

EGGER Holzwerkstoffe Wismar GmbH & Co KG

Am Haffeld 01
D-23970 Wismar
Germany

Tel: 00 49 3841 301 21250 Fax: 00 49 3841 301 20222

e-mail: info.uk@egger.com

website: www.egger.com



Agreement Certificate

08/4546

Product Sheet 3

EGGER BOARDS

EGGER OSB 3 AND OSB 3 E0 BOARDS FOR SHEATHING

This Agreement Certificate Product Sheet⁽¹⁾ relates to EGGER OSB 3 and OSB 3 E0 Boards for Sheathing, loadbearing oriented strand boards suitable for use as sheathing in timber frame walls of 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 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 have achieved a reaction-to-fire classification of D-s2,d0 in accordance with BS EN 13986 : 2004, 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 structure in which they are incorporated (see section 11).



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

Readers MUST check the validity and latest issue number of this Agreement 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.

British Board of Agreement

Bucknalls Lane
Watford
Herts WD25 9BA

©2021

tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, EGGER OSB 3 and OSB 3 E0 Boards for Sheathing, 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: Comment:	A1	Loading The products have sufficient strength and stiffness to sustain and transmit design loads to the primary structure without excessive deflection. See section 6.1 and 6.2 of this Certificate.
Requirement: Comment:	B3(1)(3)	Internal fire spread (structure) The products can contribute to satisfying this Requirement. See section 7.2 of this Certificate.
Requirement: Comment:	B3(4)	Internal fire spread (structure) The products may be restricted by this Requirement. See section 7.1 of this Certificate.
Regulation: Comment:	7(1)	Materials and workmanship The products are acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation: Comment:	7(2)	Materials and workmanship The products are restricted by this Regulation. See sections 7.1 to 7.3 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: Comment:	8(1)	Durability, workmanship and fitness of materials The use of the products satisfies this Regulation. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation: Standard: Comment:	9 1.1(a)(b)	Building standards applicable to construction Structure 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 ⁽¹⁾⁽²⁾ , 1.1.2 ⁽¹⁾⁽²⁾ and 1.1.3 ⁽¹⁾⁽²⁾ of this Standard. See sections 6.1 and 6.2 of this Certificate.
Standard:	2.1	Compartmentation
Standard:	2.2	Separation
Standard:	2.3	Structural protection
Comment:		The products can contribute to satisfying requirements in accordance with clauses 2.1.1 ⁽²⁾ , 2.1.12 ⁽²⁾ , 2.2.1 ⁽¹⁾⁽²⁾ , 2.2.4 ⁽²⁾ , 2.2.5 ⁽²⁾ , 2.2.6 ⁽¹⁾ , 2.2.7 ⁽¹⁾ , 2.2.8 ⁽¹⁾ , and 2.3.2 ⁽¹⁾⁽²⁾ . See sections 7.1 and 7.2 of this Certificate.
Standard:	2.4	Cavities
Comment:		The products may be restricted by this Standard with respect to clause 2.4.2 ⁽¹⁾⁽²⁾ . See section 7.1 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The products are restricted by this Standard with reference to clauses 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See sections 7.1 and 7.4 of this Certificate.

Standard: Comment:	7.1(a)	Statement of sustainability 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: Comment:	12	Building standards applicable to conversions All comments given for these products under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .
		(1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



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

Regulation: Comment:	23(a)(i)(iii)(iv)	Fitness of materials and workmanship The products are acceptable. See sections 11.1 and 11.2 and the <i>Installation</i> part of this Certificate.
Regulation: Comment:	30	Stability The products have sufficient strength and stiffness to sustain and transmit design loads to the primary structure without excessive deflection. See sections 6.1 and 6.2 of this Certificate.
Regulation: Comment:	35(1)(3)	Internal fire spread — Structure The products can contribute to satisfying this Requirement. See section 7.2 of this Certificate.
Regulation: Comment:	35(4)	Internal fire spread — Structure 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 13 *General* of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, EGGER OSB 3 and OSB 3 E0 Boards for Sheathing, 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 6.2 *External timber-framed walls* and 6.3 *Internal walls*.

CE marking

The Certificate holder has taken the responsibility of CE marking the products, in accordance with harmonised European Standard BS EN 13986 : 2004.

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 core and surface layer.

1.2 The boards are produced in standard sizes⁽¹⁾ of:

thickness (mm)	9, 11, 15
length X width (mm)	2397 x 1197, 2500 x 1197, 2700 x 1197, 3000 x 1197, 2500 x 1250
nominal density (kg·m ⁻³)	≥600.

(1) Other thicknesses (in the range 9 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 boards 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 and BS 8103-3 : 2009, and *NHBC Standards* 2021 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 Sheathing.

Design Considerations

4 General

4.1 EGGER OSB 3 and OSB 3 E0 Boards for Sheathing are suitable for use as structural sheathing in timber-frame walls.

4.2 The boards are suitable for use in service classes 1 (dry) and 2 (humid conditions) of BS EN 1995-1-1 : 2004. This is characterised by 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.

4.3 Fabrication and installation of sheathing boards, including the provision of expansion gaps, must be in accordance with PD CEN/TR 12872 : 2014 and BS EN 1995-1-1 : 2004. Exposure to the elements should be minimised during installation.

4.4 The timber structures in which the boards are incorporated must be designed and constructed to comply with BS EN 1995-1-1 : 2004.

4.5 In accordance with BS EN 300 : 2006, the boards are suitable for use in environmental conditions covered by Use Classes 1 and 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.

