

Lapolla Industries, Inc

15402 Vantage Parkway East, Suite 322
Houston
Texas 77032
USA

Tel: + 001 877 636 2648
e-mail: info@lapolla.com
website: www.lapolla.com



Agrément Certificate
13/4990
Product Sheet 2

LAPOLLA SPRAY APPLIED OPEN CELL INSULATION

LAPOLLA ATOC

This Agrément Certificate Product Sheet⁽¹⁾ relates to Lapolla ATOC, for use as a spray-applied in-situ thermal insulation for external walls of new and existing dwellings or similar buildings. It can be installed either between the inner leaf studs of conventional timber-frame cavity walls with a masonry outer skin, or applied to the internal surface of external solid masonry walls in combination with a dry-lining system.

(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

Thermal performance — the product has a declared thermal conductivity (λ_D)* value of $0.037 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (see section 6).

Condensation risk — the product has a water vapour resistance factor (μ) of less than 5. The risk of interstitial condensation will depend on the roof construction and should, therefore, be assessed for each project. A vapour control layer (VCL) must be used (see section 7).

Durability — the product will have a life equivalent to that of the structure in which it is incorporated (see section 13).



The BBA has awarded this Certificate to the company named above for the product described herein. This product 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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of First issue: 27 May 2015

John Albon — Head of Approvals
Construction Products

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

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.

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, Lapolla ATOC, 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(c)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See sections 7.1 and 7.4 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.
Regulation:	26	CO ₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/services measures may be required. See section 6 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The product is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.15	Condensation
Comment:		The product can contribute to satisfying this standard, with reference to clauses 3.15.1 ⁽¹⁾⁽²⁾ , 3.15.3 ⁽¹⁾⁽²⁾ , 3.15.4 ⁽¹⁾⁽²⁾ , 3.15.5 ⁽¹⁾⁽²⁾ and 3.15.7 ⁽¹⁾⁽²⁾ . See sections 7.1 and 7.5 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying these Standards, with reference to clauses, or parts of, 6.1.1 ⁽¹⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾⁽²⁾ , 6.2.5 ⁽²⁾ , 6.2.6 ⁽¹⁾⁽²⁾ , 6.2.7 ⁽¹⁾ , 6.2.8 ⁽²⁾ , 6.2.9 ⁽¹⁾⁽²⁾ , 6.2.10 ⁽¹⁾ , 6.2.11 ⁽¹⁾⁽²⁾ , 6.2.12 ⁽²⁾ and 6.2.13 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting at least a bronze level of sustainability as defined in this Standard. See section 6 of this Certificate.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for this product 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	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.
Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See section 7.1 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:		The product can contribute to satisfying these Regulations. See section 6 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 sections: 3 *Delivery and site handling* (3.2 and 3.3) and 15 *Precautions* of this Certificate.

Additional Information

NHBC Standards 2014

NHBC accepts the use of Lapolla ATOC, if installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls* and 6.2 *External timber framed walls*.

CE marking

The Certificate holder has taken the responsibility of CE marking the product based on European Technical Approval ETA-11/0241. An asterisk (*) appearing in this Certificate indicates that data shown is given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

- 1.1 Lapolla ATOC is a spray-applied open cell (low density) urethane foam insulation.
- 1.2 The product is available to a single specification, is yellowish in colour. It is prepared from two liquid components, isocyanate and resin, and is applied with a hand-held fixed ratio (1:1) volumetric displacement pump spray machine.
- 1.3 The product can be applied in a range of thickness between 50 mm and 300 mm depending on the application.
- 1.4 The product must be covered with a fire-resistant plasterboard lining, manufactured in accordance with BS EN 520 : 2004.
- 1.5 Ancillary items used with this product, but outside the scope of this Certificate include:
 - vapour control layer (VCL)
 - gypsum plasterboard
 - timber battens
 - spray equipment.

2 Manufacture

- 2.1 The two components of the product are manufactured in a conventional batch blending process, and mixed on site via a spray-gun, which provides mixing to create an open-cell insulating material.
- 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.

