CI/SfB

Rj1

Kronospan Ltd
Holyhead Road
Chirk
Wrexham
Clwyd LL14 5NT
Tel: 01691 773361 Fax: 01691 773292
e-mail: sales@kronospan.co.uk
website: www.kronospan.co.uk

BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
No 07/4498

PRODUCT SHEET 1 — KRONOSPAN OSB/3 BOARD

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the Kronospan OSB/3 Board, a timber-based product for use as flooring, roof decking, sarking and sheathing on timber-frame dwellings. The product must be installed in accordance with the manufacturer's instructions and the requirements of this Certificate.

AGRÉMENT 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

Practicability of installation — the board is suitable for installation by normal building trades (see section 4).

Behaviour in relation to moisture — providing adequate precautions are taken, the product, when incorporated into a construction, should perform satisfactorily (see section 5).

Behaviour in relation to fire — for reaction to fire, the product may be regarded as having a classification of D-s2, d0 (see section 6). Resistance to fire is determined by the particular construction (see sections 12, 15 and 18).

Thermal insulation — the product will have negligible effect on the thermal transmittance (U value) of the construction into which it is incorporated (see section 7).

Physiological properties — the product will not significantly increase gas emission to a level detrimental to habitability (see section 8).

Durability — providing it is not subjected to prolonged high humidity or wetting, the product should not suffer any significant degradation (see section 9).

Structural performance — the product, when incorporated into a structure, can sustain the design loads (see sections 11, 14 and 17).

The BBA has awarded this Agrément Certificate for Kronospan OSB/3 Board to Kronospan Ltd as fit for its intended use provided it is installed, used and maintained as set out in this Agrément Certificate.

On behalf of the British Board of Agrément

Date of First issue: 6 February 2008

Greg Cooper: 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
Garston, Watford
Herts WD25 9BA
tel: 01923 665300
fax: 01923 665301
e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Kronospan OSB/3 Board, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:

The Building Regulations 2000 (as amended) (England and Wales)

Requirement: Regulation 7 — Materials and workmanship
Comment: The product is acceptable. See section 9.1 of this Certificate.

Flooring

Requirement: A1(1) — Loading
Comment: The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure. See sections 11.1 and 11.2 of this Certificate.
Requirement: B3(1)(3)(4) — Internal fire spread (structure)
Comment: The product may be incorporated into a construction meeting regulatory requirements. See section 12 of this Certificate.

Roofing

Requirement: A1 — Loading
Comment: The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure. See section 14 of this Certificate.
Requirement: B3(3)(4) — Internal fire spread (structure)
Comment: The product may be incorporated into a construction meeting regulatory requirements. See section 12 of this Certificate.
Requirement: B4(2) — External fire spread
Comment: The designation of the roof with respect to external fire spread will depend on the roof covering used. See section 15 of this Certificate.
Requirement: C2(c) — Resistance to moisture
Comment: The product can be incorporated into a roof structure suitably designed to prevent excessive interstitial and surface condensation. See section 13.1 of this Certificate.

Sheathing

Requirement: A1 — Loading
Comment: The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure. See section 17 of this Certificate.
Requirement: B3(1)(2)(3)(4) — Internal fire spread (structure)
Comment: The product may be incorporated into a construction meeting regulatory requirements. See section 18 of this Certificate
Requirement: C2(b)(c) — Resistance to moisture
Comment: The board can be incorporated into a construction suitably designed to prevent excessive condensation. See section 16.1 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1)(2) — Fitness and durability of materials and workmanship
Comment: The product can contribute to a construction satisfying this Regulation. See section 9.1 and the *Installation* part of this Certificate.

