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Agrément Certificate
09/4668
Product Sheet 1

SIKA ROOF WATERPROOFING MEMBRANES

SIKA-TROCAL S AND SG MECHANICALLY FASTENED MEMBRANES

This Agrément Certificate Product Sheet⁽¹⁾ relates to Sika-Trocral S and SG Mechanically Fastened Membranes, PVC sheets for use as waterproofing layers on pitched, flat and curved roofs with limited access.

(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

Weathertightness — the products will resist the passage of moisture to the interior of the building (see section 6).

Properties in relation to fire — the products will enable a roof to be unrestricted under Building Regulations (see section 7).

Resistance to wind uplift — the products will resist the effects of any wind suction likely to occur in practice (see section 8).

Resistance to foot traffic — the products will accept the limited foot traffic and loads associated with installation and maintenance (see section 9).

Durability — under normal service conditions the products will provide durable waterproof coverings with a service life in excess of 35 years (see section 11).

The BBA has awarded this Certificate to the company named above for the products described herein. These products 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

A handwritten signature in black ink, appearing to read 'Simon Wroe'.

Simon Wroe
Head of Approvals — Materials

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Claire Curtis-Thomas
Chief Executive

Date of Second issue: 6 October 2014

Originally certificated on 3 June 2009

The BBA is a UKAS accredited certification body — Number 1113. 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.

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Regulations

In the opinion of the BBA, Sika-Trocal S and SG Mechanically Fastened Membranes, 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(2)	External fire spread
Comment:	On suitable substructures the use of the products will enable a roof to be unrestricted under this Requirement. See section 7 of this Certificate.
Requirement: C2(b)	Resistance to moisture
Comment:	The products, including joints, will enable a roof to meet this Requirement. See section 6.1 of this Certificate.
Regulation: 7	Materials and workmanship
Comment:	The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1)(2)	Durability, workmanship and fitness of materials
Comment:	Use of the products satisfies the requirements of this Regulation. See sections 10 and 11 and the <i>Installation</i> part of this Certificate.
Regulation: 9	Building standards applicable to construction
Standard: 2.8	Spread from neighbouring buildings
Comment:	On suitable non-combustible substructures the use of the products can be regarded as having a low vulnerability under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See section 7 of this Certificate.
Standard: 3.10	Precipitation
Comment:	The products, including joints, will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ . See section 6.1 of this Certificate.
Standard: 7.1(a)	Statement of sustainability
Comment:	The products 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 these products 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

Regulation: 23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:	The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation: 28(b)	Resistance to moisture and weather
Comment:	The products, including joints, will enable a roof to satisfy the requirements of this Regulation. See section 6.1 of this Certificate.
Regulation: 36(b)	External fire spread
Comment:	On suitable substructures the use of the products will be unrestricted under the requirements of this Regulation. See section 7 of this Certificate.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 1 *Description* (1.1), 3 *Delivery and site handling* (3.2 and 3.3) and 14 *Procedure* (14.10) of this Certificate.

Additional Information

NHBC Standards 2014

NHBC accepts the use of Sika-Trocal S and SG Mechanically Fastened Membranes, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs and balconies* and 7.2 *Pitched roofs*.

CE marking

The Certificate holder has taken the responsibility of CE marking the products in accordance with harmonised European Standard BS EN 13956 : 2005. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Registered Contractors Scheme⁽¹⁾

The Certificate holder operates a Registered Contractor's Scheme for these products under which contractors are trained, registered and regularly reviewed by the Certificate holder to demonstrate that they are competent to carry out installation in accordance with this Certificate. Details of Registered Contractors are available from the Certificate holder. Registered Contractors are responsible for each installation of the products they undertake.

(1) The Certificate holder's records relating to the Registered Contractors Scheme will be audited annually by the BBA as part of its programme of surveillance.

Technical Specification

1 Description

1.1 Sika-Trocal S is an unreinforced PVC roof waterproofing membrane, available in two thicknesses, and Sika-Trocal SG is a PVC membrane reinforced with a layer of random glass fibres. The membranes are manufactured to the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Sika-Trocal S		Sika-Trocal SG
Thickness (mm)	1.5	2.0	1.5
Mass per unit area* (g·m ⁻²)	1.9	2.5	1.9
Roll length (m)	20,15	15	15, 20
Roll width (m)	1.1 and 2.0	1.1 and 2.0	1.1 and 2.0
Colour			
upper	light grey, slate grey	light grey	light grey, slate grey
lower	medium grey	medium grey	medium grey
Tensile strength* (N)·mm ⁻²			
longitudinal	≥ 12	≥ 12	≥ 9.5
transverse	≥ 12	≥ 12	≥ 8.5
Elongation* (%)			
longitudinal	≥ 250	≥ 250	≥ 200
transverse	≥ 250	≥ 250	≥ 200
Tear resistance* (N)			
longitudinal	100	100	100
transverse	100	100	100
Watertightness*	pass	pass	pass
Low temperature foldability* (°C)	≤ -25	≤ -25	≤ -25

