller or spray, typically at an application rate of 100 to 130 $g \cdot m^{-2}$. It can be applied on surfaces of high and low porosity, on dry and moist substrates.

9.2.17 Application of the next layer must be carried out once the system has cured and can be opened to light foot traffic associated with application (typically after 30 minutes on cementitious building materials).

9.2.18 Once the primer is dry, salts which came through the surface of the substrate during the curing process must be removed by brushing.

9.2.19 Expansion joints are sealed by applying KÖSTER Joint Tape.

9.2.20 KÖSTER Deuxan 2C is applied in two layers. The powder is added to the liquid component in portions and continually mixed intensively using a slow rotating stirring device until the material becomes a paste-like, lump-free, homogeneous mass. Mixing time is a minimum of three minutes.

9.2.21 The layers must be applied shortly after each other using a plastering trowel or steel float. The waterproofing layer must be consistent, free from flaws, and of the required thickness.

9.2.22 The waterproofing layer of the wall area must extend at least 100 mm onto the front of the floor slab or foundation.

9.2.23 The system must not be exposed to frost, rain, water or direct sunlight until it has fully cured (approximately 24 hours at 20°C).

9.3 Workmanship

Practicability of installation was assessed by the BBA and on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the system must be carried out by installers trained and approved by the Certificate holder.

9.4 Maintenance and repair

9.4.1 As the system is either protected by a wall, backfill, paviours or screed and has suitable durability, maintenance is not required. However, any damage occurring during installation must be repaired prior to backfilling.

9.4.2 Damaged areas are repaired by removing loose material and blast cleaning the affected area and surrounding installation to give an overlap by 100 mm. The system is then installed to the original specification.

9.4.3 Where substantial damage has occurred, the Certificate holder must be consulted for advice of a suitable repair specification, but such advice and materials are outside the scope of this Certificate.

9.4.4 Repaired areas must be allowed to cure for 24 hours at 20°C before opening to foot traffic.

10 Manufacture

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

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

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

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

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

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

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

11 Delivery and site handling

11.1 The Certificate holder stated that the system components are delivered to site in packaging bearing the batch number, the Certificate holder's contact details, expiry date, QR code, CE Marking and health and safety information.

11.2 The system components are available in the packaging given in Table 4.

Table 4 Packaging

Component	Unit	Weight
KÖSTER Deuxan 2C	Plastic containers (which includes the powder component)	32 kg
KÖSTER Glass Fibre Mesh	1 x 100 m or 0.35 x 100 m rolls	7.5 kg 2.5 kg
KÖSTER Polysil TG 500	Plastic containers	5 or 10 kg
KÖSTER Joint Tape	0.3 x 20 m or 0.2 x 20 m rolls	6.4 kg 4.2 kg

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

11.3.1 The component containers must be kept tightly sealed and stored under cool but frost-free conditions.

11.3.2 KÖSTER Joint Tape must be stored between 5 and 30°C.

ANNEX A – SUPPLEMENTARY INFORMATION †

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

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

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

CLP Regulations

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

CE marking

The Certificate holder has taken the responsibility of CE marking the system in accordance with harmonised European Standard EN 15814 : 2011.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by DNV (Certificate 257636-2018-AQ-GER-DAkks).

Bibliography

BS 8102 : 2022 *Protection of below ground structures against water from the ground — Code of practice*

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

BS EN 1992-1-1 : 2023 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings, bridges and civil engineering structures*
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 12691 : 2006 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to impact*

BS EN 12730 : 2015 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to static loading*

BS EN 15814 : 2011 + A2 : 2014 *Polymer modified bituminous thick coatings for waterproofing — Definitions and requirements*

BS EN 29073-3 : 1992 *Methods of tests for nonwovens — Determination of tensile strength and elongation*

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

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

DIN 18195-6 : 1983 *Waterproofing of buildings and structures — Waterproofing against water that exerts hydrostatic pressure from the outside — Design and workmanship*

DIN 52123 : 1985 *Testing of bitumen and polymer bitumen sheets and felts*

EN 15812 : 2011 *Polymer modified bituminous thick coatings for waterproofing — Determination of crack bridging ability*

EN 15820 : 2011 *Polymer modified bituminous thick coatings for waterproofing — Determination of watertightness*

EN ISO 2812-2 : 2007 *Paints and varnishes — Determination of resistance to liquids — Water immersion method*

EOTA TR-004 : 2004 *Determination of the resistance to delamination*

Conditions

1 This Certificate:

- relates only to the product that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

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

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

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

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

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

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

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