ITI Timspec
Innovative Timber Ideas

EziPly Structural Ply

INSTALLATION & MAINTAINENCE GUIDE

CONTENTS

1. GENERAL

1.1. PURPOSE OF GUIDE

This guide provides advice on handling, installing and maintaining EziPly CD & DD Structural Ply, EziPly Tongue & Groove Flooring and EziPly Tongue & Groove Roofing (EziPly).

1.2. IMPORTANT DOCUMENTS

This guide must be read in conjunction with the:

- EziPly CD & DD Structural Ply pass™
- EziPly Structural Ply warranty.

1.3. SKILLS REQUIRED

To install one of the structural ply products, the installer must, at a minimum, be a competent DIYer.

Where one of the structural ply products has been specified by a designer, the designer shall have the appropriate skills, knowledge of the product and access to all relevant technical information (refer to www.ititimspec.co.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 license.

1.4. FOR MORE HELP

Technical assistance is available at info@ititimspec.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.ititimspec.co.nz.

2. STRUCTURAL PLY

2.1. DESCRIPTION

EziPly is manufactured to AS/NZS 2269[1] from FSC certified radiata pine. The veneers are glued with an exterior phenol-formaldehyde resin. The sheets are supplied with a clean face and with solid knots and minor filling.

Sheets are supplied untreated or treated to Hazard Class, H3. EziPly CD and DD Structural Ply

- length (mm) 2400, 2700
- width (mm) 1200
- thickness (mm) 7, 9, 12, 15,18.

EziPly Tongue and Groove Ply Flooring is available in a tongue and groove profile of:

- length (mm) 2400
- width (mm) 1200
- thickness (mm) 18.

EziPly Tongue and Groove Ply Roofing is available in a tongue and groove profile of:

- length (mm) 2700
- width (mm) 1200
- thickness (mm) 15.

ITI TIMSPEC supply EziPly Ply for use as:

- a wall bracing element
- floor or ceiling diaphragm
- flooring
- deck or roof substrate
- internal wall panelling
- ceiling and soffit linings or
- crafts, general construction and formwork.

EziPly CD Structural Ply is intended for use where appearance is important. EziPly DD Structural Ply is intended for uses where the appearance is not as important.

EziPly Tongue & Groove Ply Flooring EziPly Tongue & Groove Ply Roofing is intended for use as flooring or a deck or roof substrate.

2.2. SCOPE AND LIMITATIONS

For scope of use, limitations, conditions and statement of building code compliance, refer to the EziPly pass™.

1 Wherever a standard is referenced it should be taken to read as the standard year cited and modified by the applicable acceptable solution or verification method.

3. DESIGN

3.1. CONFIRM SCOPE

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

3.2. ESTABLISH SUBSTRATE SUITABILITY

Where used as a wall bracing element, ceiling diaphragm, flooring and deck or roof substrate the designer must ensure that the substrate to which the ply is to be fixed is suitable for the intended building work.

3.3. TREATED OR UNTREATED PLY

Ensure that where untreated ply is to be specified that it is in accordance with NZS 3602 Table 1, 2 and 3.

MORE INFO

Ref no.	Wood based building components	Type	Grade or standard ref	In service moisture range	Level of treatment AS/NZS 1604.3	NZS 3602 clause
1C.2	Plywood sheet bracing	Radiata pine	AS 2269	≤ 18 %	H1.2	108.4
1C.3	Interior flooring, suspended ground floors	Plywood	AS 2269	≤ 18 %	None or H3 if in wet area where maintenance of impervious coating cannot be assured	108.2
1D.1	Roof sarking & framing not protected from solar driven moisture through absorbent cladding materials	Plywood	AS 2269	≤ 20 %	H3	104.2
1D.4	Roof valley boards and boards supporting flashings or box gutters, Flashings to roof penetrations and upstands to decks	Plywood	AS 2269	≤ 20 %	H3	109.2
1D.9	Sheet material providing wall bracing	Plywood	AS 2269	≤ 20 %	H3	104.2
1E.6	Internal wall bracing	Plywood	AS 2269	≤ 18 %	None	104.4.2
1E.7	Interior flooring	Plywood	AS 2269	≤ 18 %	None or H3 if in wet area where maintenance of impervious coating cannot be assured	104.4.2
3.1, 3.2	All interior finishing Shelves	Plywood	AS 2269	≤ 16 %	None	112

3.4. STRUCTURAL PLY USES

3.4.1. Wall bracing element

Where used as a wall bracing element, the design and specification require the following:

Sheet size 2400 mm x 1200 mm x 7 mm thick only

- Framing 90 mm x 45 mm at 400 mm, 600 mm and 1200 mm
- H1.2 SG8 framing
- M12 bottom plate hold down
- GIB Handibrac® at brace ends.