1.2 Ancillary items for use with the products include:

- Sika-Trocal THF Welding Agent — tetrahydrofuran (THF) for the cold welding of laps between individual sheets and for securing the discs to the underside of the membrane
- Sika-Trocal PVC Solution — plasticised PVC dissolved in tetrahydrofuran, used for sealing lap joints
- Sika-Trocal L100 Cleaning agent — ethyl acetate-based solution for the cleaning of heavily-soiled membrane prior to welding
- Sika-Trocal metal discs — round washers, manufactured from Sika-Trocal laminated metal with a mechanical fastener through the centre, used to secure the Sika-Trocal membrane against wind uplift forces by welding them to the underside of the sheet. Provision has been made for the use of thermally broken types of fastener. Suitable fasteners are as recommended by the Certificate holder
- Sika-Trocal metal sheets — 0.6 mm thick galvanized steel sheet, the upper side coated with a 0.8 mm thick layer of plasticised PVC, coloured light grey and slate grey, used to produce profiles for perimeter flashings, connections and fixings.

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

- Sika-Trocal polyester fleece (Type T) — a needle-punched non-woven layer (300 g·m⁻²) for use as a protective and separating layer, preventing contact between the waterproofing sheets and any rough/abrasive surfaces or incompatible materials
- Sika-Trocal polypropylene fleece (Type A) — (300 g·m⁻²) for use as a protective and separating layer preventing contact between the waterproofing sheets and any rough/abrasive surfaces or incompatible materials, only suitable for use under membranes
- Sika-Trocal SBV — a PVC-skinned polyester fleece for use as a heavy-duty protective sheet

- Sika-Trocal WBP — a 2.0 mm thick layer of embossed plasticised PVC, to clearly define the walkway routes, available in slate grey and brick red
- Sika-Trocal HD — a heavy-duty 4.0 mm thick version of Sika-Trocal WBP, available in slate grey
- Sika-Trocal S Vap 500E vapour check — a polyethylene sheet, offering resistance to the passage of water vapour into the roof construction from below
- Sika-Trocal corner pieces — S membrane preformed in corner pieces, for ensuring the waterproofing integrity of the corner detail.

2 Manufacture

2.1 Sika-Trocal S membrane is manufactured by calendaring plasticised PVC into sheets. Two calendered sheets are thermally fused into one homogeneous sheet, Sika-Trocal SG membrane having additionally a centrally-placed layer of random orientated glass fibres. The sheet is cut to width and reeled onto cardboard cores.

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 system of Sika-Trocal GmbH Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by SGS (Certificate 31982).

2.4 The system is manufactured in Germany and marketed in the UK by the Certificate holder.

3 Delivery and site handling

3.1 The products are delivered to site in rolls on pallets either with a corrugated cardboard outer or wrapped in polythene film. The wrapper bears the Certificate holder's name, product identification, roll width and length, colour and the BBA logo incorporating the number of this Certificate.

3.2 Rolls should be stored horizontally under cover and on a clean, level surface in a dry environment. Pallets may be stacked to a maximum of three high.

3.3 Items containing THF have a flashpoint below 32°C and are all classified as 'highly flammable' under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009* (CHIP4)/*Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) 2009*. Containers bear the appropriate hazard warning and should be stored accordingly. THF has a short-term exposure limit of 200 parts per million and there must be adequate ventilation when these products are used in confined spaces.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Sika-Trocal S and SG Mechanically Fastened Membranes.

Design Considerations

4 General

4.1 Sika-Trocal S and SG Mechanically Fastened Membranes are satisfactory for use as mechanically-fixed roof waterproofing on pitched, flat and curved roofs of less than 20 m radius and with limited access.

4.2 Sika-Trocal S can be applied to vertical surfaces up to 1 m. For other applications, the Certificate holder's advice regarding the fire performance should be sought.

4.3 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Where traffic in excess of this is envisaged, special precautions, such as additional protection to the membrane, must be taken.

4.4 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80. For design purposes, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflection, direction of falls, etc. Pitched roofs are defined as those having falls in excess of 1:6.

4.5 Decks to which the products are to be applied must comply with the relevant requirements of BS 6229 : 2003, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2014*, Chapter 7.1 *Flat roofs and balconies* and Chapter 7.2 *Pitched roofs*.

4.6 Insulation materials used in conjunction with the products must meet the requirements stated by the Certificate holder and must be one of the following:

- as described in the relevant Clauses of BS 8217 : 2005, and/or
- the subject of a current BBA Certificate, and be used in accordance with, and within the limitations of, that Certificate.