3 Delivery and site handling

- 3.1 The product should be stored at temperatures between 15°C and 30°C.
- 3.2 The product must be stored in an area with positive ventilation.
- 3.3 The polyol (a component contained in the resin) is classified as 'harmful' and 'irritant' under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP4)/Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) 2009*, and the packaging bears the appropriate hazard warning labels.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Lapolla ATOC.

Design Considerations

4 Use

- 4.1 Lapolla ATOC is satisfactory for use in reducing the thermal transmittance (U value), and contributing to the airtightness, of external walls of new and existing dwellings or similar buildings.
- 4.2 The product can be installed:

- as insulation between the inner leaf studs of conventional timber-frame cavity walls, with a clear cavity and a masonry outer skin, or
- as insulation applied to the internal surface of solid masonry walls in between timber battens, and finished with plasterboard, as a dry-lining system.

4.3 In all applications the product must be covered by a plasterboard lining (see section 9.3).

4.4 Constructions must be designed in accordance with the relevant recommendations of:

- BS 5250 : 2011
- BS 8000-3 : 2001
- BS EN 351-1 : 2007
- BS EN 1995-1-1 : 2004
- BS EN 1996-1-1 : 2005
- BS EN 1996-1-2 : 2005
- BS EN 1996-2 : 2006
- BS EN 1996-3 : 2006 and their relevant UK National Annexes.

4.5 It is essential that construction elements are designed and constructed to incorporate normal precautions against moisture ingress before the application of the product.

4.6 Existing constructions must be in a good state of repair with no evidence of rain penetration or damp. Defects must be made good prior to installation.

4.7 If present, mould or fungal growth must be treated prior to the application of the product. The Certificate holder can advise on suitable treatments.

4.8 Installation into timber frame constructions must not be carried out until the moisture content of the timber frame is less than 20%.

4.9 The product must not come into direct contact with flue pipes, chimneys or other heat-producing appliances (see section 10).

4.10 The product must not come into contact with zinc or zinc-plated elements, as under certain environmental conditions, the foam will accelerate the corrosion of such elements. Zinc or zinc-plated elements are used as fixings for timber. In all situations when foam could come in contact with zinc, the zinc must be separated from the foam by covering the zinc plate with a suitable protective coating. The Certificate holder can advise on an appropriate coating for a particular application. The performance of such coating is outside the scope of this Certificate.

4.11 The product forms a strong bond with clean, dry substrates. This should be taken into account when specifying the product or anticipating future alterations.

4.12 To satisfy the requirements of NHBC, a VCL of a type specified in their Standards must be applied behind the plasterboard lining in wall applications.

External cavity walls (insulated timber-frame inner skin)

4.13 Services which penetrate the internal plasterboard lining (eg light switches, power outlets) should be kept to a minimum to limit damage to vapour checks. In addition, any penetrations should be enclosed in plasterboard or stone mineral wool or a suitably-tested proprietary fire-rated system in order to preserve the fire resistance of the wall.

External solid masonry walls (insulated dry lining)

4.14 Insulated dry lining systems require careful detailing during installation around doors and windows to achieve a satisfactory surface for finishing. In addition, every attempt should be made to minimise the risk of thermal bridging at reveals and where heavy separating walls are attached to the external wall. New work must be designed to accommodate the thickness of the dry lining, particularly at reveals, heads and sills, and in relation to ceiling height. Where the dimensions of fixtures are critical (eg bathrooms) these should be checked before installation.

4.15 Services which penetrate the dry lining (eg light switches, power outlets) should be kept to a minimum to limit damage to vapour checks.

5 Practicability of installation

The product should only be installed by installers who have been trained and approved by the Certificate holder (see section 14).

6 Thermal performance

6.1 Calculations of the thermal transmittance (U value) of a wall should be carried out in accordance with BS EN ISO 6946 : 2007, BRE Digest 465 : 2002 and BRE Report BR 443 : 2006 using the declared thermal conductivity (λ_p)* of 0.037 W·m⁻¹·K⁻¹.

6.2 The U value of a completed wall will depend on the insulation thickness, the insulating value of the wall components and the internal finish. Example constructions are given in Tables 1 and 2. For improved energy or carbon savings, designers should consider appropriate fabric and/or services measures.