Flooring

Regulation: 9 — Building standards — construction
Standard: 1.1(a)(b) — Structure
Comment: The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure, with reference to clause 1.1.1[(1)(2)]. See sections 11.1 and 11.2 of this Certificate.
Standard: 2.1 — Compartmentation
Standard: 2.2 — Separation
Standard: 2.3 — Structural protection
Standard: 2.4 — Cavities
Standard: 2.9 — Escape
Comment: The product is combustible and may be used where such materials, in conjunction with fire-resistant materials, meet regulatory requirements, with reference to clauses 2.1.12[(2)], 2.2.1[(2)], 2.2.3[(1)], 2.2.4[(2)], 2.2.7[(1)], 2.3.2[(1)(2)], 2.4.1[(1)(2)] and 2.9.29[(2)]. See sections 6 and 12 of this Certificate.

Roofing

Regulation: 9 — Building standards — construction
Standard: 1.1(a)(b) — Structure
Comment: The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure, with reference to clause 1.1.1[(1)(2)]. See section 14 of this Certificate.

Standard:	2.8	Spread from neighbouring buildings
Comment:		The minimum boundary distance will be given by the roof designation, which will be determined by the roof covering, with reference to clause 2.8.1[1][2]. See section 15 of this Certificate.
Standard:	2.9	Escape
Comment:		The product is combustible and may be used where such materials, in conjunction with fire-resistant materials, meet regulatory requirements, with reference to clauses 2.9.6[1] and 2.9.17[2]. See section 6 of this Certificate.
Standard:	3.15	Condensation
Comment:		The board can be incorporated into a roof structure suitably designed to prevent excessive condensation with reference to clause 3.15.3[1], 3.15.6[1] and 3.15.7[1]. See section 13.1 of this Certificate.

Sheathing

Regulation:	9	Building standards — construction
Standard:	1.1(a)(b)	Structure
Comment:		The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure, with reference to clause 1.1.1[1][2]. See section 17 of this Certificate.
Standard:	2.1	Compartmentation
Standard:	2.2	Separation
Standard:	2.3	Structural protection
Standard:	2.4	Cavities
Standard:	2.9	Escape
Comment:		The product is combustible and may be used where such materials, in conjunction with fire-resistant materials, meet regulatory requirements, with reference to clauses 2.1.12[2], 2.2.1[2], 2.2.3[1], 2.2.4[2], 2.2.7[1], 2.3.2[1][2] and 2.4.1[1][2]. See sections 6, 13.1 and 18 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can be incorporated into a construction designed to prevent excessive condensation, with reference to clauses 3.15.1[1], 3.15.2[1], 3.15.4[1] and 3.15.5[1]. See section 16.1 of this Certificate.

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 9.1 of this Certificate.

Flooring

Regulation:	D1	Stability
Comment:		The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure. See section 11.1 and 11.2 of this Certificate.
Regulation:	E4(1)(3)and(4)	Internal fire spread — Structure
Comment:		The product may be incorporated into a construction meeting regulatory requirements. See section 12 of this Certificate.

Roofing

Regulation:	C5	Condensation
Comment:		The boards can be incorporated into a roof structure, suitably designed to prevent harmful effects due to interstitial condensation. See section 13.1 of this Certificate.
Regulation:	D1	Stability
Comment:		The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure. See section 14 of this Certificate.
Regulation:	E4(3)(4)	Internal fire spread — Structure
Comment:		The product may be incorporated into a construction meeting regulatory requirements. See section 12 of this Certificate.
Regulation:	E5(b)	External fire spread
Comment:		The designation of the roof with respect to external fire spread will depend on the roof covering used. See section 15 of this Certificate.

Sheathing

Regulation:	C5	Condensation
Comment:		The board can be incorporated into a construction, suitably designed to prevent harmful effects due to interstitial condensation. See section 16.1 of this Certificate.
Regulation:	D1	Stability
Comment:		The product has sufficient strength and stiffness to sustain the design loads and transmit them without excessive deflection to the primary structure. See section 17 of this Certificate.
Regulation:	E4(1)(2)(3)(4)	Internal fire spread — Structure
Comment:		The product may be incorporated into a construction meeting regulatory requirements. See section 18 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 section: 4 *Practicability of installation* (4.1 and 4.2).

