EGGER OS'Brace / OS'Brace H2
PRODUCT TECHNICAL STATEMENT

NCC Volume Two – Class 1 and 10 Buildings

Material, product or form of construction	*Egger OS'Brace / OS'Brace H2*
Issued by (company)	*EGGER Australia Pty Ltd*
Reference number	*Rev. 00*
Version and date of issue	*October 2021*

PRODUCT DESCRIPTION

EGGER OS'Brace and OS'Brace H2 OSB/3 are moisture-resistant, 6 or 8 mm thick structural wood panels consisting of three layers of wood strands bonded with heat-cured adhesives. The bonding is either made with Polymeric methyl diphenyl diisocyanate (PMDI) – complying with emission class E0/ no added formaldehyde (NAF) or Melamine-Urea-Formaldehyde (MUF) – complying with emission class E1. Each layer is orientated at right angles to the adjacent layer creating a strong, dimensionally stable panel that resists delamination and warping. EGGER OS'Brace is used to resist racking and uplift forces in lightweight timber-framed buildings.

APPLICATION AND INTENDED USE

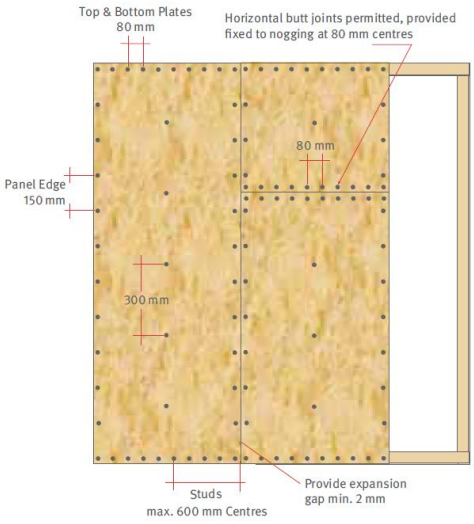
Racking Resistance

EGGER OS'Brace 6 mm or 8 mm structural wood panel, when fixed to 2.7 m high, timber wall framing (based on Joint group JD5) provides a bracing system with defined racking resistance. EGGER OS'Brace system has four systems with varying racking resistance, as described below.

- Type 1 panels: 80/150/300 – without tie-down rods: minimum racking resistance of 3.4 kN/m

Type #1 | System 3.4 kN/m

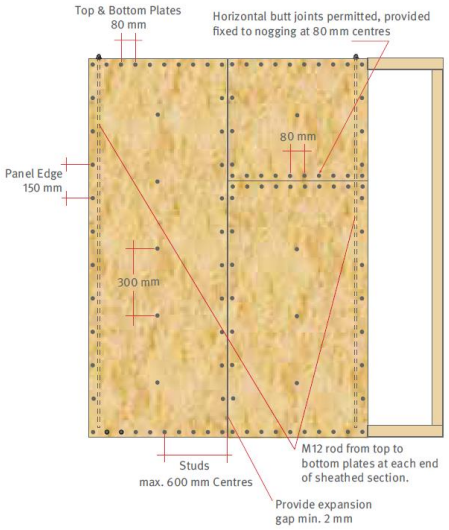
- Fastener centres
  80 mm for top and bottom plates
  150 mm for vertical edges
  300 mm for intermediate studs
- Minimum section of bracing of 900 mm
- 2 mm expansion gap around perimeter of every panel
- For panel width of 600 mm bracing capacity shall be half of that for 900 mm
- For panel length between 600 mm and 900 mm, the bracing capacity can be calculated by multiplying the respective capacities by 0.5 for 600 mm long varying linearly to 1.0 for 900 mm.



- Type 2 panels: 80/150/300 – with M12 tie-down rods: minimum racking resistance of 5.6 kN/m

Type #2 | System 5.6 kN/m

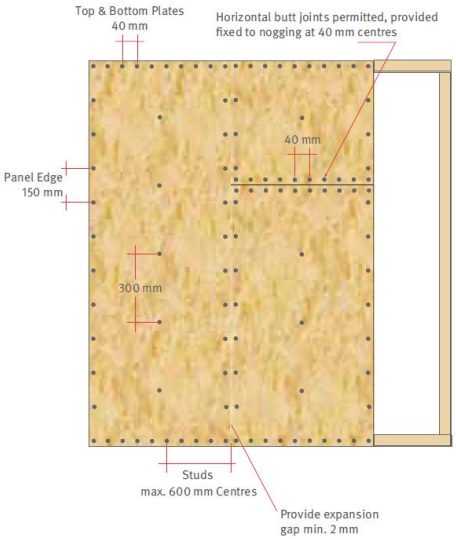
- Fastener centres
  80 mm for top and bottom plates
  150 mm for vertical edges
  300 mm for intermediate studs
  M 12 rod at ends of sheathed section
- Minimum section of bracing of 900 mm
- 2 mm expansion gap around perimeter of every panel