Table 1 U values — External masonry wall with timber frame inner skin

Design U value (W·m ⁻² ·K ⁻¹)	ATOC insulation thickness required (mm) between 38 mm x 140 mm timber studs at 600 mm centres, with additional battens ⁽¹⁾
0.18	— ⁽²⁾
0.19	— ⁽²⁾
0.25	140 mm + 25 mm between battens
0.26	140 mm + 25 mm between battens
0.27	140 mm + 25 mm between battens
0.28	140 mm + 25 mm between battens
0.30	140 mm between studs only
0.35	140 mm between studs only

(1) Wall construction — 102.5 mm thick external brickwork $\lambda = 0.77 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$, 50 mm clear cavity, breather membrane, 13 mm sheathing board $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$, timber studs $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (15%, maximum depth 140 mm), with additional timber battens (11.8%), vapour control layer, 12.5 mm plasterboard lining $\lambda = 0.25 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$.

(2) For improved thermal/carbon emission performance, additional batten/insulation thicknesses may be considered.

Table 2 U values — External masonry wall with internal dry lining

Design U value (W·m ⁻² ·K ⁻¹)	ATOC insulation thickness required (mm) between 47 mm wide timber studs at 600 mm centres ⁽¹⁾
0.18	— ⁽²⁾
0.19	— ⁽²⁾
0.25	— ⁽²⁾
0.26	150 mm between studs
0.27	150 mm between studs
0.28	150 mm between studs
0.30	125 mm between studs
0.35	125 mm between studs

(1) Wall construction — 215 mm thick external brickwork $\lambda = 0.77 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (82.7%), bridged with mortar $\lambda = 0.88 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (17.3%), 25 mm clear cavity bridged with 47 mm by 25 mm timber battens at 600 mm centres $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (7.8%), breather membrane, timber studs $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (11.8%, maximum depth 150 mm), vapour control layer, 12.5 mm plasterboard lining $\lambda = \text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$.

(2) For improved thermal/carbon emission performance, additional batten/insulation thicknesses may be considered.

Junctions



6.3 Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration. Detailed guidance can be found in the documents supporting the national Building Regulations.

7 Condensation risk

Interstitial condensation



7.1 Walls will limit the risk of interstitial condensation adequately when they are designed and constructed in accordance with the relevant parts of BS 5250 : 2011, Annexes D and G. Further guidance may be obtained from BRE Report BR 262 : 2002. A VCL must be used.

7.2 For the purposes of assessing the risk of interstitial condensation, a μ value of less than 5 should be taken for the product.

External solid masonry walls (insulated dry lining)

7.3 The risk of summer condensation on the VCL must be considered for solid masonry walls, orientated from ESE through south to WSW, in accordance with section 3.10 of BRE Report BR 262 : 2002.

Surface condensation



7.4 Walls will limit the risk of surface condensation adequately where the thermal transmittance (U value) does not exceed $0.7 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point and the junctions with other elements are designed in accordance with the guidance referred to in section 6.3 of this Certificate.



7.5 For buildings in Scotland, constructions will be acceptable where the thermal transmittance (U value) of the wall does not exceed $1.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point, and the walls are designed and constructed in accordance with the relevant parts of BS 5250 : 2011, Annexes D and G. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6.3 of this Certificate.

8 Resistance to moisture

The short term water absorption* of the product is 0.97 kg·m⁻² when tested in accordance with EN 1609 : 2013.

9 Behaviour in relation to fire

9.1 The product is classified as Class E* to BS EN 13501-1 : 2007. The product is not classified as 'non-combustible' and must be protected from naked flames and other ignition sources during and after installation.

9.2 Elements must incorporate cavity barriers at edges, around openings and at junctions with fire-resisting elements and in cavities in accordance with the relevant provisions of the national Building Regulations. The design and installation of cavity barriers must take into account any anticipated differential movement.

9.3 When installed, the product must be contained by a suitable lining board, eg plasterboard, with all joints fully sealed and supported by timber studs or battens. Therefore, it will not contribute to the development stages of a fire.

10 Proximity of flues and appliances

10.1 When installing the product in close proximity to certain flue pipes, chimneys and/or heat-producing appliances, the relevant provisions of the national Building Regulations are applicable.

England and Wales — Approved Document J

Scotland — Mandatory Standard 3.19⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

10.2 The product must not be installed within 50 mm of heat-emitting devices, where the temperature is in excess of 93°C.

