Kronobuild®

OSB barrier Design and Install Guide

Oriented Strand Board OSB

CONTENTS

CODEMARK™
CM70096

pass™

WE COMPLY s14G BUILDING ACT 2004

1.0 GENERAL

1.1. Purpose of guide

This guide provides advice on handling, installing and maintaining GlobalBuild NZ's Kronospan OSB barrier (OSB barrier).

1.2. Important Documents

This guide must be read in conjunction with the:

- GlobalBuild OSB barrier warranty.

1.3. Skills required

To install OSB barrier, the installer must, at a minimum, be a competent DIYer.

Where OSB barrier is specified by a designer, the designer shall have the appropriate skills, knowledge of the product and access to all OSB barrier technical information (refer to www.globabuild.nz).

Where Restricted Building Work (RBW) applies the designer or installer must either be a Licensed Building Practitioner (LBP) or be supervised by an LBP with the applicable licence.

1.4. For more help

Technical assistance is available at interior.install@xtra.co.nz.

While all reasonable efforts have been made to ensure the accuracy of information provided, this is a guide only, and it may be subject to change.

1.5. For our warranty

Refer to www.globabuild.nz.

2.0 OSB barrier

2.1. What is OSB

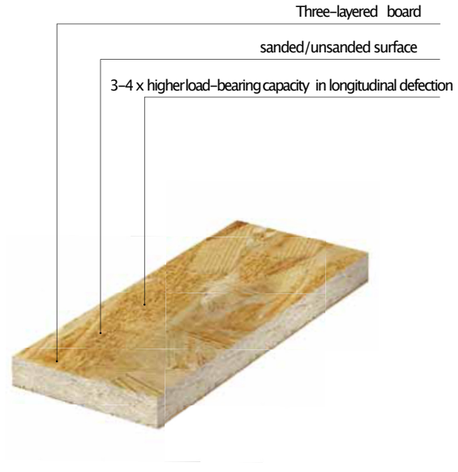
OSB barrier is manufactured of high quality softwood from sustainable forests, primarily spruce. The thin, large-sized veneer strands are dried carefully and blended within the production process with a mixture of synthetic resins and paraffin emulsion.

The panels are pressed with a continuous, uninterrupted production process, using high pressure and temperatures.

Due to its excellent strength, OSB is suited perfectly for a large range of applications, from packaging to construction purposes.

2.2. Advantages

- Environmentally friendly wood-based panel for universal applications in interior and protected exterior conditions.
- High dimensional stability, homogeneity and even density profile.
- Excellent bending, compression and tensile strength.
- High vapor diffusion resistance and thermal insulation benefits.
- 100% Recyclable.



2.3. Description

OSB barrier is manufactured to EN 13986:2004+A1 to meet the requirements of OSB/3. This category is suitable for load-bearing conditions and for use in humid conditions. Humid refers to environments where panels are protected from external conditions but where moisture content can increase because of humidity.

Durability when used as a bracing element relies on the OSB barrier and connections to remain dry whilst in service and the OSB barrier not being exposed to high humidities*, liquid water or high temperatures.

OSB should be protected against prolonged exposure to excess moisture.

Panels are supplied in the following sizes:

- 2440 x 1220 x 9 mm
- 2740 x 1220 x 9 mm

and for use as:

- an internal and protected external wall bracing element
- a rigid air barrier.

*Areas of high humidity include sauna rooms and similar.

2.4. GlobalBuild assurance statement

For scope, limitations and assurance refer to the Kronospan OSB barrier pass™.

3.0 DESIGN

3.1. Design Considerations

3.1.1. Confirm scope

Ensure the project falls within the allowed scope and limitations for the intended use, in particular suitability of the building and the structural framing support.

3.1.2. Establish substrate suitability

Ensure that the substrate to which the OSB barrier is to be fixed is suitable for the installation of the OSB barrier especially if it is to be used as a bracing element.

