

IKO PLC

Coney Green Road
Clay Cross
Chesterfield
Derbyshire S45 9HZ

Tel: 01257 488000 Fax: 01246 861426
e-mail: polymeric.technical.uk@iko.com
website: www.ikogroup.co.uk



Agrément Certificate
05/4203
Product Sheet 1

IKO POLYMERIC SINGLE PLY ROOF WATERPROOFING MEMBRANES

SPECTRAPLAN SM

This Agrément Certificate Product Sheet⁽¹⁾ relates to Spectraplan⁽²⁾ SM mechanically-fixed or loose-laid and ballasted thermoplastic polyolefin elastomer waterproofing membranes, for use on flat and pitched roofs.

(1) Hereinafter referred to as 'Certificate'.

(2) Spectraplan is a registered trademark of IKO plc.

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, when used in a suitable specification, 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 likely wind suction acting on the roof (see section 8).

Resistance to foot traffic — the products will accept, without damage, the limited foot traffic and loads associated with installation and maintenance (see section 9).

Durability — under normal conditions the products will provide a durable waterproof covering with a service life in excess of 30 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

Date of Second issue: 13 October 2015

John Albon — Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Originally certificated on 3 March 2005

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.

British Board of Agrément
Bucknalls Lane
Watford
Herts WD25 9BA

tel: 01923 665300
fax: 01923 665301
clientservices@bba.star.co.uk
www.bbacerts.co.uk

©2015

Regulations

In the opinion of the BBA, Spectraplan SM, 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:	Test data indicate that on suitable non-combustible substructures 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:	Data for water resistance on the products and joints between them indicate that they 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:	The products satisfy 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:	Test data indicate that on suitable non-combustible substructures the products will be regarded as having low vulnerability under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See sections 7.1, 7.2 and 7.4 of this Certificate.
Standard: 3.10	Precipitation
Comment:	Data for water resistance of the products indicate that their use 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 the 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 (as amended)

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:	Data for water resistance on the products indicate that their use 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:	Test data indicate that on suitable non-combustible substructures use of the products will be unrestricted by the requirements of this Regulation. See section 7 of this Certificate.

Construction (Design and Management) Regulations 2015

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

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

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

Additional Information

NHBC Standards 2014

NHBC accepts the use of Spectraplan SM membranes, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapters 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 : 2012 and ETAG 006. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 Spectraplan SM are woven polyester scrim reinforced, flexible thermoplastic polyolefin elastomer (TPE), single-ply roof waterproofing membranes.

1.2 The membranes are available in 1.2 mm and 1.5 mm thicknesses as SM120 and SM150 respectively. They have the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	SM120	SM150
Thickness +10%/−5% (mm)	1.2	1.5
Length +1%/−0.5% (m)	20	20
Widths available +1%/−0.5% (m)	0.5, 0.75, 1.06, 1.5, 2.05	0.5, 0.75, 1.06, 1.5, 2.05
Mass per unit area +10%/−5%* (kg·m ⁻²)	1.3	1.6
Tensile strength MD/TD +/−20%* (N·50 mm ⁻¹)	1320	1320
Elongation at break % +/−20%* (%)	25	25
Tear resistance* (N)	>150	>300
Peel strength of joints* (N·50 mm ⁻¹)	>400	>400
Shear strength of joints* (N)	>850	>850
Nail tear (N)	700	700
Impact resistance* (KPa)	10	10
Static load (Kg)	25	25
Dimensional stability 6 hrs at 80°C (%)	≤1.0	≤1.0
Flexibility at low temperatures (°C)	−35	−35
Watertightness	Pass	Pass
Equivalent air thickness (S _e) (m)	120	420
Minimum overlap (adhered/ballasted) (mm)	60	60
Minimum overlap (mechanically fastened) (mm)	110	110
Minimum welding width (automatic) (mm)	>30	>30
Minimum welding width (hand welder) (mm)	>60	>60
Hot-air welding temperature (°C)	200 – 600	200 – 600
Welding speed (automatic welder) (m·min ⁻¹)	2.0 – 7.0	2.0 – 7.0