11 Materials in contact — wiring installations

11.1 The product is compatible with PVC materials in contact.

11.2 De-rating of electric cables should be considered in areas where the product restricts the flow of air. The use of suitable conduit or trunking is recommended.

12 Maintenance

The product, once installed, does not require any regular maintenance and has suitable durability (see section 13), provided the waterproof layers are maintained in a weather-tight condition.

13 Durability



The product will have a life equivalent to that of the structure in which it is incorporated.

Installation

14 Approved installers

The Certificate holder operates an Approved Installer Scheme for this product, under which the installers are approved, registered and regularly reviewed by the Certificate holder to demonstrate that they are competent to carry out installation of the product in accordance with their instructions and this Certificate. Details of Approved Installers are available from the Certificate holder.

15 Precautions

15.1 To comply with the requirements of Section 4 of the Health and Safety at Work Act 1974, it is essential that there is an exchange of information between the client and the installer before spray operations commence on any site. Existing health hazards and those brought into the premises by the installer should be discussed and measures agreed to deal with them effectively.

15.2 The process for the installation of the product may produce a build-up of harmful vapours. Installers must wear full personal protection equipment (PPE) when working with the product, including full-face fresh-air supplied respirators, protective clothing and gloves. Other trades and personnel must be kept at least four metres away from the applicator while spraying is taking place. The requirements of the *Lapolla Installation Manual* and the product safety data sheets issued to Installers must be followed at all times.

15.3 Vapours given off by certain components are generally heavier than air and will tend to move to lower parts of the building. These parts should be suitably ventilated.

15.4 If vapour levels need to be measured, methods should be those recommended by the Health and Safety Executive. Certain applications (eg confined spaces) require the use of extractor fans as recommended by the Certificate holder.

15.5 Care should be taken to minimise the degree of overspray generated whilst spraying. This is in the form of a fine mist of particles that can travel considerable distances and will adhere strongly to surfaces they land on.

16 Procedure

General

Timber frame walls

16.1 The product is sprayed into the cavity formed by the studs and the sheathing board. When cured, if the cavity is fully-filled, the excess foam is trimmed flush with the studs and the lining board installed with a VCL with lapped and sealed joints.

Masonry external walls

16.2 Installation should be in accordance with good dry lining practice and the Certificate holder's literature.

16.3 Timber studs are mechanically fixed to the wall substrate at maximum 600 mm centres.

16.4 The product is sprayed into the cavity formed by the studs. Any excess foam is trimmed flush and then the plasterboard is installed with a VCL with lapped and joints sealed.

Technical Investigations

17 Tests

Tests were carried out by the BBA on and the results assessed to determine adhesion to substrates.

18 Investigations

18.1 An assessment was made of independent data relating to:

- thermal conductivity
- density
- reaction to fire and fire resistance
- water absorption
- water vapour permeability
- release of dangerous substances
- tensile strength
- compressive strength
- dimensional stability.

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

Bibliography

BS 5250 : 2011 *Code of practice for control of condensation in buildings*

BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*

BS EN 351-1 : 2007 *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

BS EN 520 : 2004 *Gypsum plasterboards — Definitions, requirements and test methods*

BS EN 1995-1-1 : 2004 *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

NA to BS EN 1995-1-1 : 2004 *UK National Annex to Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

BS EN 1996-1-1 : 2005 *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

NA to BS EN 1996-1-1 : 2005 *UK National Annex to Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

BS EN 1996-1-2 : 2005 *Eurocode 6 : Design of masonry structures — General rules — Structural fire design*

NA to BS EN 1996-1-2 : 2005 *UK National Annex to Eurocode 6 : Design of masonry structures — General rules — Structural fire design*

BS EN 1996-2 : 2006 *Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*

NA to BS EN 1996-2 : 2006 *UK National Annex to Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*

BS EN 1996-3 : 2006 *Eurocode 6 : Design of masonry structures : Simplified calculation methods for unreinforced masonry structures*

NA to BS EN 1996-3 : 2006 *UK National Annex to Eurocode 6 : Design of masonry structures : Simplified calculation methods for unreinforced masonry structures*

BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

Conditions of Certification

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.