Wall bracing calculation is based on 2400 mm sheet height. For greater heights refer to NZS 3604, clause 8.3.1.3 for adjustment.

The sheets:

- Are fixed on one face only
- Must be fixed vertically
- Must be nailed or screwed at 150 mm centres around the perimeter and be a minimum of 7 mm from the edge of each panel and 300 mm centres on the middle studs.

Fixings are as follows:

MORE INFO

- Fixings to be durable in accordance with Table 4.1 NZS 3604.
- Fixing sizes are 50 mm x 2.8 mm galvanised flathead clouts or 8 g x 30 mm, galvanised or stainless-steel screws.
- Nails must be fixed in the centre point of the studs. There is no need for nails or screws on nogs or dwangs.

Brace width (mm)	Thickness (mm)	Stud centres	BU/m (wind)	BU/m (EQ)	Hold-down method
600 mm	7.0	Studs at 600 mm centres, no nogs	79	86	M12 Hold down bolts to GIB HandiBrac® and to bottom plate
400 mm	7.0	Studs at 400 mm centres, no nogs	59	73	M12 Hold down bolts to GIB HandiBrac® and to bottom plate
1200 mm	7.0	Studs at 600 mm centres, no nogs	111	122	M12 Hold down bolts to GIB HandiBrac® and to bottom plate brackets

Note: BU/m value as limited by the ultimate load capacity

3.4.2. Ceiling Diaphragm

MORE INFO

Ensure EziPly ply is specified in accordance with section 13.5, NZS 3604 or specifically designed to NZS 3603:1993.

3.4.3. Flooring Diaphragm

MORE INFO

Ensure EziPly ply is specified in accordance with section 7.3, NZS 3604:2011 or specifically designed to NZS 3603:1993.

3.4.4. Roof & Deck substrate

MORE INFO

Where EziPly ply is to be used as a substrate under a membrane, ensure specification is in accordance with paragraph Fig. 8A and paragraphs 5.3 and 8.5.5.1 E2/AS1or E2/AS4.

MORE INFO

Where EziPly ply is to be used as a roof sarking, ensure specificationis to section 10.4.4, NZS 3604 or specifically designed.

3.4.5. Flooring

MORE INFO

Ensure specification is to paragraph 7.2.3.5, NZS 3604

3.5. OTHER USES

3.5.1. Internal lining

Where used as a non-structural wall lining, there are no specific requirements for fastening types or spacings. Where used as a structural internal wall lining element, plywood must be fixed in accordance with paragraph 3.4.1 of this guide.

For ceiling diaphragms refer to paragraph 3.4.2 of this guide.

3.5.2. Soffit lining

Ensure ply is specified in accordance with paragraph Fig. 8A and paragraph 5.3, E2/AS1 or E2/AS4.

MORE INFO

4. 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 sheets 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.

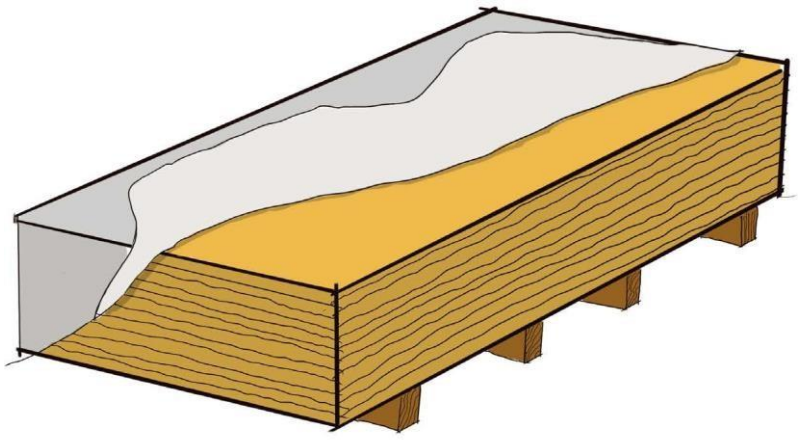
4.2. HANDLING & STORAGE

Take care when transporting, handling and storing EziPly ply to avoid damaging the sheets.

Unload sheets by hand and carry on edge. If unloading mechanically, ensure there is a minimum of two well-spaced supports or supported with a pallet to avoid excessive bending or sagging. A spreader bar may be needed when using a crane or hiab.