3.1.3. Bracing element

Bracing capacities are as follows:

Table 1 - P21 Ratings 2400mm High Kronospan OSB Barrier Wall Elements

BRACE CODE	WALL SIZE	WIND BU/m	EQ BU/m	DESCRIPTION OF ASSEMBLY	HOLD DOWN FIXINGS
KOSB-400	400 X 2400mm	89	111	OSB BARRIER PANELS FIXED TO ONE SIDE 90 X 45 H1.2 SG8 FRAMING. STUDS AT MINIMUM 400mm CENTRES, NO NOGS.	M12 BOLTS TO GIB HANDIBRACS AND BOTTOM PLATE. GIB HANDIBRAC TO EACH END.
KOSB-600	600 X 2400mm	91	104	OSB BARRIER PANELS FIXED TO ONE SIDE 90 X 45 H1.2 SG8 FRAMING STUDS AT MINIMUM 400mm CENTRES, NO NOGS.	M12 BOLTS TO GIB HANDIBRACS AND BOTTOM PLATE. GIB HANDIBRAC TO EACH END.
KOSB-1200	1200 X 2400mm	123	107	OSB BARRIER PANELS FIXED TO ONE SIDE 90 X 45 H1.2 SG8 FRAMING. STUDS AT MINIMUM 400mm CENTRES, NO NOGS.	M12 BOLTS TO GIB HANDIBRACS AND BOTTOM PLATE. GIB HANDIBRAC TO EACH END.
KOSB-400G	400 X 2400mm	100	120	OSB BARRIER PANELS FIXED TO ONE SIDE 90 X 45 H1.2 SG8 FRAMING. 10MM GIB STANDARD PLASTERBOARD TO OTHER SIDE STUDS AT MINIMUM 400mm CENTRES, NO NOGS.	M12 BOLTS TO GIB HANDIBRACS AND BOTTOM PLATE. GIB HANDIBRAC TO EACH END.
KOSB-600G	600 X 2400mm	127	143	OSB BARRIER PANELS FIXED TO ONE SIDE 90 X 45 H1.2 SG8 FRAMING. 10MM GIB STANDARD PLASTERBOARD TO OTHER SIDE STUDS AT MINIMUM 600mm CENTRES, NO NOGS.	M12 BOLTS TO GIB HANDIBRACS AND BOTTOM PLATE. GIB HANDIBRAC TO EACH END.
KOSB-1200G	1200 X 2400mm	179	157	OSB BARRIER PANELS FIXED TO ONE SIDE 90 X 45 H1.2 SG8 FRAMING. 10MM GIB STANDARD PLASTERBOARD TO OTHER SIDE STUDS AT MINIMUM 600mm CENTRES, NO NOGS.	M12 BOLTS TO GIB HANDIBRACS AND BOTTOM PLATE. GIB HANDIBRAC TO EACH END.

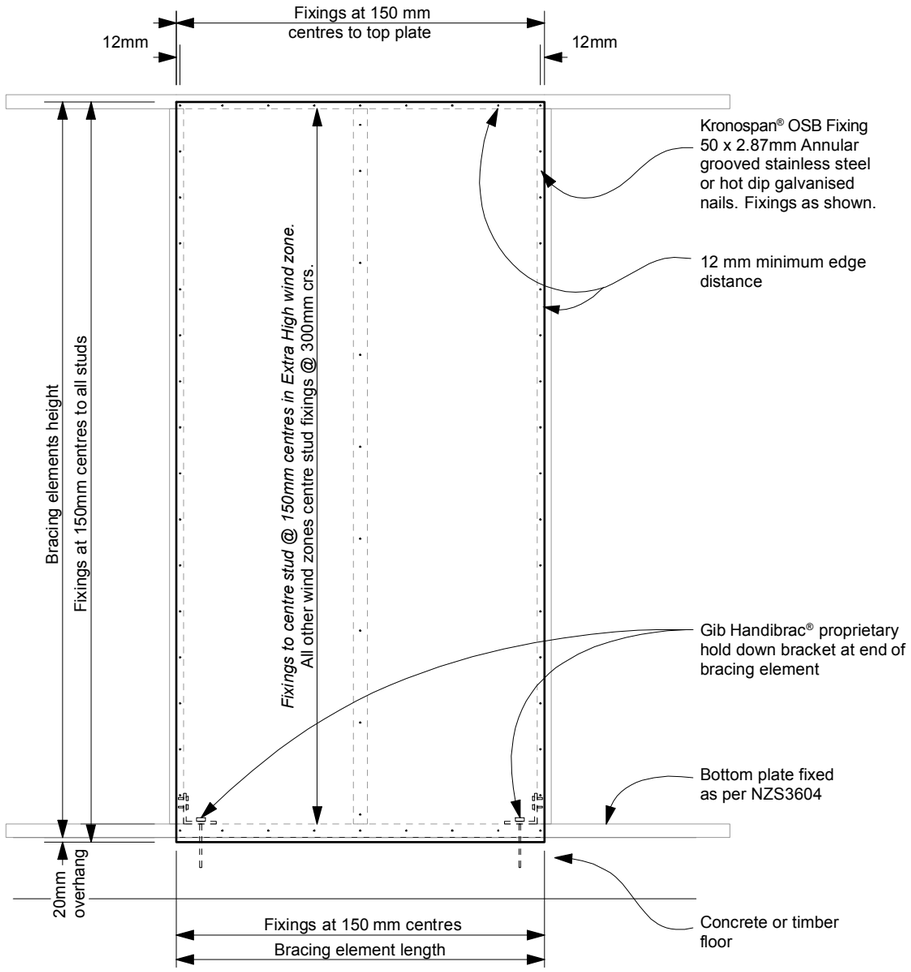
Note:

1. Table compiled based on Scion P21 testing.
2. BU Wind value as limited by the serviceability load capacity.
3. BU Earthquake value as limited by the ultimate load capacity.
4. NZS 3604 limits bracing ratings for walls on timber floors to 120 BU/m and for concrete floors to 150 BU/m.

3.1.3.1. Bracing element fixing

Bracing element fixings are as follows:

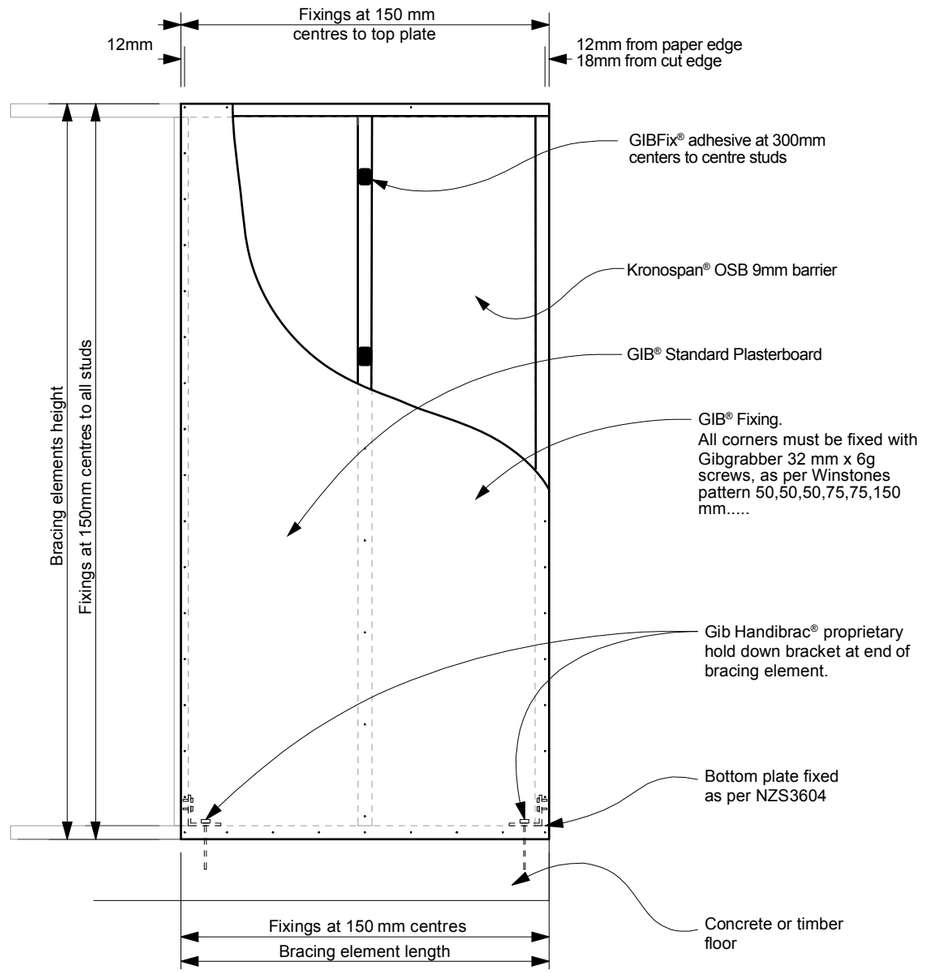
1. KOSB - OSB barrier to one side



3.1.3.1.(A) Bracing element fixing

Bracing element fixings are as follows:

1. KOSB-G OSB barrier to one side and 10 mm GIB to other side



3.1.4. Fixings

Table 2 - Fixings

KRONOSPAN® OSB BARRIER	As per Section 5.6.1
GIB® PLASTERBOARD	Gibgrabber® 32mm x 6g screws to Winstones pattern 50,50,50,75,75,150mm …..
HOLD DOWN	M12 Hold down bolts or screws to GIB Handibracs® and bottom plate. GIB Handibrac® to each end.

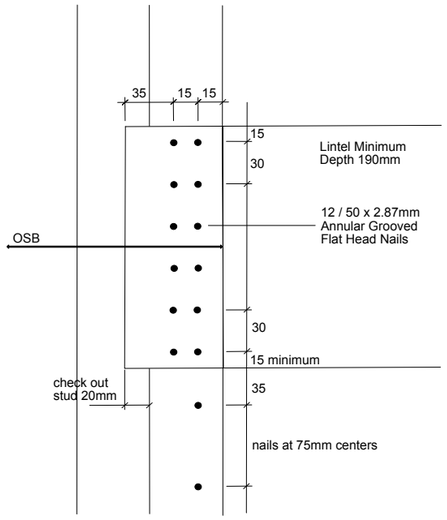
3.1.5. Top Plate Truss Connection

Standard fixing of Kronospan OSB barrier to the top plate in accordance with with 3.1.3.1(A) Bracing Element fixing, will transfer the uplift loads to the bottom plates.

Refer to NZS 3604 Table 8.18 for uplift connections between top plate and truss framing.

3.1.6. Lintel Tie Down Connection

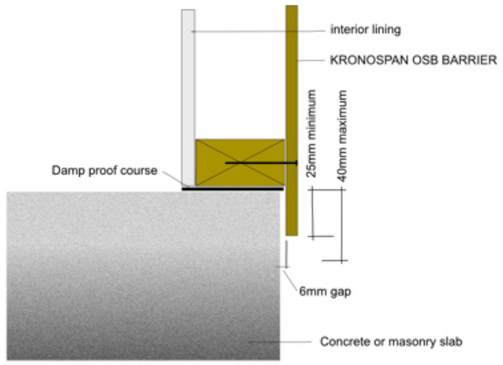
As an alternative to strap fixing as detailed in NZS 3604 fig 8.12. The following fixing detail may be used where the uplift does not exceed 7.5 kN.



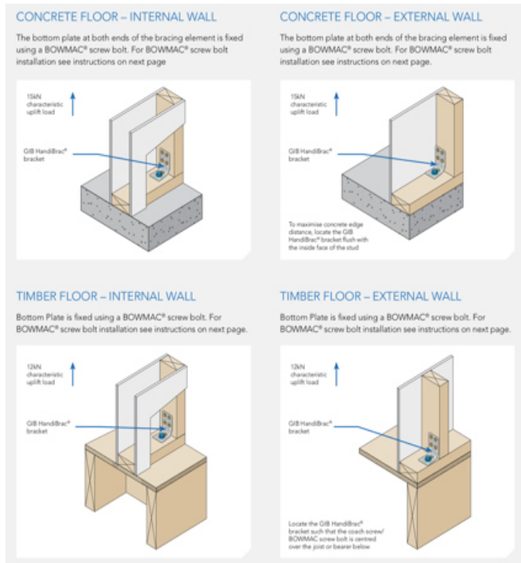
KRONOSPAN OSB LINTEL FIXING DETAIL

7.5 KN CONNECTION
DOUBLING STUD FIXING DETAILS TO NZS3604 FIG 8.12

3.1.7. Bottom plate Connection



3.1.8. GIB Handibrac ® Installation



3.1.9. Rigid Air Barrier

To specify OSB barrier as a rigid air barrier requires installation to E2/AS1 paragraph 9.1.7.2 modified as follows:

- The bottom edge of the panel must extend a minimum of 20 mm below the bottom plate where used in conjunction with a cavity system.
- To be installed with a drained ventilated cavity and cladding system that complies with the relevant provisions of the NZBC.
- Where installed over lightweight steel framing a thermal break is required.
- OSB barrier is not intended for use as a temporary cladding, without the addition of a code compliant building wrap.
- OSB should be completely dry prior to installing internal linings and the balance of the external envelope.
- Where exposed to the weather, OSB Barrier must be wrapped in a flexible building wrap within 14 days where untreated, and 30 days where treated.
- During construction best building practices should be followed and prolonged exposure to moisture should not occur.
- Flexible building wraps and tapes must be LOSP compatible if used with treated panels and installed in accordance with the manufacturers instructions.