Non-regulatory Information

NHBC Standards 2007

NHBC accepts the use of Kronospan OSB/3 Board, installed and used in accordance with this Certificate, as meeting the requirements of the *NHBC Standards*, Chapter 5.2 *Suspended ground floors*, Chapter 6.2 *External timber framed walls*, Chapter 6.4 *Timber and concrete upper floors*, Chapter 7.1 *Flat roofs and balconies*, Chapter 7.2 *Pitched roofs* and Chapter 8.3 *Floor finishes*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Kronospan OSB/3 Board, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual*, Section 5 *internal/external works, services & finishes*, Section 5.9.3 T*imber roofs and floors* and Section 6.8 *External timber framed walls.*

General

This Certificate relates to Kronospan OSB/3 Board for use as flooring, roof decking, sarking and sheathing on timber frame dwellings.

The product is manufactured in Latvia and distributed in the UK by the Certificate holder.

It is important for the designers, planners, contractors and/or installers to ensure that the installation of the product is in accordance with the Certificate holder's instructions and the information given in this Certificate.

Technical Specification

1 Description

1.1 Kronospan OSB/3 Board comprises softwood flakes/strands bonded together with MDI (diisocyanate diphenylmethane) resin and waxes. The board is manufactured to the specification detailed in BS EN 300 : 2006.

Table 1 Board nominal densities

	Thickness (mm)			
	8–10	11–17	18–25	26–32
Density (kgm^{-3})	660	630	575	550

1.2 The board is produced in single standard panel size (mm) of 2440 by 1220 and thickness (mm) of 8, 9, 10, 11, 12, 14, 15, 16, 18, 22, 25 and 32.

1.3 The board density varies with thickness, as shown in Table 1.

1.4 The board is available with square or tongue-and-groove edges.

1.5 In the manufacturing process, logs, to the Certificate holder's specification, are debarked before passing through a flaking machine. After drying and screening to remove fines, the flakes are blended with MDI resin and wax and formed into a three-ply mat which is then pressed and cured under pressure and temperature and cut to size.

1.6 Quality control of the product includes checks on the raw materials and on the finished product, in accordance with the requirements of BS EN 300 : 2006, for:

- appearance
- dimensions
- moisture content and resistance
- swelling
- strength and elasticity
- formaldehyde content.

1.7 Each board is marked in accordance with the requirements of EN 13986 : 2004 and the BBA identification incorporating the number of this Certificate.

2 Delivery, storage and site handling

2.1 Handling, storage and delivery of the board should be carried out in accordance with the requirements of BS 7916 : 1998.

2.2 To prevent distortion, the board 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.

2.3 The board should be stored in a dry building.

2.4 For delivery, the board is banded together in bundles up to two tonnes in weight. The board is 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 protective covering should not be removed until the boards are ready for conditioning (see section 5.4).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Kronospan OSB/3 Board.

Design Considerations

3 Use

All uses

3.1 Kronospan OSB/3 Board is suitable for use in flooring, roofing and sheathing.

3.2 In accordance with BS EN 300 : 2006, Kronospan OSB/3 Board is suitable for use in environmental conditions covered by biological hazard class 2 for wood and wood-based products, as defined in BS EN 335-3 : 1996. In such environments the board is under cover, fully protected from the weather, but may occasionally attain or exceed a moisture content resulting from exposure to an air temperature of 20°C and relative humidity of 90%. As a general rule it is recommended that the moisture content of the boards should not exceed 16% for any significant period and 20% at any time.

4 Practicability of installation

4.1 The board is easily cut and fixed using conventional woodworking tools. Normal precautions should be exercised to avoid inhalation of wood dust when cutting, drilling and sanding the boards.

4.2 The board can withstand normal site handling and fixing but if damaged, it must not be used. Normal precautions should be observed when handling large panels.

5 Behaviour in relation to moisture

5.1 In common with all timber products, OSB is subject to moisture movement. As a guide, an increase in moisture content of 1% increases the length and width of a board by 0.3 mm per metre run.

5.2 Under the same environmental conditions, OSB will take longer to acclimatize and will attain an equilibrium moisture content some 2% to 3% lower than solid timber.

