

# EGGER Holzwerkstoffe Wismar GmbH & Co KG

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**Agrément Certificate**

**08/4546**

Product Sheet 2

## EGGER BOARDS

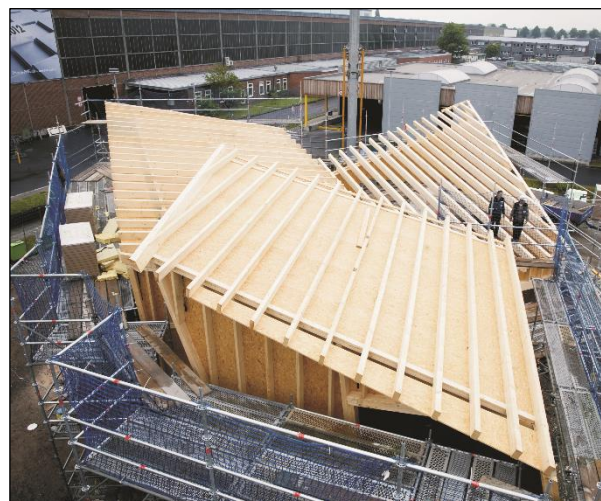
### EGGER OSB 3 AND OSB 3 E0 BOARDS FOR ROOFING

This Agrément Certificate Product Sheet<sup>(1)</sup> EGGER OSB 3 and OSB 3 E0 Boards for Roofing, loadbearing oriented strand boards suitable for use as roofs decking or sarking on timber-frame domestic and non-domestic buildings.

(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

**Structural performance** — the products, when incorporated into a roofing structure, can contribute to structural strength and stiffness by distributing the dead and imposed loads to the supporting structure (see section 6).

**Behaviour in relation to fire** — the products do not achieve a reaction to fire classification of C-s2, d3 or better, and their use is restricted in some cases (see section 7).

**Resistance to moisture** — provided adequate precautions are taken, the products, when incorporated into a construction, should perform satisfactorily (see section 8).

**Durability** — the products, will have a service life equal to that of the roof in which they are incorporated (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 Agreement

Date of Third issue: 5 November 2021

Originally certificated on 2 May 2013

Hardy Giesler  
Chief Executive Officer

*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](http://www.bbacerts.co.uk)*

*Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.*

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

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## Regulations

In the opinion of the BBA, EGGER OSB 3 and OSB 3 E0 Boards for Roofing, 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)

<b>Requirement:</b>	<b>A1</b>	<b>Loading</b>
Comment:		The products have sufficient strength and stiffness to sustain and transmit design loads to the primary structure without excessive deflection. See section 6 of this Certificate.
<b>Requirement:</b>	<b>B3(1)(3)</b>	<b>Internal fire spread (structure)</b>
Comment:		The products can contribute to satisfying this Requirement. See sections 7.2 to 7.4 of this Certificate.
<b>Requirement:</b>	<b>B3(4)</b>	<b>Internal fire spread (structure)</b>
Comment:		The products may be restricted by this Requirement. See section 7.1 of this Certificate.
<b>Regulation:</b>	<b>7</b>	<b>Materials and workmanship</b>
Comment:		The products are acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.



### The Building (Scotland) Regulations 2004 (as amended)

<b>Regulation:</b>	<b>8(1)</b>	<b>Durability, workmanship and fitness of materials</b>
Comment:		The use of the products satisfies the requirements of this Regulation. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b>	<b>9</b>	<b>Building standards applicable to construction</b>
Standard:	1.1(a)(b)	Structure
Comment:		The products have sufficient strength and stiffness to sustain and transmit design loads to the primary structure without excessive deflection, in accordance with clauses 1.1.1 <sup>(1)(2)</sup> , 1.1.2 <sup>(1)(2)</sup> and 1.1.3 <sup>(1)(2)</sup> of this Standard. See section 6 of this Certificate.
Standard:	2.3	Structural protection
Comment:		The products can contribute to satisfying this Standard with reference to clauses 2.3.1 <sup>(1)(2)</sup> . See section 7.2 to 7.4 of this Certificate.
Standard:	2.4	Cavities
Comment:		The products are restricted by this Standard with reference to Clause 2.4.2 <sup>(1)(2)</sup> . See section 7.1 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.
<b>Regulation:</b>	<b>12</b>	<b>Building standards applicable to conversions</b>
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 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)</sup> .