4.0 PRE-INSTALLATION

4.1. Health & safety

Take all necessary steps to ensure your safety and the safety of others:

- Ensure adequate ventilation or mechanical dust extraction when cutting or drilling
- Ensure the panels are well supported when cutting
- Wear appropriate safety equipment, including clothing, footwear and safety glasses
- Use all tools in accordance with the relevant instruction manuals
- Clear the work area of any obstructions before work starts
- Ensure edge protection and/or appropriate scaffold is installed where working at height.

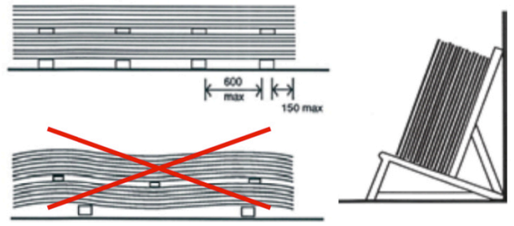
For further information refer to:

- WorkSafe. (7/2018) Small Construction Sites, The Absolutely Essential Health and Safety Toolkit.
- WorkSafe. (12/2016) Health and Safety at Work, Quick Reference Guide.

4.2. Handling & storage

Take care when transporting, handling and storing OSB barrier to avoid damaging the panels. The panels must be protected from direct exposure to water, especially the edges. The panels must be secured with care to avoid damage by fastening ropes, belts and or strapping.

Panels are delivered to site strapped on skids. Unloading is likely to be carried out mechanically. A forklift is recommended as opposed to a crane or hi-ab. If a crane or hi-ab is to be used a spreader bar is required.



Store panels horizontally on a dry surface at least 150 mm off the ground supported by spacers that are orientated in the direction of the minor axis with a maximum spacing of 600 mm. The spacers must be at least the length of the panel width.

Insert another row of spacers after each 20 – 25 panels to ensure adequate ventilation. Spacers must be placed directly above lower spacers.

Insert additional spacers for the H3 treated panels to allow additional ventilation.

Ensure the area where the panels are stored is dry, well-ventilated, out of direct sunlight and away from any heat source. It is also recommended that the panels are protected from weather.

5.0 INSTALLATION

5.1. Key documents

Refer to the building consent documentation where applicable and the pass™ and this document.

5.2. Tools & other product requirements

5.2.1. Tools

- Fine-tooth hand saw, power saw or hand or table circular saw.
- Drill.
- Nail gun.
- Hole saw and speed bits.
- Moisture meter (where exposed to moist conditions).

5.2.2. Other products

- Tapes: LSOP Compatible flashing tape
- Flexible building wrap: LOSP compatible
- Fixings;
  - 50 x 2.87 mm angular groove gun nails - Stainless and or Galvanised as per zone requirements
  - Gib® grabber® 32 mm x 6 g screws
  - M12 hold down bolts
  - GIB® Handibrac®

5.3. Confirm scope

Ensure the project falls within the allowed scope and limitations for the intended use, in particular the structural framing support.

5.4. Check building and substrates

- Ensure that the timber framing, to which the OSB barrier is to be fixed has an 18 % MC or less.
- Ensure framing is minimum gauge 90 x 45 mm, or 0.55 mm where light gauge steel framing is used.
- Where used as a wall bracing, ensure studs are plumb, true and spaced correctly.

5.5. Cutting & drilling panels

Panels may be cut and drilled with common hand tools or machining tools. Ensure that the blade is sharp; hard metal edges are more suitable.

Where using a circular saw ensure setting is as low as possible. The feeding rate should be slightly lower than for solid timber.

Fix the boards to minimise movement through movement.

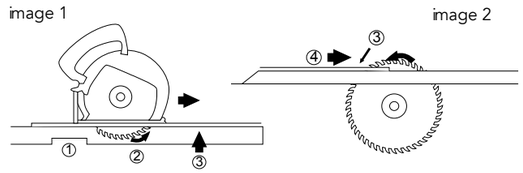


image 1. hand-held circular saw cutting:
image 2. table circular saw:

1. saw support
2. the direction of rotation of the saw blade
3. upper or decorated face
4. the shift direction of boards (feed)

5.6. Confirm scope

5.6.1. General installation requirements

All panels must be installed with the sheet edges fixed over solid framing.

Ensure nails are finished flush with the panel surface. Adjust gun setting to suit.

Panels are to be fixed as follows:

- 50 x 2.87 mm angular groove gun nails,
- 150 mm centres around the panel perimeter,
- 300 mm centres within body of panel up to an including very high wind zone or 150 mm centres for Extra High wind zone locations,
- 2 – 3 mm expansion gap required between all panels.

5.6.2. Install Wall Bracing

Refer to plans and specifications for location and installation requirements.

5.6.3. Install Rigid Air barrier

Panels installed as per section 5.6.1.

The panels finish with the bottom edge extending a minimum of 20 mm below the bottom plate.

Cavity battens must be fixed at maximum 600 mm centres.

The installation of a flexible building wrap is installed in accordance with paragraph 9.1.7.1, E2/AS1.

Flashings & Penetrations: Installation of flashings and weatherproof tape are in accordance with Section 9 E2/AS1.

5.7. Finishing

The selected cladding should be installed and finished within the selected building wrap requirements.

6.0 MAINTENANCE

6.1. General maintenance requirements

Under normal conditions, OSB barrier will need no maintenance as long as

- the external cladding has been maintained or
- the internal decorative coating has been maintained.

7.0 TECHNICAL DETAILS

KRONOSPAN TRADING S.R.L.
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Tel.: +40 258 801 100 ▪ Fax: +40 258 801 199
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J1/ 903/ 2018 ▪ RO 11894313
Capital social subscris 676653,78 LEI

FIŞĂ TEHNICĂ / *TECHNICAL SHEET*

PLĂCI PORTANTE PENTRU UTILIZARE ÎN MEDIU UMED OSB3 Superfinish/
LOAD-BEARING BOARDS FOR USE IN HUMID CONDITIONS OSB3 Superfinish

No. Crt.	Property	Unit	Thickness range (mm)					*Test/ requirement* standard
			6 to 10	>10 to <18	18 to 25	>25 to 32	>32 to 40	
1	Rezistenţă la încovoiere - Sens longitudinal Bending strength - Longitudinal Direction	N / mm²	≥ 22	≥ 20	≥ 18	≥ 16	≥ 14	EN 310 EN 300
2	Rezistenţă la încovoiere - Sens transversal Bending strength - Transversal Direction	N/ mm²	≥ 11	≥ 10	≥ 9	≥ 8	≥ 7	EN 310 EN 300
3	Modul de elasticitate la încovoiere – longitudinal Modulus of elasticity in Bending – Longitudinal Direction	N/mm²	≥ 3500	≥ 3500	≥ 3500	≥ 3500	≥ 3500	EN 310 EN 300
4	Modul de elasticitate la încovoiere – transversal Modulus of elasticity in Bending – Transversal Direction	N/mm²	≥ 1400	≥ 1400	≥ 1400	≥ 1400	≥ 1400	EN 310 EN 300
5	Coeziune internă Internal Bond	N / mm²	≥ 0,34	≥ 0,32	≥ 0,30	≥ 0,29	≥ 0,26	EN 319 EN 300
6	Umflare în grosime 24 h Swelling in thickness –24 h	%	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	EN 317 EN 300
7	Toleranţă la dimensiuni nominale - grosime Thickness tolerances	mm	±0,8					EN 324-1 EN 300
8	Toleranţă la dimensiuni nominale - latime si lungime Length and width tolerance	mm	±3,0					EN 324-1 EN 300
9	Toleranţa a rectitudinii muchiilor Egde straightness tolerance	mm/m	+/- 1,5					EN 324-2 EN 300
10	Toleranţă a perpendicularităţii Squareness	mm/m	2,0					EN 324-2 EN 300
11	Umiditate Moisture content	%	2 to 12					EN 322 EN 300
12	Coeziune interna dupa incercare la apa fierbinte Internal bond after boil test	N/mm²	0,15	0,13	0,12	0,06	0,05	EN 1087-1 EN 300
13	Emisia de aldehidă formică Formaldehyde emission	mg/100g	≤ 2					EN 12460-5 *EN 300*

Consultaţi arhitectul sau proiectantul dumneavoastră în privinţa stabilirii solicitărilor şi utilizării în acord cu standardele naţionale sau conform codurilor de proiectare pe baza valorilor date mai sus. Contactaţi departamentul nostru tehnic pentru detalii.