5.3 To avoid distortion and damage to finishes, movement gaps, in accordance with the recommendations of BS 7916 : 1998, should be provided when installing the board.

5.4 To minimise subsequent movement, prior to installation, the board should be conditioned as close as is practicable to the in-service environmental conditions. To achieve this, the moisture content of the board, determined with a properly-calibrated moisture meter, should be close to the service values given in BS 7916 : 1998:

- continuously heated buildings — 7 to 9%
- intermittently heated buildings — 9 to 12%
- unheated buildings — 15%.

5.5 If the board maintains high moisture levels for prolonged periods, it is likely to lose strength and be subjected to fungal attack (see section 13).

5.6 The water vapour resistance factor (μ) of OSB, as given in BS EN 13986 : 2004, should be either taken as the design values given in BS EN 12524 : 2000 [30 (wet cup), 50 (dry cup)] or determined in accordance with BS EN ISO 12572 : 2001. Such values may be used in any interstitial condensation calculations to BS 5250 : 2002.

6 Behaviour in relation to fire

For reaction to fire, the product may be regarded as having a classification of D-s2, d0 in accordance with EN 13501-1: 2007, by reference to EC decision 2003/43/EC. The product may also be regarded as having a class 3 surface spread of flame rating in accordance with BS 476-7 : 1997, Table A8.

7 Thermal insulation

The design thermal conductivity of OSB, as given in BS EN 12524 : 2000, is 0.13 $Wm^{-1}K^{-1}$ and, as such, will not have a significant effect on the thermal transmittance (U value) of the construction into which it is incorporated.

8 Physiological properties

In common with other wood-based panels which include formaldehyde as a component of the resin, the board may emit small amounts of formaldehyde gas. The extractable formaldehyde content is not greater than 8.0 mg/100 g when measured in accordance with BS EN 120 : 1992. This complies with lower, Class E1, formaldehyde specification included in BS EN 300 : 2006. Therefore, the quantity of gas emitted from the board alone, in the context of use given in this Certificate, will not increase the level of gas within the building to an extent which will affect habitability.

9 Durability

9.1 In common with other wood-based panels, the board is likely to lose strength and stiffness, and be susceptible to fungal attack when subjected to prolonged high humidity or wetting. When maintained under conditions detailed in section 3, this type of degradation will not arise.

9.2 Care should be taken in designing, detailing and constructing buildings, to ensure that moisture does not accumulate within the board.

10 General

Flooring

10.1 Kronospan OSB/3 Board is suitable for use as domestic or non-domestic (industrial) flooring as specified for OSB/3 in BS 7916 : 1998. The board may be continuously supported or suspended over joists or battens.

10.2 The board should be laid in a dry condition after all wet site operations have been completed. Damp-proof membranes and vapour control layers should be incorporated as necessary in accordance with the requirements of BS 7916 : 1998.

10.3 Although temporary exposure to the elements is permissible during installation, this must be for the shortest possible period. If wetted, the boards must be allowed to dry out thoroughly before applying any floor coverings or surface coatings, or subjecting the boards to the full design load.

10.4 The design and installation details included in BS 7916 : 1998 must be followed.

10.5 When used in high risk areas, such as kitchens and bathrooms, the board must be protected from wetting, for example, by providing a continuous waterproof covering, turned up and sealed at junctions with walls, and where services pass through the floor.

10.6 In suspended timber floor applications:

- the boards must have a minimum thickness of 15 mm at maximum joist spacing of 400 mm (domestic) and 18 mm at maximum joist spacing of 600 mm (non-domestic)
- timber support work must be designed and used in accordance with BS 5268-2 : 2002 and/or the relevant building regulations
- ventilation under ground floors must be provided in accordance with BS 5250 : 2002
- the ground beneath the floor should be free of topsoil and vegetable matter and be covered to resist moisture and prevent plant growth.