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2012 (as amended)

<b>Regulation:</b>	<b>23(a)(i)</b>	<b>Fitness of materials and workmanship</b>
Comment:	<b>(iii)(iv)</b>	The products are acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b>	<b>30</b>	<b>Stability</b>
Comment:		The products have sufficient strength and stiffness to sustain and transmit design loads to the primary structure without excessive deflection. See section 6 of this Certificate.
<b>Regulation:</b>	<b>35(1)(3)</b>	<b>Internal fire spread — Structure</b>
Comment:		The products can contribute to satisfying this Requirement. See sections 7.2 to 7.4 of this Certificate.
<b>Regulation:</b>	<b>35(4)</b>	<b>Internal fire spread — Structure</b>
Comment:		The products may be restricted by this Regulation. See section 7.1 of this Certificate.

## Construction (Design and Management) Regulations 2015

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

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

See sections: 3 *Delivery and site handling* (3.5) and 12 *General* of this Certificate.

### Additional Information

#### NHBC Standards 2021

In the opinion of the BBA, EGGER OSB 3 and OSB 3 E0 Boards for Roofing, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, - Chapters 7.1 *Flat roofs, terraces 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 13986 : 2004.

### Technical Specification

#### 1 Description

1.1 EGGER OSB 3 boards comprise softwood flakes/strands bonded together with melamine urea formaldehyde (MUF) resin, diisocyanate diphenylmethane (MDI) binder and wax. EGGER OSB 3 E0 board comprises softwood flakes/strands bonded together with formaldehyde-free MDI binder glue in the core and surface layer.

1.2 The boards are produced in standard sizes<sup>(1)</sup> of:

thickness (mm)	11, 15, 18, 22 and 25
length by width (mm)	2397 x 1197, 2500 x 1197, 2697 x 1197, 2500 x 1250
nominal density (kg·m <sup>-3</sup> )	≥600.

(1) Other thicknesses (in the range of 11 to 25 mm) and sizes are available to order.

1.3 The boards are available with square or tongue-and-groove edges, and are either sanded or unsanded.

## 2 Manufacture

2.1 The boards are manufactured to the specification detailed in BS EN 300 : 2006 for OSB/3, loadbearing oriented strand boards. Timber logs, to the Certificate holder's specification, are debarked and cut into strands. After drying and screening to remove fines, the strands/flakes are blended with resin, binder and wax and formed into a three-ply mat. In the outer two layers the strands/flakes (and woodgrain) are bound with resin and oriented in the direction of the major axis; in the core layer the strands are in the direction of the minor axis. The boards are formed by curing the mat under pressure and temperature and cutting to size.

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 Egger Holzwerkstoffe Wismar GmbH & Co KG has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by IQNet and Quality Austria (Certificate AT-00184/0).

2.4 The products are manufactured in Germany by the Certificate holder, and distributed in the UK by EGGER (UK) Limited, Anick Grange Road, Hexham, Northumberland NE46 4JS, Tel: 01434 602191, Fax: 01434 605103, e-mail: building.uk@egger.com website: www.egger.com.

## 3 Delivery and site handling

3.1 Handling, storage and delivery of the boards should be carried out in accordance with the requirements of PD CEN/TR 12872 : 2014, BS 8103-3 : 2009 and *NHBC standards 2019* where required.

3.2 To prevent distortion, boards should be stacked flat, clear of the floor, on level bearers, at centres not exceeding 600 mm. The top board should be covered to prevent warping.