Consult your design engineer to establish applicable loadings and spans according to local standards or design codes using the above values. Contact our technical department if you have the need for more detailed information.

Lab Manager,
.....

Societatea Comercială KRONOSPAN TRADING S.R.L. RO 11894313 J1/903/2018 2 Sebeş - Romania

Production Manager,
.....

FT 805 – Fişa tehnică OSB 3 Superfinish , Ediţia 1, Revizia 0 din 01 Noiembrie 2018, Elaborat SL, Aprobat DP

8.0 CODEMARK

CodeMark is a voluntary product certification scheme that provides an easy-to-understand and robust way to show a building product or building method meets the requirements of the New Zealand Building Code (the Building code).

CodeMark is suitable for any building product or method but is particularly beneficial to manufacturers and suppliers of products that are innovative, new to the market or would have serious consequences if they failed.

CodeMark certified products are 'deemed to comply' with the Building Code. Building consent authorities (BCAs) must accept a CodeMark certificate as evidence of compliance with the Building Code, provided the certificate is current and valid, and the product or method is used in accordance with the scope and limitations as defined on the certificate.

CodeMark

Certificate no: CMNZ70096
Version: 2
Original issue date: 24 March 2021
Version date: 04 August 2023

1. Certificate Holder Details

GLOBALBUILD.NZ

GlobalBuild.NZ
Interior Installations Limited
PO Box 36-150 Northcote, Auckland
0627 New Zealand
interior.install@xtra.co.nz
Ph: +64 2148 7007
www.globalbuild.nz

2. Product Certification Body

Bureau Veritas Australia Pty Ltd
11/500 Collins Street
Melbourne VIC 3000 Australia
product.certification@bureauveritas.com
Ph: 1800 855 190
www.bureauveritas.com.au

Complaints: The complaints process for this certificate can be found here:
www.bureauveritas.com.au/your-feedback

BUREAU VERITAS 1828

Product Certificate

Kronospan OSB Barrier

3. Description of Building Method or Product

Name of the product or method in Aotearoa New Zealand, including any brand names used. Description of what it is and the components that make up any system and its physical attributes including the materials and make-up of the product, where applicable. Matters that should be taken into account in the use or application of the building method or product can be found in item 6. Conditions and Limitations of Use. Continuation of description can be found in item 10 – Supporting Information about Description. [Delete if not applicable]. The building method's or building product's catalogue or model identification number or numbers or other unique identifiers that might be used to identify the building product or building method

Kronospan OSB Barrier is a 9mm untreated oriented strand board (OSB) panel product. Panels are available in sizes: 2400 x 1200mm, 2700 x 1200mm, 2440 x 1220mm and 2740 x 1220mm.

4. Intended use of Building Method or Product

Intended use of the building method or product as described in the product manual and other instructional materials. A statement of the function or purpose of the building method or product. Continuation of intended use can be found in item 11 – Supporting Information about Intended use. [Delete if not applicable]

For use as a protected external wall bracing element and as a rigid air barrier in conjunction with a ventilated cavity.

5. New Zealand Building Code Provisions

The performance clauses of the New Zealand Building Code that are relevant to the intended use and with which the building method or product complies or contributes to (where used as part of a system).
How the building method or product complies or contributes can be found in item 8. Basis for Certification. Any qualifications on the extent of that compliance can be found in item 6. Conditions and limitations of use.

B1 Structure: B1.3.1, B1.3.2, B 1.3.3 (a, f, h) B1.3.4
B2 Durability: B2.3.1(a)
E2 External moisture: E2.3.2 (contributes to), E2.3.5 (contributes to), E2.3.7
F2 Hazardous building materials: F2.3.1

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