If stored on-site, stack sheets flat on a dry surface and at least 150 mm off the ground. Cover the sheets.

Ensure the area where the sheets are stored is dry, well-ventilated, out of direct sunlight and away from any heat source.



Storage

5. PRE-INSTALLATION

5.1. KEY DOCUMENTS

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

5.2. CONFIRM SCOPE

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

5.3. TOOLS & OTHER PRODUCT REQUIREMENTS

Use the following tools:

- fine-tooth hand saw or power saw
- jig saw
- plane
- drill
- pin gun
- sandpaper
- hole saw and speed bits
- moisture meter (where exposed to moist conditions).

Use the following products:

- adhesives (compatible with the specified treatment hazard class)
- fixings (refer to section 5.4)
- fillers.

5.4. FIXINGS & FASTENERS

Fixings are to be in accordance with the building consent or as described under the specific use: 50 mm x 2.8 mm F/H nails or 8 g x 30 mm screws for structural and general installations.

Note:

- Where the ply is treated all fasteners must be a minimum of hot-dipped galvanised, stainless steel or silicon bronze.
- Where the ply is untreated then fixings may also include zinc-plated finishing pins.
- Fixing material selection is to be in accordance with NZS 3604:2011, section 4.

5.5. CUT SHEETS

Cut sheets using a fine-tooth hand or power skill saw. Erase the edge using a plane or 120-150 grit sandpaper over a block.

5.6. PREDRILL PILOT HOLES

Where sheets are to be fixed with screws, predrill 2.0 mm pilot holes to prevent splitting the sheets edges. Drill the holes approximately 2-3 mm deeper than the screw depth. Do not overtighten screws as it will reduce their holding strength.

6. SPECIFIC USE INSTALLATION REQUIREMENTS

6.1. CHECK BUILDING AND SUBSTRATES

- Ensure that the timber framing, to which the structural ply is to be fixed, has a moisture content 8 18 %.
- For an internal lining, establish the building is fully weathertight.
- For a roof and deck substrate, ensure the joists and rafters are spaced correctly and the specified slope meets the applicable roof and deck cladding requirements.
- For wall bracing, ceiling or floor diaphragm, ensure studs are plumb, true and spaced correctly.

6.2. WALL BRACING

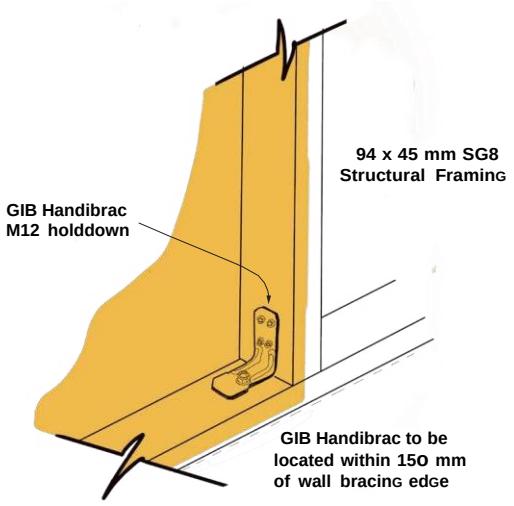
Refer to plans and specifications for bracing location and installation requirements.

Note:

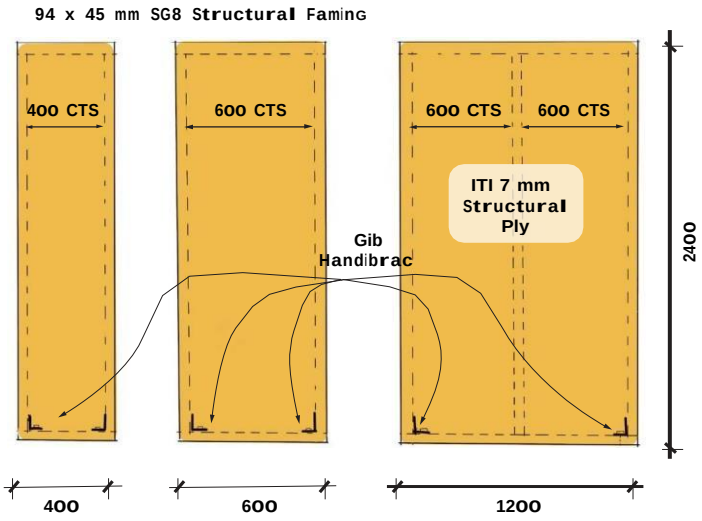
- sheets are fixed on one face only
- sheet height is 2400 mm unless specified by the designer
- sheets must be fixed vertically.

Sheets must be fixed

- with 50 x 2.8 mm galvanised steel nails or 8 g x 30 mm screws at 150 mm centres around the perimeter, a minimum of 7 mm from edge and 50 x 2.8 mm galvanised steel nails or 8 g x 30 mm screws at 300 mm centres to middle studs.
- with GIB HandiBrac® to each end. Ensure the GIB HandiBrac® is placed in the corner of each bracing sheet.
- so the embedment of fixings does not exceed the first veneer layer.



Bottom Plate Fixing



Bracing Design

6.3. CEILING DIAPHRAGM

Install in accordance with NZS 3604 (section 13.5) or as per the specific design documented in the building consent documentation. This includes the required lengths and widths of the diaphragm, the shape of the diaphragm, sheet sizes, battens and linings.

Sheets must be fixed

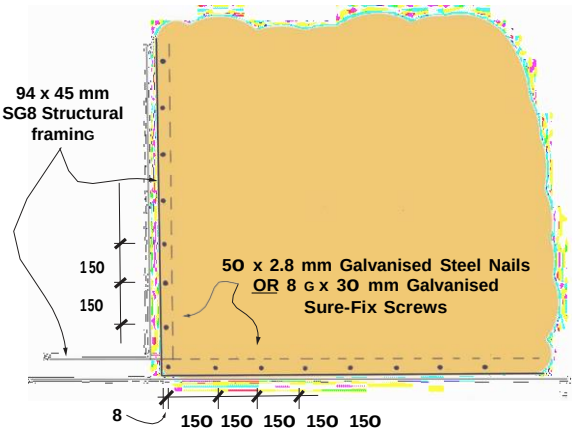
- with 50 x 2.8 mm galvanised steel nails or 8 g x 30 mm screws at 150 mm centres around the perimeter, a minimum of 7 mm from edge and 50 x 2.8 mm galvanised steel nails or 8 g x 30 mm screws at 300 mm centres to middle studs
- so the embedment of fixings does not exceed the first veneer layer.

6.4. FLOOR DIAPHRAGM

Install in accordance with NZS 3604 (section 7.3) or as per the specific design documented in the building consent documentation. This includes the required lengths and widths of the diaphragm, sheet sizes, supports and connections.

Sheets must be fixed

- with 50 x 2.8 mm galvanised steel nails at 150 mm centres around the perimeter, a minimum of 7 mm from edge and 50 x 2.8 mm galvanised steel nails at 300 mm centres to middle joists
- so the embedment of fixings does not exceed the first veneer layer.



Brace Sheet Fixing

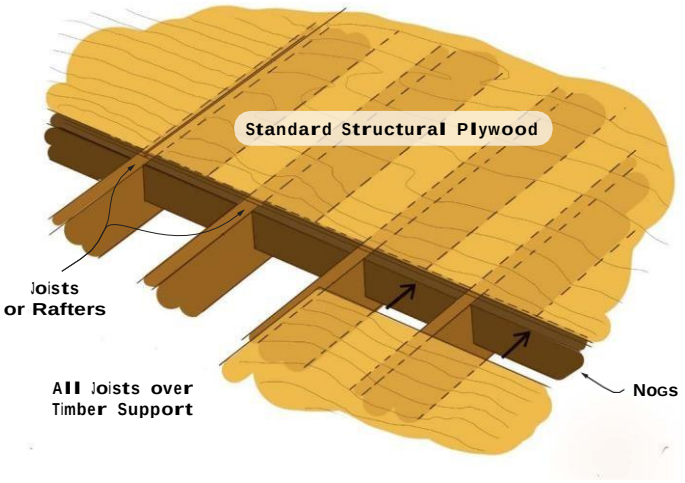
6.5. FLOORING

Install in accordance with Section 7.2.3.5 NZS 3604 or as per the specific design documented in the building consent documentation. Select the appropriate joist spacing and sheet thickness for the applicable floor load.