3.3 The boards should be stored on a level surface in a dry environment.

3.4 Each standard size board bears the product name, the production date and time, nominal thickness, 'EN 13986', 'OSB/3', 'E1' (formaldehyde class), and the BBA logo incorporating the number of this Certificate. Where boards are cut to special order this information is given on a label attached to the packaging.

3.5 For delivery, the boards are banded together in bundles up to 2 tonnes in weight and 1030 mm in height. The boards are covered in transit to minimise changes in moisture content. Particular care should be taken to protect the edges and corners. Banding should be cut on arrival at site but the protective covering should not be removed until the boards are ready for conditioning (see section 8.4).

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on EGGER OSB 3 and OSB 3 E0 Boards for Roofing.

### 4 General

4.1 EGGER OSB 3 and OSB 3 E0 Boards for Roofing are suitable for use as decking on pitched or flat roofs<sup>(1)</sup> up to 70 degree and can also be used as a pitched roof sarking for tiles or slates as defined in PD CEN/TR 12872 : 2014, BS 8103-3 : 2009 and BS 6229 : 2018.

(1) However, the boards should not be used as flat roof decking to buildings where the insulation occurs above the supporting deck and the thermal design does not eliminate the possibility of condensation or where occupancy conditions are likely to lead to high levels of humidity.

4.2 Roof structures incorporating the boards must be designed to resist the load requirements specified in BS EN 1991-1-1 : 2002 and BS EN 1991-1-4 : 2005.

4.3 Humid conditions corresponding to service class 2 of BS EN 1995-1-1 : 2004 are characterised by a moisture content in the material corresponding to a temperature of 20°C and a relative humidity of the surrounding air exceeding 85% for only a few weeks per year.

4.4 The boards are suitable for use in service classes 2 (humid conditions) of BS EN 1995-1-1 : 2004. This is characterised by a moisture content in the material corresponding to a temperature of 20°C and a relative humidity of the surrounding air only exceeding 85% for a few weeks per year.

4.5 Design and installation of the boards should be in accordance with BS EN 1995-1-1 : 2004 and PD CEN/TR 12872 : 2014, BS 8103-3 : 2009 or *NHBC standards* 2019 where required. Characteristic values for structural design may be taken from BS EN 12369-1 : 2001. During installation, the boards should be protected from the weather and should be dry when the weatherproof membrane is applied.

4.6 In accordance with BS EN 300 : 2006, the boards are suitable for use in environmental conditions covered by Use Class 2 for wood and wood-based products, as defined in BS EN 335 : 2013. In such environments, the boards are covered and fully protected from the elements. Prolonged exposure to an air temperature of 20°C and a relative humidity of 90% may result in the recommended moisture content being exceeded.

4.7 The design thermal conductivity ( $\lambda$  value) of OSB, given in BS EN 12524 : 2000, is 0.13 W·m<sup>-1</sup>·K<sup>-1</sup> and as such will not have a significant effect on the thermal transmittance (U value) of the roof construction into which it is incorporated.

4.8 The permissible thickness of the boards is dependent upon application and support centres, as defined in BS 8103-3 : 2009.

4.9 Roof timbers on which the boards are supported should be designed and used in accordance with BS EN 1995-1-1 : 2004. Roof voids should be ventilated in accordance with BS 5250 : 2011.

4.10 A flat roof decking constructed from the boards provide a suitable substrate for waterproofing specifications of:

- built-up felt roofing to BS 8217 : 2005
- mastic asphalt roofing to BS 8218 : 1998
- other built-up roof waterproofing systems covered by a current BBA Certificate, when laid in accordance with that Certificate.

### 5 Practicability of installation

The boards are designed to be installed by a competent general builder, or a contractor, experienced with these types of products.

### 6 Structural performance



For buildings within the scope of BS 8103-3 : 2009 (low-rise buildings), OSB/3 flat roof decks should be designed with minimum board thickness and maximum support centres as outlined in BS 8103-3 : 2009, Table 81, an extract of which can be seen in Table 1 of this Certificate.