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

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



6.1 The design racking resistance of a timber-frame wall incorporating OSB 3 sheathing nailed to studding should be determined by test according to BS EN 594 : 2011 or calculated in accordance with the guidance given in BS EN 1995-1-1 : 2004 and its UK National Annex, by a suitably qualified and experienced individual, based upon the vertical design load on the wall and the nail spacing and nail characteristics used to attach the sheathing.

6.2 As a guide, when calculated in accordance with BS EN 1995-1-1 : 2004, Method B, the basic racking resistance of a timber-frame wall⁽¹⁾ without vertical loading and with 9 mm thick sheathing fixed with nails⁽²⁾ at 100 mm spacing is $3.62 \text{ kN}\cdot\text{m}^{-1}$, and at 150 mm spacing is $2.77 \text{ kN}\cdot\text{m}^{-1}$.

(1) Studs — timber grade C16, minimum size 38 by 75 mm and spaced at a maximum of 600 mm.

(2) Nails — minimum diameter 3.1 mm, minimum length 50 mm and ultimate tensile strength $700 \text{ N}\cdot\text{mm}^{-2}$.

6.3 In instances where the boards are required to contribute towards impact resistance, for example on the internal room-facing sides of external walls, the boards should have a minimum thickness of 12 mm for a single layer of OSB 3 sheathing, or a minimum board thickness of 9 mm of OSB 3 with an additional layer of plasterboard of at least 9.5 mm, and the impact resistance of the boards must be demonstrated in accordance with BS EN 596 : 1995.

7 Behaviour in relation to fire



7.1 The boards have achieved a reaction-to-fire classification of D-s2,d0 in accordance with BS EN 13986 :2004 . This relates to the full thickness range referred to in section 1.2.

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



7.3 In England and Wales, the boards should not be used on external walls of buildings that have a storey at least 18 m above ground level and contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools.



7.4 In Scotland, the boards may be used more than 1 m from a boundary. The boards should not be used on external walls of domestic buildings with a floor more than 18 ~~30~~ m above the ground. Additional restrictions apply for separating elements.

7.5 Designers should refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for fire performance, cavity barriers and combustibility limitations for materials and components used in the overall wall construction, for example, thermal insulation.

7.6 Where the boards are incorporated in a wall construction where fire resistance is required by the documents supporting the national Building Regulations, the fire resistance should be confirmed by tests or assessments by a suitably accredited laboratory.

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 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 EN/TR 12872 : 2014, should be provided when installing the boards.

8.4 To minimise subsequent movement, before installation all wet site operations should be completed and the boards 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 close to the service class equilibrium moisture content (emc) values given in PD CEN/TR 12872 : 2014, Table 1, an extract of which is reproduced in Table 1 of this Certificate.

Table 1 Equilibrium moisture content and conditions of use

Service class	Approximate equilibrium moisture content (emc)	Conditions of use
1	$4\% \leq emc \leq 11\%$	dry installations, no risk of wetting in service
2	$11\% \leq emc \leq 17\%$	risk of wetting during installation and risk of occasional wetting in service
3	$emc > 17\%$	risk of regular wetting in service

8.5 Damp-proof membranes, breather membranes and vapour control layers should be incorporated as necessary in accordance with the requirements of BS 8103-3 : 2009 and BS 5250 : 2011.

8.6 In a wall construction, the calculations for interstitial condensation risk according to BS 5250 : 2011, the water vapour resistance factor (μ) 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.

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

8.8 External walls must have an effective vapour control layer on the warm side, suitable weather protection on the outside, a vented cavity and a membrane in accordance with BS 5250 : 2011. Where required, the products should be treated as conventional sheathing boards with regard to detailing at openings, eaves and sole plate, the fixing of wall ties and breather membranes, and the effect of openings on racking strength.

8.9 In accordance with normal good practice for wood-based sheathing materials used in cold frame construction, external walls in which the product is 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. The product should be treated as conventional plywood sheathing with regard to detailing at openings, eaves and sole plate, the fixing of wall ties and breather membranes, and the effect of openings on racking strength.

8.10 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 framed buildings, 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.

8.11 The outer weatherproofing should have adequate resistance to wind-driven rain, particularly in regions classified as severe exposure.

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 board is 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 building 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 structure 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 boards can be recycled.

13 General

13.1 EGGER OSB 3 and OSB 3 E0 Boards for Sheathing 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

Installation of the boards should be by conventional methods in accordance with PD CEN/TR 12872 : 2014 or BS 8103-3 : 2009 and the manufacturer's recommendations.

Technical Investigations

15 Tests

Tests were carried out to determine the product's 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 products' durability and behaviour in relation to moisture.

16.3 Calculations were carried out in accordance with BS EN 1995-1-1 : 2004 to determine the racking resistance of the products.

16.4 A review was made of a report supplied by the Certificate holder giving details of tests by a notified body leading to the reaction-to-fire classification in accordance with BS EN 13501-1 : 2007.

Bibliography

- BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*
- BS 8103-3 : 2009 *Structural design of low-rise buildings — Code of practice for timber floors and roofs for housing*
- 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 596 : 1995 *Timber structures — Test methods — Soft body impact test of timber framed walls*
- BS EN 1128 : 1996 *Cement-bonded particleboards — Determination of hard body impact resistance*
- 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 + A2 : 2014 *UK National Annex to Eurocode 5 — Design of timber structures — General — Common rules and rules for buildings*
- BS EN 12524 : 2000 *Building materials and products — Hygrothermal properties — Tabulated design values*
- BS EN 13501-1 : 2007 + A1 : 2009 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*
- 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.