10.7 The board will provide a suitable substrate for floor coverings bonded with solvent or water-based adhesives or loose-laid. Resilient floor coverings (such as cork, linoleum, rubber, vinyl) should be laid in accordance with BS 8203 : 2001.

10.8 Guidance on design and installation is given in NHBC Standards 2007 Chapter 5.2 *Suspended ground floors*, Chapter 6.4 *Timber and concrete upper floors* and Chapter 8.3 *Floor finishes* and the *Zurich Building Guarantee Technical Manual* 2007 Section 5 *internal/external works, services & finishes*.

11 Structural performance

11.1 Board of thickness 22 mm, when tested for resistance to concentrated and impact loads to category A as defined in EN 1991-1-1 : 2002, satisfied the requirements of EN 12871 : 20011

11.2 For non-domestic applications, designers need to ensure that the selected board will meet the requirements specified in BS 7916 : 1998 and BS 6399-1 : 1996. Characteristic values for structural design for EN 300 OSB/3 boards can be taken from BS EN 12369-1 : 2001.

12 Behaviour in relation to fire

The fire resistance of a floor construction incorporating the product may be calculated by reference to BS 5268-4.2 : 1990 or, where necessary, by undertaking an appropriate test at a suitably accredited laboratory, and is not covered by this Certificate.

13 General

Roofing

13.1 Kronospan OSB/3 Board is suitable for use as a flat or pitched roof decking[1][2], and as pitched roof lining for tiles or slates (sarking) as defined in BS 7916 : 1998. Guidance on design of roofs can be found in BS 5250 : 2002 *Code of practice for control of condensation in buildings*, Section 8.4.

(1) However, the board should not be used in cold deck roofs where the thermal design does not eliminate the possibility of condensation or where occupancy conditions are likely to lead to high levels of humidity.

(2) In Scotland, cold deck systems are not recommended.

13.2 Design and installation of the board should be in accordance with BS 7916 : 1998. During laying, the board should be protected from the weather and should be dry when the weatherproof membrane is applied.

13.3 Permissible thickness of board is dependent upon application and support centres, as defined in BS 7916 : 1998, but at 400 mm maximum support spacing, should not be less than:

- 9 mm (pitched roof),
- 11 mm (flat roof without access except for maintenance), or
- 15 mm (flat roof with access).

13.4 Roof timbers on which the board is supported should be designed and used in accordance with BS 5268-2 : 2002 and BS 5268-3 : 2006 and/or the relevant building regulations. Roof voids should be ventilated in accordance with BS 5250 : 2002.

13.5 On a flat roof, the decking provides a suitable substrate for the following waterproofing specifications:

- 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 Agrément Certificate, when laid in accordance with that Certificate.

13.6 In conventional 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.

13.7 Guidance is given in NHBC Standards 2007, Chapters 7.1 *Flat roofs and balconies* and 7.2 *Pitched roofs* and the *Zurich Building Guarantee Technical Manual* 2007 Section 5.9.3 *Timber roofs and floors*.

14 Structural performance

Board of thickness 22 mm can withstand the concentrated and impact loads, in accordance with the requirements of EN 12871 : 2001 and is suitable for flat roof applications in category H as defined in EN 1991-1-1 : 2002.

15 Behaviour in relation to fire

The external fire rating of any roof incorporating the board will depend on the specification of the covering used. At roof penetrations, (eg flues) adequate fire protection should be provided in accordance with Building Regulations.

16 General

Sheathing

16.1 Kronospan OSB/3 board is suitable for use as structural sheathing in timber-frame buildings.

16.2 Fabrication and installation of sheathing panels, including the provision of moisture movement gaps, must be in accordance with BS 7916 : 1998 and BS 5268-6.1 : 1996. Although temporary exposure to the elements is permissible during installation, this must be for the shortest possible period.

16.3 In accordance with normal good practice for wood-based sheathing materials used in cold frame construction, external walls in which the boards are incorporated must include an effective vapour control layer on the room side, suitable weather protection on the outside surface, a ventilated cavity and damp-proof courses. Kronospan OSB/3 Board should be treated as conventional plywood sheathing with regard to detailing at openings, eaves and sole plate, the fixing of wall ties and breather paper, and the effect of openings on racking strength.