**Table 1 Maximum recommended centres of support of OSB 3 in flat roof decking<sup>(1)(2)(3)</sup>**

Application	Minimum board Thickness (mm)	Maximum centre of support members (mm)
Roofs of small garages and similar buildings, without access (other than for maintenance and repair)	11	400
	15	600
	18	600
Roofs over habitable areas, with access (in addition to that provided for maintenance and repair)	15	450
	18	600
	22	600
Roofs over habitable areas, without access (other than that necessary for maintenance and repair)	11	450
	15	600
	18	600
	22	600

- (1) Although the imposed load associated with the applications highlighted in rows 1 and 3 are similar, the thicknesses quoted for garages and outbuildings provide adequate construction in these lower-risk situations.
- (2) The recommendations in this Table are made on the assumption that the roof is constructed in accordance with accepted design principles for weather resistance and control of condensation within the roof. If the roof construction necessitates the provision of ventilation, the design can create an unrestricted cross-flow of air through the structure.
- (3) Other thicknesses or spans might be appropriate where supported by performance test or calculated design.

## 7 Behaviour in relation to fire



7.1 The board does not achieve a reaction to fire classification of C-s2, d3 or better.

7.2 The fire resistance of roof constructions incorporating the boards may be calculated with reference to BS EN 1995-1-2 : 2004 or, where necessary, the fire resistance should be confirmed by an appropriate tests or assessments by a suitably accredited laboratory.

7.3 A roofs resistance to external fire exposure will depend significantly on the roof covering and can also be affected by other components of the roof, e.g. insulation materials, substrates/decking and membranes. These constructions should therefore be evaluated by reference to the requirements of the documents supporting the relevant national Building Regulations and any consequent restrictions imposed by those documents, on a case by case basis. In the absence of a rating, the construction should not be used within 20 metres of a boundary (24 metres in Scotland).

7.4 Where the boards are to be carried over compartment walls, designers must ensure that the roof/wall junction detail provides sufficient resistance to fire penetrating into the neighbouring compartment.

## 8 Resistance to moisture

8.1 In common with all timber products, the boards are subject to moisture movement. As a guide, it may be assumed that a 1% change in panel moisture content will cause a dimensional change in panel length by 0.2 mm per metre run, panel width by 0.3 mm per metre run and panel thickness by 0.5%.

8.2 Under similar environmental conditions, the boards will take longer to equilibrate and will attain an equilibrium moisture content approximately 2 to 3% lower than solid timber.

8.3 To avoid distortion and damage to finishes, expansion gaps in accordance with the recommendations of PD CEN/TR 12872 : 20014 or BS 8103-3 : 2009, and with *NHBC Standards 2021* where required should be provided when installing the board.

8.4 To minimise subsequent movement, before installation the boards should be conditioned as close as is practicable to the environmental conditions likely to occur in service. To achieve this, the maximum moisture content of the board at the time of installation or fixing, as determined using a properly calibrated moisture meter, should be as given in BS 8103-3 : 2009, Annex A, Table A.1 (i.e. 12% for flat roof decking and sarking for pitched roofs).

8.5 In conventional construction of timber flat roof decking, a vapour control layer must be provided in cold roof designs to prevent damage to the structure due to the passage of moisture (vapour) from the interior of the building in accordance with BS 5250 : 2011.

8.6 For roof constructions, in calculations for interstitial condensation risk according to BS 5250 : 2011, the water vapour resistance factor ( $\mu$ ) of OSB/3 can be taken as 50 (dry cup) from BS EN ISO 10456 : 2007, Table 3, depending on the construction, or determined by testing in accordance with BS EN ISO 12572 : 2016.

## 9 Formaldehyde content

In common with other wood-based products, which include formaldehyde as a component of the resin, the boards may emit small amounts of formaldehyde gas. The boards achieve Class E1, Release of formaldehyde specification to BS EN 300 : 2006. Therefore, when the boards are used in accordance with this Certificate, the quantity of formaldehyde gas emitted from the board alone will not raise the overall building level to an extent which will affect habitability.