4.7 The products must not be laid directly onto certain materials, eg bituminous felts, certain insulation boards or timber substrates which have been impregnated with oil-based preservatives. If contact with such products is likely, a separating layer should be used. Where doubt arises, the advice of the Certificate holder should be sought.

5 Practicability of installation

The products must only be installed by installers who have been trained and approved by the Certificate holder. The records relating to this will be audited by the BBA as part of its programme of surveillance on the Certificate.

6 Weathertightness



6.1 Results of tests confirm that the membranes and joints in the membranes, when completely sealed and consolidated, will adequately resist the passage of moisture to the inside of the building and so meet the requirements of the national Building Regulations:

England and Wales — Approved Document C, Requirement C2(b), Section 6

Scotland — Mandatory Standard 3.10, clauses 3.10.1⁽¹⁾⁽²⁾ and 3.10.7⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Regulation 28(b).

6.2 The products are impervious to water and, when used in the system described, will achieve a weathertight roof capable of accepting minor structural movement without damage.

7 Properties in relation to fire



7.1 The following systems will be unrestricted:

- an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E vapour control layer, a 145 mm thick high-density mineral fibre insulation board faced with glassfibre tissue and 1.5 mm Sika-Trocal S
- an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E vapour control layer, a 100 mm thick rigid polyisocyanurate foam insulation board and 1.5 mm Sika-Trocal S
- an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E vapour control layer, a 100 mm thick foil-faced rigid polyisocyanurate foam insulation board and 2 mm Sika-Trocal S.

7.2 The designation of other specifications (eg when used on combustible substrates) should be confirmed by:

England and Wales — test or assessment in accordance with Approved Document B, Appendix A, Clause A1

Scotland — test to conform to Mandatory Standard 2.8, clause 2.8.1⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — test or assessment by a UKAS accredited laboratory or an independent consultant with appropriate experience.

8 Resistance to wind uplift

8.1 When the membranes are mechanically fixed, the resistance to wind uplift is provided by mechanical fasteners secured to the deck and passing through the membrane. The number of fixings and their position will depend on:

- wind uplift forces to be resisted
- pull-out strength of fasteners
- elastic limit of the sheet
- appropriate safety factors.

8.2 The number of fixings used should be established by reference to the wind uplift forces calculated in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex on the basis of maximum permissible loads of 0.40 kN per fixing.

9 Resistance to foot traffic

Results of tests indicate that the products can withstand, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance. Where traffic in excess of this is envisaged, such as for maintenance of roof-mounted plant or for regular access to plant rooms, walkways must be provided (eg using Sika-Trocal WBP or Sika-Trocal HD), as recommended by the Certificate holder.

10 Maintenance



Roofs covered with the products should be the subject of annual inspections, as is good practice with all roof waterproofing systems, to ensure continued security and performance.

11 Durability



Sika-Trocal S and SG Mechanically Fastened Membranes have been used in the United Kingdom since 1972. Accelerated weathering tests and performance in use confirm that satisfactory retention of physical properties is achieved. All available evidence indicates that the products should have a life in excess of 35 years.

12 Reuse and recyclability

The products comprise polyvinyl chloride and glass, which can be recycled.

Installation

13 General

13.1 Installation of Sika-Trocal S and SG must be carried out by trained and licensed installers in accordance with the Certificate holder's instructions and the relevant clauses of BS 8000-4 : 1989 and BS 8000-0 : 2014.

13.2 The products may be laid in conditions normal to roofing work and should not be laid in wet or damp weather, or at temperatures below 5°C, unless suitable precautions are taken.

13.3 Deck surfaces should be clean, dry, and free from sharp projections such as nail heads and concrete nibs. The membranes are not compatible with bitumen, coal tar, pitch or oil-based products, and contact with such products must be avoided. Where necessary, the appropriate separation layer must be interposed between the substrate and the membrane to avoid such contact. The requirement of a vapour control layer should be established in accordance with BS 6229 : 2003 and the Certificate holder's instructions.

13.4 The membranes may be applied over insulation boards, provided the insulation material has been fixed to the substructure by methods that will not impair the performance of the membranes. EPS/XPS insulation boards require a suitable isolating layer to prevent the risk of plasticiser migration. The boards must be firm, of uniform density and, where appropriate, capable of spanning the deck flute space under foot traffic.

14 Procedure

14.1 Installation of the roofing system should commence from the roof perimeters, with sufficient underlays and insulation boards installed to permit the fixing of the Sika-Trocal metal profiles.

14.2 Sika-Trocal metal profiles are fixed in place, over any insulation when present, at the roof perimeters and internal corners and penetrations as work progresses.

14.3 The installation of the membranes is started from a suitable Sika-Trocal metal section at the perimeter. The system is installed in stages, rather than by fully completing one layer before starting the next.

