

IPL Plywood

product information



IPL Plywood Products

IPL plywood is manufactured in Greymouth on the West Coast of New Zealand and is well known for producing products to the highest standards.

All veneer used in IPL plywood is produced from renewable plantation grown Pinus Radiata and products comply with relevant standards to meet New Zealand Building Codes.



Bracing

IPL Tuffply Bracing has proven strength and performance. It's durable, easy and light to handle, economical and eco-friendly with a Super E0 rating.

See separate brochure for details.



Decorative Panelling

IPL EliteLine panelling for interior linings and protected exterior applications. Has the appearance of traditional tongue and groove timber lining.

See separate brochure for details.



Exterior Cladding

IPL AlpineClad combines the beauty of real wood with structural strength and light weight. Available grooved and ungrooved. For commercial and residential applications.

See separate brochure for details.



Flooring

IPL Tuffply Flooring is proven tough, strong and stable. Light and easy to handle. Eco-friendly with Super E0 rating. Available in 6 thicknesses.

See separate brochure for details.



Formwork Panels

IPL Formply is for specialist concrete forming. The only NZ manufacturer of this product. Gives a superior finish. Formply can be used repeatedly for greater cost effectiveness.

See separate brochure for details.



Marine Plywood

IPL does not make marine plywood. IPL plywood is marine bonded and when H3 treated is more durable than marine plywood which gives no rot protection.



Sign Plywood Panels

IPL SignPly is a specialist product made for the sign industry. IPL is the only NZ manufacturer of this product with over 35 years successful use.

See separate brochure for details.

Bending

IPL Plywood structural bending performance

Thickness (mm)	7	9	12	15	17	22
Curve radius along face (m)	1.6	2.0	4.5	5.0	6.0	8.0
Curve radius across face (m)	0.6	1.7	2.2	3.0	4.5	6.0

To achieve these bending performances fastening to be at 150mm centres on all frames and fastenings to be as prescribed in Fixing section.

Bonding

All IPL construction plywood is bonded with phenolic based resins (dark red in colour). These give a permanent bond which once made will not part and is the same bonding material as used in Marine type plywood.

Formaldehyde emissions in IPL plywood are rated at "E Super 0" between .00 and .003 parts per million (ppm) which is well below acceptable international standards of 1ppm.

Chemical Resistance

Plywood is relatively unaffected by moderately acidic and alkaline conditions between pH2 and pH10 within normal atmospheric temperature ranges.

Early Fire Hazard Properties

All IPL plywood made to AS/NZS 2269 has been tested in accordance with ISO 5660, for heat release, smoke production and mass loss rate. Tested by the Australian Wool Testing Authority (AWTA). All IPL plywood comes under Group 3.

Face Checking of Plywood

Face checking is the fine splits that run in the direction of the grain and can be seen in varying degrees on plywood that has been exposed to weathering. These are the result of expansion and contraction when exposed to weathering.

FSC (Forestry Stewardship Council) Certification

IPL plywood is available with FSC certification on request.



Fixing

The general rule for nailing or screwing is to fix at 150mm centres around the perimeter of the sheet and at 200mm through the middle of the sheet and placed no closer than 10mm from edge of sheet.

When using H3.2 treated plywood use stainless type 316 fixings to ensure minimum 50 year durability. In decorative situations use panel pins in conjunction with glue.

Nail and screw fixing in mm				
Plywood thickness	Fixing to timber		Fixing to steel	
	Flat-head galv nails	Screws	Steel less than 2mm	Steel over 2mm
	L x T	G x L	Gauge, Thread, Length	
7	30x2.5	8x30	10-16-45	10-16-45
9	40x2.5	8x30	10-16-45	10-16-45
12	40x2.8	8x40	10-16-45	14-20-45
15	50x2.8	8x45	10-16-45	14-20-45
17	60x2.8	8x50	10-16-45	14-20-45
19	60x2.8	8x50	10-16-45	14-20-45
21/22	60x2.8	10x50	10-16-45	14-20-45
25	75x3.15	10x50	10-16-45	14-20-45

Gaps for Expansion

Plywood dimensions can vary with changes in ambient humidity therefore it is necessary to allow expansion gaps between sheets of 2mm around edges. For a change in moisture content between 6-16 % the dimensional change both across and along a 2.400 x 1.200 panel can be between 1.3mm and 2.3mm.

If above 18% little or no expansion will occur.

Grading and Usage

A Grade - Clear wood grain with only extremely minor filled splits. Suitable for clear finishing.

S Grade - Shows attractive wood character finish with minor filled splits and small filled holes that are filled to blend in to give attractive appearance. Used on EliteLine and AlpineClad and products requiring two good faces (SS grade) used in furniture or shop fit outs. Can use clear finishes or paints.

C Grade - Can have wide range of face finishes from the relatively clean finish to filled knots and splits. Faces are sanded smooth and solid but could have minor "rough grain" around areas of disturbed wood grain. Could be used where the natural knotty features are preferred in which case they could be clear finished or painted. More often used for flooring, roofing membrane underlay, forming work, truck and trailer decks etc.

D Grade - Has non-appearance face and can have open defects. Usually used for strength values, bracing, sarking, packaging etc. Most sheets used have a D back, as it has no visual qualities.

Identification

Pack corner marking

A grade	No marking
S grade	No marking
SS grade	No marking
C grade	Blue line on alternate corner
D grade	Green line on alternate corner

Back of sheet marking

All sheets marked with sheet face and back grade eg CD	
Company name	IPL
Glue Type	A bond
Structural Grade	eg F8
Structural Plywood Standard	AS/NZS 2269
Plywood Association mill no	914

Plys

Plywoods have different numbers and thicknesses of veneers.

mm		mm	
4	3 ply	17	7 ply
7	3 ply sometimes 5 ply	22	9 ply
9	3 ply sometimes 5 ply	22	9 ply
12	5 ply	25	9 ply
15	5 ply	32	11 ply

Sheet size

2.4m x 1.2m

Tolerance for untreated plywood can be +/- 1.5%

2.44m x 1.22m can be produced on request.

There may be some variation from these parameters on CCA treated plywood because during the treatment process the sheet expands and contracts during drying but the sheet always returns to the original size.

Sound Transmission

Plywood can absorb and reduce sound transmission.

Sound Insulation Properties of Plywood			
Usage	Thickness mm	Sound Transmission loss	Units
Single sheet	6.3	22.4	Decibels
Fixed both sides of 100x50mm studs	6.3	31.3	Decibels
*from the American Plywood Association Publication "Plywood for Industry"			

Sound Absorption Properties of Plywood		
Usage	Frequency (hertz)	Absorption Factor
6.3 plywood both sides fixed on 100x50 studs	128 258	.31

Standards

IPL plywood is made to AS/NZS 2269 "Construction Plywood" and in doing so can be used on all structures built to meet NZ Building Codes.

The Engineered Wood Products Association of Australasia audits our production processes to ensure we meet the requirements of the standard. This process meets the requirements of an ISO Type 5 system for production certificate.

The PAA is an accredited body to JAS - ANZ under registration No Z1460695AB.

Stress Grading

IPL construction plywood (tuffply) is rated at F8.

Thermal Qualities

Thermal Properties of Plywood				
Property	Thickness (mm)	Density (kg/m ³)	Value	Units of measure
Thermal Resistance R	4	550	0.02	Per m ²
	7		0.05	
	9		0.07	
	12		0.09	
Thermal conductivity k			0.13	w/m°C
* from NZS4214:1977				

Plywood will aid with insulating based on above figures. There is very little effect on plywood when used in temperatures below 93°C, and any strength loss due to heat is recovered when temperature is reduced. Most floor heating systems do not operate above 37°C so therefore plywood can be used in these situations.

Thicknesses and Tolerances

IPL makes the following thicknesses

4, 7, 9, 12, 15, 17, 22, 25 & 32mm

Tolerances are as per AS/NZS

3 - 7.5mm +/- 7%

7.5 - 17.5mm +/- 4%

17.5 - 25mm +/- 3%

Timber Species

IPL plywood is made from plantation grown Pinus Radiata and is a renewable resource. Generally this species is milled on a thirty year cycle.

Treatment

Standard plywood is not treated and not intended for applications where it is exposed to weather but will last outside for up to three months under normal construction conditions. There may be some cracking of faces and some expansion. If wishing to preserve the original face qualities we would recommend that the sheet be covered or if this is not possible coating with a waterproofing substance will help.

H3.2 TAN CCA The majority of IPL plywood is treated with CCA (Chrome, Copper, Arsenate) water borne treatment with green appearance. The process involves drying of the plywood after treatment during which some very fine splits and fillet stick marks may become visible. When sheets are cut these edges should be re-treated with the likes of metalex treatment.

H3.2 ACQ IPL can on request provide ACQ (Ammonium, Copper Quadrate) water borne treatment. This treatment is applied to the veneer prior to bonding so the entire sheet is treated to the same level removing the need to re-treat as with cut edges on CCA treated ply. This treatment system is more acceptable in many countries on environmental grounds. ACQ treated ply should be fixed with stainless screws and nails because the higher copper content may increase the likelihood of corrosion.

H3.1 LOSP Clear treatment. Used on appearance plywood e.g. AlpineClad. To be used clear of the ground and must be coated with paint or stain.

H1 Treatment IPL can on request H1 treat

This is applied as a glue-line additive and a surface spray.

When using LOSP treated plywood in enclosed area make sure it is well ventilated when applied initially, to allow the excess fluid to evaporate from the sheets. Is not compatible with rubber membranes, fibreglass resins or some glues.

Treatment to comply with AS/NZS 1604.3.2002

If plywood is treated to H3 level it gives insect and rot protection when not in contact with ground but does not give protection from the effects of general weathering including UV light rays and expansion and contraction that takes place from wetting and drying. The best protection from these, as with any natural wood product is to give regular coating with recommended products. If not coated at the times recommended by the coating manufacturer the plywood will not separate at glue lines but over a long period the face will degrade.



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