- Type 3 panels: 40/150/300 – without tie-down rods: minimum racking resistance of 6.0 kN/m

Type #3 | System 6.0 kN/m

- Fastener centres
  40 mm for top and bottom plates
  150 mm for vertical edges
  300 mm for intermediate studs
- Minimum section of bracing of 900 mm
- 2 mm expansion gap around perimeter of every panel

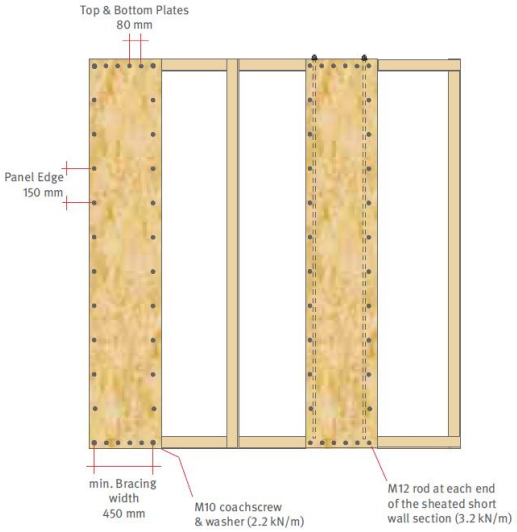


- Type 4 panels: 80/150/ — – with M10 coach screws: minimum racking resistance of 2.2 kN/m

Type #4 | Short wall bracing | System 2.2 kN/m

- 80 mm for top and bottom plates
  150 mm for vertical edges
  M 10 × 70 mm coach screws with
  50 × 50 × 3 mm washers in each corner of each sheathed, short wall section
- Minimum section of bracing of 450 mm
- 2 mm expansion gap around perimeter of every panel

Where the coach screws in the corners of the panels are replaced by a M12 rod at each end of the sheathed, short wall section, the bracing resistance of the Type #4 wall bracing system can be increased to 3.2 kN/m.



Uplift Resistance

EGGER OS'Brace 6 mm structural wood panel, when fixed to timber wall framing (based on Joint group JD5), provides an uplift resistance. Uplift resistance capacity varies due to rafter/truss spacing and fastener spacing to top and bottom plate, as per the following Table.

EGGER OS'Brace 6 mm Uplift Resistance

Maximum Spacing of truss or rafter (mm)	Fastener spacing (mm) Top and Bottom plate	Allowable Uplift Resistance (kN/ truss or rafter)
900	80	7.5
900	40	8.5
600	80	5.0
600	40	5.6

Condition

EGGER OS'Brace is suitable for use as a bracing wall system or uplift resistance in framing for commercial, industrial, and other similar structures, used in structural applications above the ground, and in fully protected from direct weather, and specifically AS/NZS 4364 or EN 13986 adhesive Service Class 1 (interior) and 2 (exterior but protected) environments. EGGER OS'Brace must be installed as part of a complete envelope or roof design with adequate protection from the elements and consideration of long-term moisture control.

The in-service moisture content cannot exceed 20 %.

Installation of EGGER OS'Brace must be in accordance with the brochure EGGER OS'Brace The trusted bracing panel – see OS'Brace® / OS'Brace® H2 Blue | EGGER .

Limitations of Use

Frame Material Limits

- EGGER OS'Brace racking resistance capacity cannot be used with steel framing or existing framed elements.
- Stud spacing maximum of 600 mm centres.
- Studs racking and uplift resistance are based on Joint Group JD5. Where JD4 timber frames are used, the racking capacity may be increased by 10 %.

Wall height interpolation

EGGER OS'Brace panel capacity is based on a wall height of 2.7 m. For higher walls heights, the racking capacities of EGGER OS'Brace are to be proportioned in line with the wall height, i.e. for 3.3 m wall height 2.7/3.3 = 0.82 x racking resistance.

EGGER OS'Brace Minimum Fasteners

The following fasteners are the minimum size that can be used.

Hand Driven Nails	Power Driven Nails	Power Driven Staples
2.8 mm dia. × 30 mm flathead structural clouts or connector nails	Senco TN22-38 APB, 2.33 mm dia. × 38 mm flathead	Senco N167 BAB, wire dia. 1.53 mm, crown width 10.5 mm
–	Bostitch AC 45P-250-GW, 2.5 mm dia. × 38 mm flathead	Bostitch BCS 4-1232 wire dia. 1.55, crown width 12 mm
–	Jambro B20998, 2.8 mm dia. × 32 mm, zinc plate barb	Jambro A10617 G5562-38 mm wire dia. 1.53 mm, crown width 10.5 mm
–	Duo-Fast C27.32GDTN22-38 APB, 2.7 mm dia. × 32 mm dia. galvanised	–

All fasteners are to be galvanised.

Fasteners edge distance along the top and bottom plates and edge of studs is a minimum of 15 mm and 8 mm when fixed to the internal frame within the panel. Where staples are used, the spacing distance is to be reduced by 2/3 of that required for nails.

Holes through EGGER OS'Brace
A hole through EGGER OS'Brace is to be a maximum of 100 x 100 mm within an envelope of 100 mm from the top and vertical edge and 200 mm from the bottom edge of the panel. Multiple holes are permitted as long as the holes are no closer than 600 mm apart.

Anchoring of Top Plate
Anchoring of top plate shall be in accordance with AS 1684 Table 8.22 or engineered design to AS 1720.1.

Anchoring of Bottom Plate
Anchoring of bottom plate shall be in accordance with AS 1684 Table 8.23 and 8.24 or engineered design to AS 1720.1.

EGGER OS'Bracing Capacity on both sides of wall framing
Where EGGER OS'Bracing Capacity is installed on both sides of the wall frame, the racking capacity can be double; however, the tie-down capacity must also be doubled.

Brick ties
Where used in brick veneer construction, brick ties must be faced-fixed type complying with AS 2699 and nailed through EGGER OS'Brace into the stud behind.

Noggings
EGGER OS'Brace requires noggings at the following wall heights

Wall height = 2,440 mm – 2 noggings
= 2,745 mm – 2 noggings
= 3,050 mm – 3 noggings

EGGER OS'Brace to be fixed to noggings at a maximum of 150 mm centre.

Floor Prone Areas
EGGER OS'Brace must be used above the flood hazard level for sites designated to be Flood Hazard Area.

Storage, Handling and Acclimatisation
Refer to EGGER OS'Brace The trusted bracing panel, EGGER, for information on storage, handling and acclimatisation.

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE

National Construction Code – Building Code of Australia – Volume 2 Class 1 and 10 Buildings

Part B1 - Structural Provisions

NCC Volume One Reference	Basis of Compliance	Evidence References
Part 2.1 Structural Provisions The performance requirements of P2.1.1 are met via compliance with NCC Volume 2 Section 3.0.2 to 3.0.5 and Parts of Section 3 of the Housing Provisions, as described below.		
B1.1 Resistance to action:	It is achieved through compliance with BCA B1.0 Deemed-to-Satisfy Provisions B1.2 and B1.4.	
3.0.4 Determination of structural resistance of materials and forms of construction:		

(c) Termite Risk management Part 3.1	EGGER OS'Brace H2 complies with Termite Management System (i) by either • Used as a Primary building element without a termite management system installed. – EGGER OS'Brace incorporates H2 termite protection and complies with (i) (1) (F) Preservative treated in accordance with Appendix D of AS 3660.1, or • They are used in a situation that is above an installed Termite Management System, and the Termite Management System installed in accordance with AS 3660.1.	TPAA brand certificates Mill Wismar (DE) 527 70 H2 Mill Radauti (RO) 927 70 H2 AS 3660.1 AS 1604.1
(h) Timber construction Part 3.4:	6 or 8 mm EGGER OS'Brace complies with AS 1720.1, AS 1684.2, AS 1684.3 and AS 1684.4, as follows. • **AS 1720.1:** EGGER OS'Brace structural resistance has been determined by testing: - • Testing and Certification of Short Panel 6 mm OS'Brace – Tension Uplift and Horizontal Racking Resistance, accessUTS Pty Ltd, and • Fully sheathes and short wall racking test results in EGGER 6 mm OS'Brace candidates for EGGER Holzwerktoffe Wisma (EHW), McDowall, 2006, University of Central Queensland. And certification by a professional structural engineer - Professor Keith Crews, Centre for the Built Infrastructure Research, University of Technology Sydney, 2009 • **AS 1684.2, AS 1684.3 and AS 1684.4:** 6 mm EGGER OS'Brace can be used with AS 1684 Parts 2, 3 and 4, as their capacity has been determined by testing and certified by a professional structural engineer, as detailed above.	AS 3660.1 Testing and Certification of Short Panel 6 mm OS'Brace – Tension Uplift and Horizontal Racking Resistance, accessUTS Pty Ltd Fully sheathes and short wall racking test results in EGGER 6 mm OS'Brace candidates for EGGER Holzwerktoffe Wisma (EHW), McDowall, 2006, University of Central Queensland. 6 mm EGGER OS'Brace Structural Sheet Bracing Panels, Manufactured as EUROSTAND OSB/3 by EGGER Holzwerkstoff Wismar GmbH & Co. KG, Certificate of Structural Adequacy, Centre for the Built Infrastructure Research, University of Technology Sydney, 2009. Comparison nail shear testing for EGGER OSB/3 panels, thickness 6mm and

		8mm, for evaluation of 8mm to be used in EGGER Bracing systems #1 to #4, Centre for the Built Infrastructure Research, University of Technology Sydney, 2012
	Queensland State Variation For Queensland, EGGER OS'Brace meets the requirements of Schedule A, B or C of Book 2 - Construction timbers in Queensland Book 1 and 2 for Imported Softwood in a protected environment.	Construction timbers in Queensland Book 1 and 2
3.0.5 Structural software	Not applicable.	
Part 2.1 Structure P2.1.2 Building in flood areas The performance requirements of Part 2.1 Structure P2.1.2 are met via compliance with the Acceptable Construction Practice provisions as detailed below.		
P2.1.2 Construction of buildings in flood hazard areas:	EGGER OS'Brace must be used above the flood hazard level.	

Environmental	
Environmental Product Declaration An EPD has been completed for the EGGER OSB board in accordance with EN 15804 and ISO 14025.	Environmental Product Declaration EPD-EGG-20180107-IBD1-EN Institut Bauen und Umwelt e.V. (IBU), Germany
Formaldehyde Emissions Rate Formaldehyde release in accordance with DIN EN 717-1 EGGER OS'Brace / OS'Brace H2 acc. to recipe 738, 736 – (PMDI-bonded) <0.03 ppm EGGER OS'Brace / OS'Brace H2 acc. to recipe 739, 731 – (MUF-bonded) ≤ 0.10 (E1 < 0.1 ppm)	OSB mill Wismar (DE): Test Report by EPH Dresden TR no. 2118074/E1-2020/OSB-7/2020 OSB mill Radauti (RO): Test Report by EPH Dresden Test Certificate no. 2021-08-17-02
Forestry Certification Forest Stewardship Council® (FSC®) Programme for the Endorsement of Forest Certification Schemes (PEFC)	FSC® C017963 certificate codes SGSCH-COC-110039 SGSCH-CW-110039 PEFC/06-38-171 Certificate code CH17/0386.00

Chain of Custody Wood purchase EGGER. EGGER wood purchase - Chain of Custody certification according to EN ISO 38200	EN ISO 38200 Certificate code CH19/0735
Quality Assurance: EGGER is certified according to ISO 9001:2015 and ISO 14001:	Quality Austria (AT) ISO 9001:2015 Reg.no. 00184/0 ISO 14001:2015 **Reg.no. 01128/0**
Product Support EGGER Australia Pty Ltd PO Box 697 Carlton South 3053, Victoria, Australia Email: australia@EGGER.com	
Referenced Documents **EGGER Australia** EGGER OS'Brace – The trusted bracing panel. **Queensland, Department of Agriculture and Fisheries** Construction timbers in Queensland. Book 1 and Book 2: Properties and specifications for satisfactory performance of construction timbers in Queensland. Class 1 and Class 10 buildings (houses, carports, garages, greenhouses and sheds) **Standards Australia** AS 1684.2, Residential timber-framed construction Non-cyclonic areas AS 1684.3, Residential timber-framed construction Cyclonic areas AS 1684.4, Residential timber-framed construction Simplified - Non-Cyclonic Areas AS 1720.1, Timber structures Design methods AS 2699, Built-in components for masonry construction Wall ties AS 3660.1, Termite management New building work **Standards Australia and New Zealand Standards** AS/NZS 4364, Timber - Bond performance of structural adhesives	
Declaration EGGER Australia Pty Ltd hereby confirms that all information contained within this document is correct and up to date. This document has been reviewed internally and by an independent third party.	
External Reviewer: Timber Development Association **Date: September 2021**	