

Tuffply **Bracing**



Plywood Bracing



IPL Tuffply Bracing

IPL Tuffply Bracing is manufactured on the West Coast of New Zealand's South Island.

IPL plywood offers unsurpassed quality backed by a third party audited quality assurance programme.

Benefits of IPL Tuffply Bracing

- Proven performance and strength
- Guaranteed quality via EWPAAs Product Certification Scheme
- Site damage resistance (cross laminated construction)
- Bonded with durable 'marine' A bond
- Easy and light to handle
- Simple installation (gun nail to within 7mm of edges)
- High strength and stiffness in relatively short panels
- Braces building frame during construction period
- Economical and eco friendly
- Super EO - less than 0.3mg/l AS/NZ Standard formaldehyde emissions
- Use in conjunction with GIB board

Environmentally Sustainable

All veneer used in IPL Tuffply Bracing is from renewable, plantation-grown Pinus Radiata New Zealand plantations and is available FSC (Forestry Stewardship Council) certified on request.



There are many sound reasons to choose IPL Tuffply Bracing

Building frames require bracing structurally able to resist imposed horizontal forces (racking forces) resulting from earthquakes or high winds during the building life. Nailed IPL Tuffply Bracing is a safe and reliable means of providing bracing for light timber framed buildings.

Nail fixed Tuffply structural plywood panels have tested stiffness, plus energy absorption to meet the earthquake and wind loads required by the Standards.

IPL Tuffply Bracing is 7mm thick 3 ply structural plywood made up of three layers of Pinus Radiata veneer permanently bonded together making it suitable for use on timber framed buildings designed and constructed in accordance with NZS 3604:2011.



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Design Information

Structure

Framing that complies with NZS 3604:2011 will meet the requirements of the Building Code. Studs are at a maximum of 600mm centre - dwangs are not necessary for effective bracing but may be used.

As 7mm IPL Tuffply Bracing is structural plywood manufactured to AS/NZ 2269:2012, it is suitable for design of earthquake and wind bracing for timber framed buildings in accordance with design codes NZS 3603 and AS/NZ 1170. This has been confirmed by EWPA sponsored testing.

Durability

As IPL Tuffply Bracing is an integral part of the building structure it must be durable in each application i.e. have at least 50 years durability rating. In interior dry applications (i.e. 18% moisture content or less) untreated IPL Tuffply Bracing is acceptable for use.

However, in applications where IPL Tuffply Bracing may be subject to wetting, dampness or condensation (basically where the moisture content may exceed 18% for prolonged periods) IPL Tuffply Bracing must be preservative treated to at least H3.2 hazard rating and fixed with non-corrosive fasteners (i.e. stainless steel or silicone bronze).

Exposure during construction

IPL Tuffply Bracing will withstand rain exposure for at least 3 months. The possible wetting may cause slight buckling of panels but generally, after drying, there is close to full recovery.

Elements using BRANZ P21 test as per NZ23604:2011. The below values can be used with any IPL plywood stamped with AD, SD, CD, DD grade that are a minimum of 7mm thickness.

Bracing Ratings for IPL Plywood Bracing

Type	Lining	Min Length (mm)	Wind (BUs/m)	Earthquake (BUs/m)
TP1	7mm Tuffply one side	600	110	125
TP2	7mm Tuffply two sides	600	140	155
TP3	7mm Tuffply one side 10mm GIB® Standard Plasterboard other	400	98	112
TP4	7mm Tuffply one side 10mm GIB® Standard Plasterboard other	1200	169	156

BRANZ P21 test carried out in Winstone Wallboard Laboratory Auckland.

Installation, Sheet Fasteners and Connections

IPL Tuffply Bracing is to be installed and fixed as per the building design. As plywood dimensions can vary with changes in ambient humidity and wetting during construction it is recommended to allow expansion gaps between adjacent panel edges of at least 2mm.

The minimum fastener requirement in New Zealand is 50mm x 2.8mm dia hot dip galvanised structural clouts.

Treated IPL Tuffply Bracing must be fixed with non corrosive fasteners - a minimum of 50mm x 2.8mm dia stainless steel annular grooved flat head nails or hot dipped galvanised.

Refer to GIB HandiBrac® installation instructions for correct installation of galvanised steel angle brackets and bolt types to be used for concrete and timber floors.

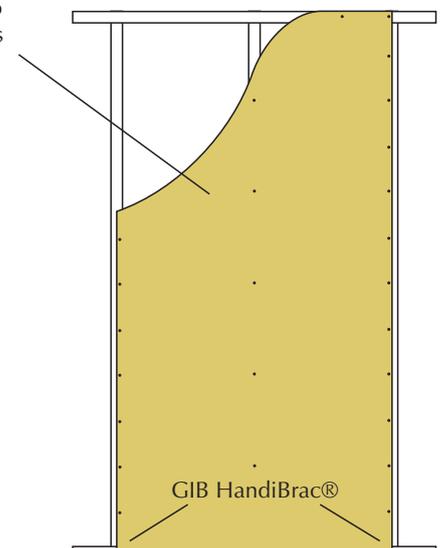
Please note that IPL Tuffply Bracing is not to be installed in contact with the ground.

Compliance with Standards

IPL Tuffply Bracing is manufactured in accordance with AS/NZ 2269. The panels are to be installed in accordance with the building design code.

The Engineered Wood Products Association of Australasia (EWPA or PAA) audits our production processes to ensure we meet the requirements of the product Standard. This third party audited, process based, quality assurance scheme meets the requirements of an ISO Type 5 system for production certificate. The EWPA is an accredited body to JAS - ANZ under registration No. Z1460695AB.

7mm Tuffply fixed with 50 x 2.8mm flat head nails at 150mm centres around perimeter at no less than 7mm from sheet edge. 300mm centres to intermediate studs



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CCA wood preservative

Recently certain New Zealand media has questioned the health and safety aspects of using CCA as a wood treatment. CCA (Chromated Copper Arsenate) preservative has been used in New Zealand for over 50 years and has proved to be the most reliable and cost effective form of timber preservation.

The New Zealand Environmental Risk Management Authority (ERMA) reviewed CCA and the risk of health-related issues in 2003, commissioning Dr Deborah Read, a public health physician, to prepare a report, which was subsequently peer-reviewed by a number of health professionals (Read 2003). In the report, Dr Read stated:

"There are no epidemiological studies or human case reports involving disease related to direct contact with CCA-treated wood, and the low level exposures that most of the general population will experience from contact with CCA-treated wood are extremely unlikely to result in acute health effects. CCA-treated wood has also been in use for many years without discernible adverse health effects suggesting that if there is a true risk it is very small."

A second review was done by Dr. Bruce Graham (2009) continuing to support the stance by ERMA, NZ in response to the Read report.

"Background exposures to arsenic from food and water sources are significantly higher than from estimated exposure to CCA timber. The combined intake of arsenic from all these sources falls well below the World Health Authority tolerable daily intake for arsenic."

Temple and Di Marco (2003)

IPL offers ACQ preservative as an alternative to CCA

ACQ (Alkaline Copper Quaternary) is a water-based preservative system developed in the USA.

The formulation contains copper oxide which is the primary fungicide and insecticide and a quaternary ammonium compound which provides additional fungicide and insect resistance properties.

For further information and pricing contact IPL.

Product Details

Thickness and Tolerance

IPL Tuffply Bracing is 7mm in thickness +/- 7%.

Sheet Size

2400mm x 1200mm. The dimension tolerance for untreated plywood is +/- 1.5mm.

There may be some variation from these parameters on CCA treated plywood because during the treatment process the sheet expands and contracts during drying.

Stress Grading

IPL Tuffply Bracing plywood is rated at F8.

Bonding

All IPL construction plywood is bonded with phenol formaldehyde resin (dark red in colour). This results in a permanent bond which after manufacture will not part. This is the same bonding material used in Marine type plywood.

Formaldehyde emissions in IPL plywood are very low and rated as Super EO - less than 0.3mg/l AS/NZ Standard 2098:11.

Branding

Back of all sheets marked:

DD	The back of all sheets marked with sheet face and grade
IPL	Company name
A bond	Bond type
F8	Stress grade
AS/NZ 2269	Structural Plywood Standard
914	Engineered Wood Products Association mill number
7-24-3	Construction code



INTERNATIONAL PANEL & LUMBER (WEST COAST) LTD
3 Trickies Road, Greymouth, New Zealand, PO Box 179
Telephone 03-762 6759, Facsimile 03-762 6789,
Freephone 0800 650 801, Freefax 0800 650 802, Email tuffply@xtra.co.nz