1.3 The membranes are available in Light Grey, approximating to RAL colour reference 7035.

1.4 The membranes are the subject of ETA 07/0261, issued by UBAtc in accordance with ETAG 006.

1.5 Other materials used with the membranes, but outside the scope of this Certificate, are:

- Bond and Seal Activating Cleaner — solution for preparation of non-porous substrates
- Bond and Seal Mastic — elastic polyurethane sealant
- IKOfix Telescopic Fixing Plates and Screw Fasteners — for membrane and insulation fixing
- IKO Enertherm boards — polyisocyanurate (PIR) thermal insulation boards
- IKOfix pressure plates — metal plates for membrane and insulation fixing
- IKOfix toothed flatbar — steel fixing strip for membrane anchorage
- preformed Spectraclad drip and chase termination details
- Spectrabond TPE contact adhesive — for use at details and upstands
- Spectraclad Coated Metal — TPE-coated steel for fabrication used to form perimeter details
- Spectraclip — lightning conductor clips for heat welding to the membranes
- Spectraplan D — homogeneous roofing membrane for use in complex detailing
- Spectraplan Standing Seam Profile — TPE preformed simulated standing seam profile
- Spectraplan Walkway — heavy-duty grid-patterned TPE membrane for use on walkways

- Spectratex Separation/Levelling Layers — a range of polyester geotextile isolation/protection fleeces
- Spectravap — loose-laid polyethylene vapour control layer (VCL)
- TPE outlet pipes
- vapour control layers — a range of torch-on, pour-and-roll and self-adhesive bituminous VCLs.

Details of these products and their specifications can be obtained from the Certificate holder.

2 Manufacture

2.1 The membranes are manufactured by laminating two extruded TPE sheets, sandwiching the polyester reinforcement.

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 IKO PLC has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by BSI (Certificate FM 45901).

3 Delivery and site handling

3.1 The membranes are delivered to site in rolls wrapped in plastic with labels bearing the product name, Certificate holder's name, product dimensions, article and batch numbers.

3.2 The rolls should be stored horizontally under cover, on a clean, level surface.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the products 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 Sheets.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Spectraplan SM.

Design Considerations

4 Use

4.1 Spectraplan SM membranes are satisfactory for use in mechanically-fastened and loose-laid and ballasted installations on flat and pitched roofs with limited access. For ballasted installations where the roof slope is greater than 2°, the advice of the Certificate holder must be sought.

4.2 Limited access roofs are defined for the purposes 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, additional protection to the membrane must be provided (see section 9).

4.3 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80. Pitched roofs are defined for the purpose of this Certificate as those having a fall greater than 1:6. When designing flat roofs, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including, for example, overall and local deflection and direction of falls.

4.4 Structural decks to which the membranes are to be applied must be able to transmit the dead and imposed loads experienced in service, including additional loads imposed by ballasted roofs.

4.5 The drainage system must be correctly designed, and provision made for access for maintenance purposes. Dead loads can increase if the drains become partially or fully blocked.

4.6 Imposed loads, dead loading and wind load specifications are calculated in accordance with BS EN 1991-1-1: 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their respective UK National Annexes.

4.7 Decks to which the membranes are to be applied must comply with the relevant requirements of BS 6229 : 2003, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2014*, Chapters 7.1 *Flat roofs and balconies* and 7.2 *Pitched roofs*. Additional guidance for inverted roof specifications is given in BBA Information Bulletin No 4 *Inverted roofs — Drainage and U value corrections*.

4.8 Insulation materials to be used in conjunction with the products must be in accordance with the Certificate holder's instructions and be either:

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

5 Practicability of installation

The products must be installed by contractors who have been trained and approved by the Certificate holder.

6 Weathertightness



6.1 The waterproofing membranes and joints, 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.

6.2 The membranes are impervious to water and will provide a weathertight roofing capable of accepting minor structural movement without damage.

7 Properties in relation to fire



7.1 In the opinion of the BBA, a system comprising a 1 mm thickness profiled metal deck, covered on its upper surface with a 0.8 mm thickness polypropylene vapour control layer, and a 100 mm thickness perforated mineral-coated glass-tissue faced polyisocyanurate (PIR) foam insulation board, covered by Spectraplan SM120 TPE membrane, can be classified as B_{ROOF}(t4) in accordance with BS EN 13501-5 : 2005.

7.2 When used in a loose-laid and ballasted specification including a minimum surface finish of 50 mm aggregate, the membranes can, in the opinion of the BBA, be classified as B_{ROOF}(t4) in accordance with BS EN 13501-5 : 2005.



7.3 When used on flat roofs with one of the surface finishes defined in Part iii of Table A5 of Appendix A of the Building Regulations (England and Wales), or Technical Booklet E, Table 4.6, Part IV of The Building Regulations (Northern Ireland), the roof is deemed to be unrestricted.



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

England and Wales — test or assessment in accordance with Approved Document B, Appendix A, clause 1

Scotland — tests to confirm compliance with Mandatory Standard 2.8, with reference to 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 The resistance to wind uplift of a mechanically-fastened waterproofing layer is provided by the fasteners passing through the membrane into the substrate. The number and position of fixings will depend on a number of factors, including:

- wind uplift forces to be restrained
- pull-out strength of the fasteners
- tensile properties of the membrane
- appropriate calculation of safety factors.

8.2 The wind uplift forces are calculated in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. On this basis, the number of fixings required should be established using a maximum permissible load of 0.6 kN per fixing.

8.3 When the membranes are used in a loose-laid and ballasted system, the precise ballast requirements should be calculated in accordance with the relevant parts of BS EN 1991-1-4 : 2005. The use of concrete slabs on suitable supports should be considered in areas of high wind exposure, and the advice of the Certificate holder should be sought.

9 Resistance to foot traffic

Results of tests indicate that the products can accept, without damage, the limited foot traffic associated with installation and maintenance. Reasonable care should be taken to avoid sharp objects or concentrated loads. Where regular traffic is envisaged, eg for maintenance of lift equipment, a walkway should be provided using concrete slabs supported on bearing pads.

10 Maintenance



The membranes should be subjected to regular annual inspections, and roof drains kept clear, as is good practice on all flat roofs.

11 Durability



11.1 Accelerated weathering tests confirm that satisfactory retention of physical properties is achieved. The products, when subjected to normal conditions of use in a roof, will retain their integrity for a period in excess of 30 years.

11.2 In environments where the membranes are in contact with certain organic solvents and oil-based products, the life expectancy of the membranes may be reduced. In cases of doubt, the advice of the Certificate holder should be sought.

12 Reuse and recyclability

The membranes are made from TPE and polyester, which can be recycled.

Installation

13 General

13.1 Installation of Spectraplan SM membranes must be carried out by installers trained and approved by the Certificate holder in accordance with the relevant clauses of the Certificate holder's instructions, BS 8000-0 : 2014, BS 8000-4 : 1989 and this Certificate.

13.2 Substrates to which the membranes are to be applied must be sound, dry, clean and free from sharp projections such as nail heads and concrete nibs. When used over a rough substrate, a suitable protection layer must be placed over the substrate.

13.3 Installation should not be carried out during inclement weather (eg rain, fog or snow). When the temperature is below 5°C suitable precautions against surface condensation must be taken, in accordance with the Certificate holder's instructions.

13.4 When using a loose-laid specification, account should be taken in the design of the deck of the extra dead loading owing to the weight of the aggregate.

13.5 Detailing must be formed in accordance with the Certificate holder's instructions.

14 Procedure

Mechanically-fastened

14.1 Spectraplan SM is unrolled flat over the substrate without undulations. Prior to installation of the fasteners, the membrane must be temporarily secured against wind uplift. If installing on a profiled metal deck, the membrane length must be perpendicular to the direction of the deck.

14.2 The membrane is allowed to condition prior to installing for 5–10 minutes, depending on the ambient temperature.

14.3 The membrane is fixed to the deck (through insulation boards, where appropriate) in the joint overlaps prior to the welding of joint seams. IKOfix fasteners are positioned 30–35 mm from the edge of the membrane, at fixing centres specified by the Certificate holder for the specific project. Fasteners must be fixed using the appropriate installation tool for the fixing.

14.4 The next roll or length of membrane is unrolled, ensuring that the end laps are staggered by a minimum of 60 mm, and with side laps of 110 mm over the previously-installed sheet.

14.5 The membrane is fixed at the edges using IKOfix toothed flatbars or by hot-air welding to mechanically-fastened Spectraclad coated metal flashings (see section 15).

14.6 The side laps are hot-air welded with an automatic welder or hot air gun, and allowed to cool completely (see section 15).

14.7 In corners and other areas where additional fastening is required, IKOfix fasteners are installed through the roof sheet, and covered with a 200 mm wide strip of Spectraplan SM. Both sides and ends are hot-air welded (see section 15).

14.8 At upstands and all roof penetrations Spectraplan SM is secured with an IKOfix toothed flatbar. A 50 mm x 50 mm piece of Spectraplan SM is used to cover the 10 mm gap in the toothed bar, and welded to the roof sheet. The toothed bar is waterproofed with the upstand flashing hot-air welded to the roof sheet (see section 15).

Loose-laid inverted and ballasted

14.9 The appropriate Spectratex Separation/Levelling Layer is unrolled over the prepared deck. All end and side laps must be a minimum of 100 mm. The Spectraplan SM is unrolled over the Separation/Levelling Layer.

14.10 The next roll or length of membrane is unrolled, ensuring that the end laps are staggered by a minimum of 60 mm, with side laps of 80 mm over the previously-installed sheet. The side laps are hot-air welded and allowed to cool completely (see section 15).

14.11 Upstands and roof penetrations are secured as in sections 14.5 and 14.8 above.

14.12 The roof area must be thoroughly checked for damage and weak welds, paying close attention to all cross joints and T-seams.

14.13 In an inverted roof system, the approved thermal insulation is installed over the membrane, ensuring that all insulation boards are laid with staggered joints and the boards are free from debris.

14.14 If round washed pebbles are used as ballast, the Separation/Levelling Layer must be installed to a minimum height of 50 mm above the height of the ballast. Only approved ballast may be used. Reference should be made to the Certificate holder for guidance.

14.15 The membrane must be ballasted using a minimum depth of 50 mm of aggregate. In areas of high wind loads, additional ballast such as concrete pavers, set on a suitable protective layer, may be necessary.

15 Jointing

15.1 The areas to be welded must be clean, dry and free from contamination. Where required, surfaces must be cleaned in accordance with the Certificate holder's instructions.

15.2 Joints are made using either automatic or hand-operated machines, with the temperature set in accordance with the Certificate holder's instructions.

15.3 The final welded width of the joint must be a minimum of 30 mm when welded with an automatic welding machine, and 40 mm when welded with a hand-operated machine.

15.4 The side laps are fully hot-air welded and allowed to cool completely.

15.5 The integrity of the seam must be tested with a suitable metal probe, and any weaknesses repaired immediately.

15.6 Flashings must be formed in accordance with the Certificate holder's instructions.

16 Repair

Any damage can be repaired by cleaning the affected area and applying a patch of the appropriate membrane in accordance with the Certificate holder's instructions.

Technical Investigations

17 Tests

Tests were conducted on the membranes to BS EN 13956 : 2012 and the results assessed to determine:

- thickness
- mass per unit area
- width
- heat resistance
- tensile strength and elongation
- nail tear
- dimensional stability
- low temperature foldability
- fatigue cycling
- watertightness
- static indentation
- dynamic impact
- shear resistance of joints
- peel strength
- effects of heat ageing
- effects of moisture/vapour
- long term UV ageing
- properties when installed
- bitumen resistance.

18 Investigations

18.1 Data on fire performance of the membranes were assessed.

18.2 Visits to existing sites installed were carried out and samples were taken to assess the durability of the product under normal service conditions.

18.3 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.

Bibliography

- BS 6229 : 2003 *Flat roofs with continuously supported coverings — Code of practice*
- BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*
- BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*
- BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*
- BS EN 1991-1-1 : 2002 *Eurocode 1: Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
- NA to BS EN 1991-1-1 : 2002 UK National Annex to *Eurocode 1: Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
- BS EN 1991-1-3 : 2003 *Eurocode 1: Actions on structures — General actions — Snow loads*
- NA to BS EN 1991-1-3 : 2003 UK National Annex to *Eurocode 1: Actions on structures — General actions — Snow loads*
- 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 13501-5 : 2005 + A1 : 2009 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roof tests*
- 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*
- ETAG 006 *Systems for mechanically fastened flexible roof waterproofing membranes*

19 Conditions

19.1 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.

19.2 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.

19.3 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.

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

19.5 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.

19.6 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.