14.4 The membrane is unrolled over the substrate and on top of any separating layers, taking care not to stretch it. Edge and end laps must be a minimum width of 50 mm.

14.5 The membrane is initially loose-laid without folds or ripples. Only the UV stabilised upper surface, which is the inside face of the roll, can be exposed to the elements.

14.6 The membrane is secured to the Sika-Trocal metal sheets at edges and upstands. The lap joints are made by cold or hot air-welding in the manner described in sections 14.15 and 14.18. Prefabricated corner sections are used where possible for detail work.

14.7 The loose-laid membrane is mechanically fixed using Sika-Trocal metal discs. Proprietary pressure plate systems may also be used, with their appropriate fasteners, from the suppliers listed in section 1.3.

14.8 If using the Sika-Trocal metal discs, the lower surface of the membrane is welded to the PVC surface of the disc. If using pressure plates, these are located in the seams between the individual sheets; however, when extra fasteners are required, the plates may be located on the general surface of the membrane and subsequently covered with straps or roundels of membrane.

14.9 The discs/plates must be fixed to the substrate by means of corrosion-resistant fittings through the thermal insulation and the protective or separating layer to the supporting substructure. In the case of a trapezoidal metal decking substructure, the fixing must be made in the top web.

Solvent welding

14.10 Welding must be carried out using Sika-Trocal THF Welding Agent. The THF chemical used in welding laps has a low flashpoint and, where it is to be used in enclosed spaces, adequate ventilation must be provided.

14.11 The lap joint areas on both sheets are cleaned to a minimum width of 50 mm and then dried.

14.12 Both surfaces are coated with Sika-Trocal THF Welding Agent, to a minimum width of 30 mm and welded together. The welded laps are consolidated by the application of firm, even pressure to ensure a watertight seal.

14.13 All seams must be tested at least 15 minutes after welding using a metal probe drawn along the seam edge to confirm the integrity of the welded areas.

14.14 All laps finally have a bead of Sika-Trocal PVC Solution applied to the exposed edge and injected into voids to close capillaries.

Hot-air welding

14.15 Welding can be carried out by automatic or hand-operated hot-air welding machines, with a temperature set in accordance with the Certificate holder's instructions.

14.16 Lap joint areas on both sheets must be cleaned, using a cleaner recommended by the Certificate holder, if the surface has become badly contaminated.

14.17 The welded area in the seam must not be less than 40 mm wide. When using a hand-held welding machine, the seam must be rolled immediately using a seam roller.

14.18 All seams must be tested, at least 15 minutes after welding, with a metal needle drawn along the seam edge to highlight poorly-welded areas. These must be rectified immediately using hot-air welding techniques.

Flashing

14.19 A range of profiles and shapes can be fabricated from Sika-Trocal metal sheets for application to parapet, edge and gully details. These are mechanically fixed to the substructure and the membrane is continuously welded to them.

15 Repair

In the event of damage, repairs must be carried out in accordance with the Certificate holder's instructions. A patch of the relevant membrane is applied, extending at least 50 mm beyond the defect. The damaged area is cleaned back to the unweathered material and the patch is hot-air or solvent welded to the roofing sheet.

Technical Investigations

16 Tests

An assessment was made of data to BS EN 13956 : 2012 in relation to:

- dimensions and tolerances
- water vapour transmission
- tensile strength and elongation
- tear resistance
- low-temperature flexibility
- resistance to impact
- resistance to static loading
- joint strength
- watertightness
- dimensional stability.

17 Investigations

17.1 A re-evaluation was made of the data and investigations on which the previous Certificate 95/3092 was based.

17.2 Existing data on the fire performance of the membranes were examined.

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

17.4 Visits were made to sites in progress to assess the methods of application.

17.5 Visits were made to existing sites to assess the system's performance in use.

17.6 Existing data on the mechanical fixings, and wind uplift testing on the mechanically-fixed system, from WSP (Aachen), were assessed.

17.7 A survey of known users of Sika-Trocal S was carried out to assess the products' performance in use.

17.8 A reassessment of the *Durability* statement was made, based on visits to old existing sites and results of tests conducted on unaged and naturally-aged materials.

Bibliography

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

BS 8000-4 : 1989 *Workmanship on building site — Code of practice for waterproofing*

BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*

BS EN 1991-1-4 : 2005 *Eurocode 1: Actions on structures — General actions — Wind actions*

NA to BS EN 1991-1-4 : 2005 UK National Annex to *Eurocode 1: Actions on structures — General actions — Wind actions*

BS EN 13956 : 2012 *Flexible sheets for waterproofing — Plastic and rubber sheets for roof waterproofing — Definitions and characteristics*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

18 Conditions

18.1 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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.