16.4 The moisture content of sheathing material is affected by the humidity conditions existing in the cavity of which it forms one face. The cavity should be of conventional construction for timber frame, freely drained and ventilated. The outer masonry leaf should have adequate resistance to wind driven rain, particularly in regions classified as severe exposure. Raked mortar joints or high porosity masonry should be avoided, particularly in these latter areas.

16.5 The timber structures in which the board is incorporated must be designed and constructed in accordance with BS 5268-2 : 2002 and BS 5268-6.1 : 1996.

16.6 Guidance is given in NHBC Standards 2007, Chapter 6.2 *External timber framed walls* and the *Zurich Building Guarantee Technical Manual* 2007, section 6.8 *External timber framed walls*.

17 Structural performance

The board may be considered as a Category 1 material in accordance with Table 2 of BS 5268-6.1 : 1996. The datum thickness for the board is 9 mm thick. The basic racking resistance for 9 mm thick board when used with the datum conditions for fasteners for Category 1 sheathing is 1.68 kNm^{-1} and can be used with the modification factors defined in BS 5268-6.1 : 1996.

18 Behaviour in relation to fire

Where the board is incorporated in a wall construction which is subject to fire resistance requirements, an appropriate assessment or test must be carried out by a United Kingdom Accreditation Service (UKAS) accredited laboratory for the test concerned.

Installation

Installation of Kronospan OSB/3 Board should be in accordance with BS 7916 : 1998 and the Certificate holder's recommendations.

Technical Investigations

19 Tests

Tests were carried out to determine:

- material characteristics in accordance with the requirements of BS EN 300 : 2006 for OSB/3
- hard body impact resistance in accordance with EN 12871 : 2001.

20 Investigations

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

20.2 With respect to racking resistance, the Kronospan OSB/3 Board has been assessed as equivalent to OSB (type F2), as detailed in Table 2 of BS 5268-6.1 : 1996.

Bibliography

BS 476-7 : 1997 *Fire tests on building materials and structures — Method of test to determine the classification of the surface spread of flame of products*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 5268-2 : 2002 *Structural use of timber — Code of practice for permissible stress design, materials and workmanship*
BS 5268-3 : 2006 *Structural use of timber — Code of practice for trussed rafter roofs*
BS 5268-4.2 : 1990 *Structural use of timber — Fire resistance of timber structures — Recommendations for calculating fire resistance of timber stud walls and joisted floor constructions*
BS 5268-6.1 : 1996 *Structural use of timber — Code of practice for timber frame walls — Dwellings not exceeding four storeys*

BS 6399-1 : 1996 *Loading for buildings — Code of practice for dead and imposed loads*

BS 7916 : 1998 *Code of practice for the selection and application of particleboard, oriented strand board (OSB), cement bonded particleboard and wood fibreboards for specific purposes*

BS 8203 : 2001 *Code of practice for installation of resilient floor coverings*

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

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

BS EN 120 : 1992 *Particle boards — Determination of formaldehyde content — Extraction method called the perforator method*

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

BS EN 335-3 : 1996 *Durability of wood and wood-based products — Definition of hazard classes of biological attack — Application to wood-based panels*

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

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

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

BS EN ISO 12572 : 2001 *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties*

EN 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General Actions — Densities, self-weight, imposed loads for buildings*

EN 12871 : 2001 *Wood-based panels — Performance specifications and requirements for load bearing boards for use in floors, walls and roofs*

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

21 Conditions

21.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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.

21.2 References in this Certificate to any Act of Parliament, Statutory Instrument, Directive or Regulation of the European Union, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

21.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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.

21.4 In granting this Certificate, the BBA is not responsible for:

- 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
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

21.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date 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. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.

Blank page

Blank page

British Board of Agrément
Bucknalls Lane
Garston, Watford
Herts WD25 9BA

tel: 01923 665300
fax: 01923 665301
e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk