

Norbord Ltd

Station Road
Cowie

Stirling FK7 7BQ

Tel: 01786 812921 Fax: 01786 817143

e-mail: info@norbord.net

website: www.norbord.net



Agrément Certificate

02/3934

Product Sheet 1

CABERDEK

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Caberdek, a flooring grade chipboard, faced on one side with either a cross-directional or an omni-directional, laminated polyethylene peel-off film, for use in joisted floor construction. The boards are capable of providing temporary weather protection prior to completion of the building envelope.

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

Resistance to standing water — a constructed floor using the boards can resist standing water for up to 42 days (see section 5).

Slip resistance — the peel-off film has satisfactory slip resistance in the dry (see section 6).

Properties in relation to fire — the boards consist of chipboard and are given a Class 3 classification by Appendix A, Table A8 of Approved Document B of the Building Regulations 2000 (as amended) (England and Wales) (see section 7).

Impact resistance — the boards have a satisfactory resistance to impact (see section 8).

Durability — the completed flooring will have a life equal to the building in which it is installed (see section 11).

The BBA has awarded this Agrément 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

Simon Wroe
Head of Approvals — Materials

Greg Cooper
Chief Executive

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Originally certificated on 17 June 2002

The BBA is a UKAS accredited certification body — Number 1113. 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

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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, Caberdek, 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:	A1(1)	Loading
Comment:		The product has sufficient strength and stiffness to sustain and transmit the design load, without excessive deflection to the primary structure. See section 8 of this Certificate.
Requirement:	B3(1)(3)	Internal fire spread (structure)
Comment:		The product can contribute to meeting this Requirement. See sections 7.1 to 7.3 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part 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 meeting this Regulation. See sections 10 and 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	1.1(a)	Structure
Comment:		The product has sufficient strength and stiffness to sustain and transmit the design load, without excessive deflection, to the primary structure, with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ . See section 8 of this Certificate.
Standard:	2.3	Structural protection
Comment:		The product can contribute to a construction satisfying this Standard, with reference to clauses 2.3.1 ⁽¹⁾⁽²⁾ , 2.3.2 ⁽¹⁾⁽²⁾ and 2.3.3 ⁽¹⁾⁽²⁾ . See sections 7.1 to 7.3 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for this product under Regulation 9, 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) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product does not normally require maintenance. See section 11 of this Certificate.
Regulation:	D1	Stability
Comment:		The product has sufficient strength and stiffness to sustain and transmit the design load, without excessive deflection, to the primary structure. See section 8 of this Certificate.
Regulation:	E4(1)(3)4	Internal fire spread — Structure
Comment:		The product can contribute to meeting this Regulation. See sections 7.1 to 7.3 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 sections: 1 *Description* (1.2), 2 *Delivery and site handling* (2.2), 6 *Slip resistance* and 12 *Installation* (12.6).

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of Caberdek, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.4 *Timber and concrete upper floors*, 6.10 *Light steel framed walls and floors* and 8.3 *Floor finishes*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Caberdek, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure*, Sub-section *Upper floors* and Section 5 *Internal/external works, services & finishes*, Sub-section *Internal works — Floors*.

General

Caberdek is a P5 flooring grade chipboard, faced on one side with either a cross-directional or omni-directional, laminated peel-off film for use on joisted floor constructions which may be left exposed to the elements for up to 42 days during the building process.

Technical Specification

1 Description

1.1 This Certificate relates to Caberdek, a P5⁽¹⁾ flooring grade chipboard, faced on one side with a cross-directional or omni-directional, laminated peel-off film.

(1) To BS EN 312 : 2003.

1.2 The product characteristics are:

Thickness (mm)	18, 22
Length (mm)	2400
Width (mm)	600
Density (kgm ⁻³)	600 to 690
Edge profile	tongue-and-groove ⁽¹⁾

(1) TG2 panels, which are available as 2400 mm by 1200 mm boards with the tongue-and-groove down the longer edges only, may be used but the butt joints must be bonded using a D4 type adhesive.

1.3 In the manufacturing process, chipboard, laminate and adhesive are brought together under controlled pressure, temperature and line speed. Quality control is carried out on raw materials during manufacture and on the finished product.

1.4 Ancillary components comprise:

- Caberdek water-resistant tape
- Caberdek jointing adhesive — PVA (to BS EN 204 : 2001 Class D3)
- Caberdek Fastfix bonding adhesive — PU (to BS EN 204 : 2001 Class D4)
- Caberdek Sealfast adhesive (for no tape system) — PU (to BS EN 204 : 2001 Class D4).

2 Delivery and site handling

2.1 The product is delivered in banded packs, wrapped in polythene. Each pack contains a label bearing the product name, board thickness and type. Each board is marked on the underside with board thickness (mm), date of manufacture and the wording 'Caberfloor P5, this side down'.

2.2 The boards are supplied in pack sizes given in Table 1.

Table 1 Pack sizes

Thickness (mm)	No of panels per pack	Approx weight (tonne)
18	80	1.4
22	66	1.4

2.3 Boards should be stored off the ground, preferably on bearers, to allow air to circulate. If stored outside, the boards should be protected using weatherproof sheeting.

Assessment and Technical Investigations

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

Design Considerations

3 Use

Caberdek is suitable for use in joisted constructions. The boards can be left exposed to the elements for a period of up to 42 days during the building process.

4 Practicability of installation

The product can be installed readily by woodworking operatives experienced with this type of material.

5 Resistance to standing water

5.1 When installed in accordance with this Certificate, a floor constructed from the boards will have satisfactory resistance to standing water for up to 42 days.

5.2 In persistently wet conditions, some water penetration may be expected. This could result in some swelling around joints and nail fixings.

6 Slip resistance

Slip resistance values indicate that in dry conditions, the Caberdek boards, faced with cross-directional film will provide a satisfactory performance and that a wet surface will provide a marginal performance. Slip resistance values indicate that in dry conditions the boards, faced with omni-directional film, will provide an excellent performance and that a wet surface will provide a satisfactory performance. Reference should be made to the *Installation* section. The results of the performance tests and the classification of slip resistance are given in Table 2.

Table 1 Slip resistance⁽¹⁾

Cross-directional film results	Omni-directional film results	45 rubber (shoes) SRV	Classification
–	–	<25	dangerous
25 (wet)	51 (wet)	25–34	marginal
41 (dry)	79 (dry)	35–64	satisfactory
–	–	>64	excellent

(1) TRL pendulum test.

7 Properties in relation to fire



7.1 An assessment of the chipboard to BS 476-7 : 1997 gave a classification of Class 3 Surface spread of flame and is also given a Class 3 classification by Appendix A, Table 8 of Approved Document B to the Building Regulations 2000 (as amended) (England and Wales).

7.2 As detailed in BRE report (BR 128 : 1988) *Guidelines for construction of fire-resisting structural elements*, an intermediate floor construction incorporating tongue-and-groove Caberdek boards supported on timber joists at least 37 mm wide, a ceiling of 12.5 mm thick plasterboard, fixed with 40 mm long galvanized nails at 150 mm centres, joints taped and filled, and backed by timber has been assessed as having a fire-resistance rating (in minutes) of:

loadbearing capacity	30
integrity	15
insulation	15.

7.3 Where any other form of floor construction incorporating the product is subject to fire-resistance requirements, an appropriate assessment of test must be carried out by a United Kingdom Accreditation Service (UKAS) laboratory accredited for the test concerned.

8 Impact resistance



The boards have satisfactory resistance to hard body impact.

9 Formaldehyde

The boards achieve a Class E1 formaldehyde specification to BS EN 312 : 2003.

10 Maintenance



As the product is normally covered with a floor finish and has suitable durability (see section 11), maintenance is not required.

11 Durability



The durability of the material is satisfactory. Provided the product is used in accordance with this Certificate and the Certificate holder's instructions, and is fixed to suitably, stable and durable substrates, the boards should have a life equal to the building in which they are installed. Under normal conditions of occupancy they are unlikely to suffer damage, but if damage does occur, repairs can be carried out by replacing the affected board following the Certificate holder's instructions.

12 General

12.1 Installation of the Caberdek boards must be carried out in dry conditions.

12.2 On joists up to 450 mm centres, 18 mm thick panels may be used. On joists of wider spacing, up to 600 mm centres, 22 mm thick panels must be used.

12.3 Floor joists and beams must be secured and braced before starting to lay the board. Prior to fixing, any standing water or moisture on surface flanges should be wiped down.

12.4 Future access to any pipes and services running between joists should be ensured. Traps for this purpose should be supported on all sides. If access traps are cut and edges supported, the cut edges should also be taped.

13 Procedure

13.1 The tongue-and-groove flooring boards are laid on top of the joists with the longest edges at right angles to the joists. Short end joints should be staggered by approximately half a board in a brick bond pattern with these ends falling on the centre line of the joist (see Figure 1). If they overhang, additional timber supports or noggings should be provided. Although long edges need no intermediate support between joists, support noggings should be fixed at floor perimeters where unsupported edges abut a wall.

13.2 Laying commences with a single row of panels parallel to the longest wall allowing for a suitably sized expansion gap. A minimum gap of 10 mm, or 2 mm per metre run of floor, whichever is greater, should be left against all walls and abutments. Particular attention must be paid to maintaining expansion gaps at all times during construction. When large single run floors are being laid, it is necessary to incorporate intermediate expansion gaps to allow for possible movement. The second row should start with a half board to ensure all cross joints are staggered, the floor forming the brick bond pattern (see Figure 1).

13.3 All tongue-and-groove edges must be glued with a liberal application of the Caberdek adhesive⁽¹⁾. When the boards are butted tightly, (see Figure 2) any extruded residues should be removed with a damp cloth⁽²⁾.

(1) Caberdek Sealfast if no tape is to be used.

(2) See Method 3 for Caberdek Sealfast use.

Figure 1 Laying pattern

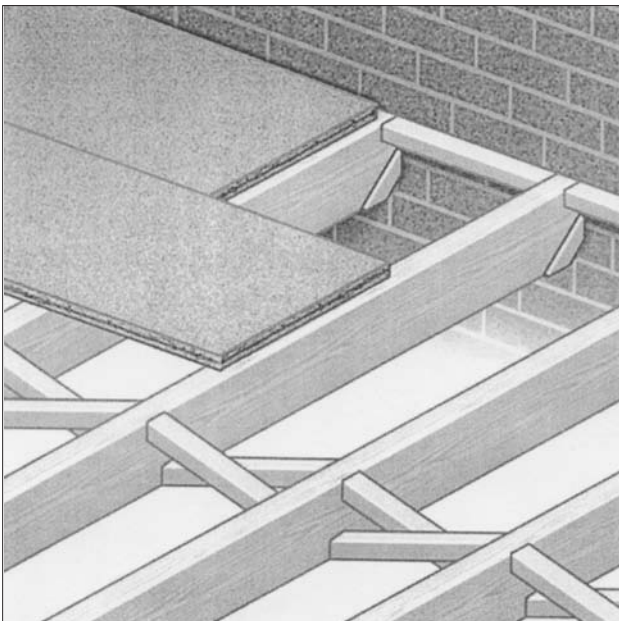
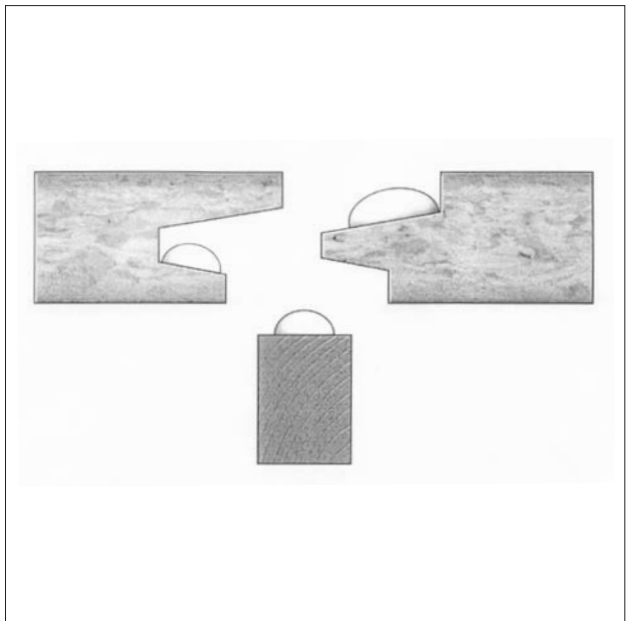


Figure 2 Glueing



Method 1 — Mechanical Fixing with Tape at joints and perimeter

13.4 Boards are glued to the joists and noggings using the Caberdek jointing adhesive and fixed using 10 gauge annular ring-shank nails of length 2.5 times the thickness of the board, at a rate of four nails per joist and hammered flush with the surface of the board. Panels should be fixed along the perimeter at 200 mm to 300 mm centres, approximately 25 mm from the edge of the board.

13.5 Where nailing could damage ceilings or joists, boards should be fixed using countersunk Posidrive No 8 particle board screws in pre-drilled holes.

Method 2 — Caberdek PU Fastfix Bonding System with Tape at joints and perimeter

13.6 A liberal run of the Caberdek PU Fastfix bonding adhesive is laid along the joists and noggings and the first run of boards are placed into position squarely, avoiding any unnecessary dragging which could disturb the adhesive. The

first run should be levelled with a line, and a row of ring-shank nails 2.5 times the board thickness, should then be fixed along the perimeter at 200 mm to 300 mm centres, approximately 25 mm from the edge of the board.

13.7 The boards may then be held in place by further ring-shank nails or by secret nailing through the tongue of the long edge at 20° to the vertical. If secret nailing is used, one ring-shank nail must be fixed to every second joist. The floor deck can then be walked on.

13.8 The second and subsequent rows of boards are fixed in the same way. The last row of boards is fixed to the joist with one ring-shank nail per joist as specified in section 13.6.

13.9 The floor deck can be walked on immediately after fixing but further heavy construction work should be avoided for 24 hours.

Method 3 — Caberdek PU Sealfast Bonding System without Tape (Tape at perimeter only)

13.10 A liberal run of the Caberdek PU Sealfast bonding adhesive is laid along the joists and noggings and the first run of boards are placed into position squarely, avoiding any unnecessary dragging which could disturb the adhesive. The first run should be levelled with a line, and a row of ring-shank nails 2.5 times the board thickness, should then be fixed along the perimeter at 200 mm to 300 mm centres, approximately 25 mm from the edge of the board.

13.11 The boards may then be held in place by further ring-shank nails or by secret nailing through the tongue of the long edge at 20° to the vertical. If secret nailing is used, one ring-shank nail must be fixed to every second joist. The floor deck can then be walked on.

13.12 The second and subsequent rows of boarding are fixed in the same way. The last row of boarding is fixed to the joist with one ring-shank nail per joist as specified in section 13.6.

13.13 The floor deck can be walked on immediately after fixing but further heavy construction work should be avoided for 24 hours.

13.14 Any excess adhesive on the tongue-and-groove joint should be wiped clean within 15 minutes using a plastic hand scraper or similar.

Sealing

13.15 Immediately a run of panels is fixed, all board joints⁽¹⁾, nail runs⁽¹⁾ and exposed edges around the perimeter are sealed with Caberdek water-resistant tape. This operation must be carried out in dry conditions.

(1) For the Caberdek PU Sealfast bonding system, board joints and nail heads may be sealed using the adhesive only.

Finishing

13.16 If the board surface or edge tape is damaged during the construction period it must be repaired immediately.

13.17 The product tolerates wet conditions but these may have an adverse effect on site safety.

13.18 When all construction and decoration work is complete and the building is weathertight, the deck should be swept down and the peel-off covering removed by pulling firmly but slowly from the short end. A sharp knife should be used around the perimeter to free any of the covering which may have become snagged.

14 Supervision and workmanship

14.1 The level of supervision during installation of the Caberdek and the associated structure must be sufficient to ensure the quality of workmanship described in BS 8000-5 : 1990.

14.2 During periods of severe weather, it is advisable to remove any pools of standing water before starting work on the installed floor.

Technical Investigations

15 Tests

Samples of P5 Caberdek were obtained from the Certificate holder for testing. The tests carried out were:

- slip resistance in dry and wet conditions
- resistance to hard body impact
- tear resistance of Caberdek film and Caberdek tape
- resistance to abrasion
- standing water resistance
- dimensional accuracy of panels
- squareness of panels
- resistance to peel
- water resistance of Caberdek tape
- water resistance and adhesive characteristics of Caberdek jointing and bonding adhesives.

16 Investigations

16.1 An assessment of the product performance in relation to fire was made by reference to BRE report (BR 128 : 1988), the relevant national Building Regulations and data relating to BS 467-7 : 1997.

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

16.3 A site in progress was examined to establish the practicability of installation.

16.4 A user survey of builders who had used Caberdek as conducted to establish the practicability and performance.

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 8000-5 : 1990 *Workmanship on building sites — Code of practice for carpentry, joinery and general fixings*

BS EN 204 : 2001 *Classification of thermoplastic wood adhesives for non-structural applications*

BS EN 312 : 2003 *Particleboards — Specifications*

17 Conditions

17.1 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.

17.2 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.

17.3 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.

17.4 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.

17.5 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.