## 10 Maintenance

As the boards have suitable durability, will normally be confined within the roofing structure and, in most cases, will be covered with finishes, maintenance is not required.

## 11 Durability



11.1 The boards have adequate durability and will have a service life equal to that of the roof in which they are incorporated.

11.2 Care should be taken when designing, detailing and constructing buildings to ensure that moisture does not accumulate within the boards.

11.3 Under normal conditions of use, the boards are unlikely to suffer damage, but if damage does occur, repairs can be carried out in accordance with the Certificate holder's instructions.

## 12 Reuse and recyclability

As wood-based materials, the products can be recycled.

## Installation

### 13 General

13.1 EGGER OSB 3 and OSB 3 E0 Boards for Roofing are cut and fixed using conventional woodworking tools. Normal precautions should be taken to avoid inhalation of wood dust when cutting, drilling and sanding the boards.

13.2 The boards can withstand normal site handling and fixing. Damaged boards should not be used. Normal safety precautions should be observed when handling large boards.

### 14 Procedure

14.1 Installation of the boards should be in accordance with PD CEN/TR 12872 : 2014 or BS 8103-3 : 2009, *NHBC Standards* 2021, and the manufacturer's recommendations where required.

14.2 Exposure to the elements should be minimised during installation. If wetted, boards must be allowed to dry out thoroughly before applying any coverings, or subjecting them to the full design load.

14.3 When laying tongue and groove, boards should be laid the longest edge at right angles to the rafters, and all short ends should be staggered by approximately half a board in a brick bond fashion.

### **15 Tests**

Tests were carried out and the results assessed to determine material characteristics in accordance with the requirements of BS EN 300 : 2006 for OSB/3.

### **16 Investigations**

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

16.2 An assessment was made of the product's durability and behaviour in relation to moisture.



## Bibliography

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*

BS 6229 : 2018 *Flat roofs with continuously supported flexible waterproof coverings. Code of practice*

BS 8103-3 : 2009 *Structural design of low-rise buildings — Code of practice for timber floors and roofs for housing*

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

BS 8218 : 1998 *Code of practice for mastic asphalt roofing*

BS EN 300 : 2006 *Oriented Strand Boards (OSB) — Definitions, classification and specifications*

BS EN 335 : 2013 *Durability of wood and wood-based products — Use classes: definitions, application to solid wood and wood-based products*

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 — Densities, self-weight, imposed loads for buildings

BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 — Actions on structures — General actions — Wind actions*

BS EN 1995-1-1 : 2004 + A2 : 2014 *Eurocode 5 — Design of timber structures — General — Common rules and rules for buildings*

NA to BS EN 1995-1-1 : 2004+A1 : 2008 UK National Annex to Eurocode 5 — Design of timber structures — General. Common rules and rules for buildings

BS EN 1995-1-2 : 2004 *Eurocode 5 : Design of timber structures — General — Structural fire design*

NA to BS EN 1995-1-2 : 2004 UK National Annex to Eurocode 5 — Design of timber structures — General — Structural fire design

BS EN 12369-1 : 2001 *Wood-based panels — Characteristic values for structural design. OSB, particleboards and fireboards*

BS EN 12524 : 2000 *Building materials and products — Hygrothermal properties — Tabulated design values*

BS EN 13986 : 2004 + A1 : 2015 *Wood-based panels for use in construction — Characteristics, evaluation of conformity and marking*

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

BS EN ISO 10456 : 2007 *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values*

BS EN ISO 12572 : 2016 *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties — Cup method*

PD CEN/TR 12872 : 2014 *Wood-based panels — Guidance on the use of load-bearing boards in floors, walls and roofs*

### 17 Conditions

#### 17.1 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.

17.2 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.

17.3 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.

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

17.5 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.

17.6 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.