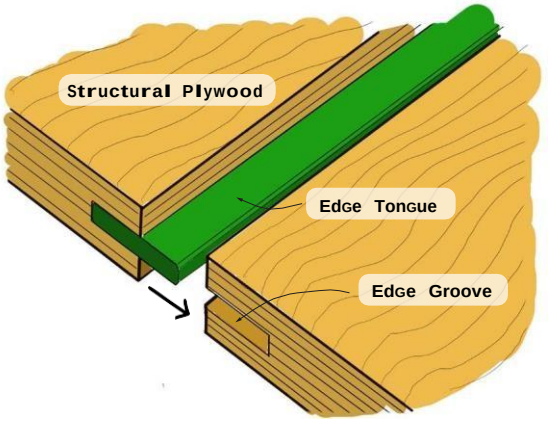
Ensure the sheets are laid perpendicular to the joists in a staggered pattern. Allow 2-3 mm expansion gap between sheet joints allowing for movement. All edges must be supported.

Sheets must be fixed

- with 50 x 2.8 mm ring shank galvanised steel nails at 150 mm centres around the perimeter, a minimum of 7 mm from edge and 50 x 2.8 mm galvanised steel nails at 300 mm centres to middle stud
- so the embedment of fixings does not exceed the first veneer layer.



Typical ITI TImspec Structural Plywood



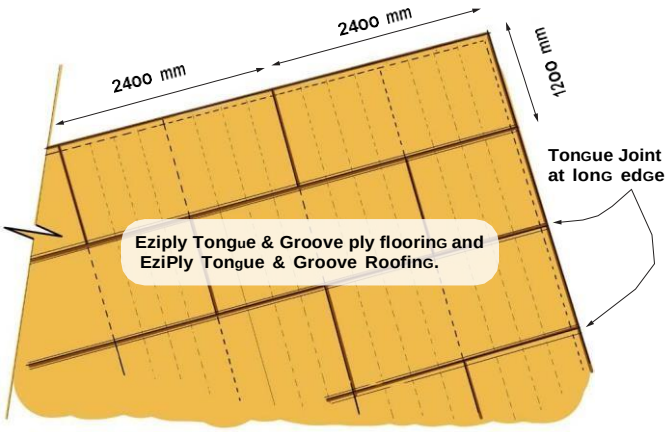
Typical ITI TImspec Structural Plywood Tongue & Groove

6.6. ROOF OR DECK SUBSTRATE

6.6.1. Membrane substrate

Install in accordance with Paragraph 8.5.5.1 E2/AS1 or E2/AS4 or as per the specific design documented in the building consent documentation.

For a roof substrate, ensure the sheets are laid perpendicular to the joists in a staggered pattern and the sheet ends are supported over timber. Allow 2-3 mm gap between sheet joints for movement. Maximum rafter spacings will depend on the selected thickness of the Structural Ply.



Maximum Spacing @ 400 mm Fixings @ maxiumum 150 mm to all edges and 300 mm to Central Joists

Typical sheet layout

For membrane roofs and decks, all fixings to be flush or countersunk with the EziPly Ply surface. Remove all sharp sheet edges that could damage the membrane. Membrane installer to ensure the moisture content of the EziPly Ply meets the membrane manufacturer's specification prior to installation. The maximum spacing of support timbers shall be no less than 400 mm. Sheet edges must have a minimum chamfer of 5 mm.

Check the surface for joist deflection and adjust or pack where possible to maintain a flat, even surface.

6.6.2. Roof sarking

Install in accordance with section 10.4.4, NZS 3604 or as per the specific design documented in the building consent documentation. Ensure sheets are fixed directly to rafters or truss top chords not less than 10 mm from sheet edges.

Internal lining

Install vertically or horizontally to wall framing as a wall lining. Where used as a ceiling lining, stagger sheet joints,ensuring that all joints are over support framing. Allow 2-3 mm gap between sheet joints for movement.

Where used as a non-structural wall lining, there are no specific requirements for fastening types or spacings. However, where exposed to water splash galvanised steel or stainless steel, fastenings are recommended.

Where used as a structural internal wall lining element, plywood must be fixed in accordance with paragraph 6.2 of this guide. For ceiling diaphragms, refer to paragraph 6.3 of this guide.

6.7. SOFFIT LINING

Install in accordance with Paragraphs 5.3 and Fig. 8A of E2/AS1 or E2/AS4 or as per the specific design documented in the building consent documentation.

Sheets must be fixed

- with 50 x 2.8 mm F/H galvanised steel nails at 300 mm maximum centres through the outriggers or sprockets, with the outer edge supported by the fascia
- so the embedment of fixings does not exceed the first veneer layer.

6.8. FINISHING

Once installed, fill all visible screw, nail or staple holes with a flexible grade wood filler and then lightly sand.

Finish the sheets with polyurethane or paint. Use three coats consisting of a primer and two topcoats. Sand the surface after each coat with 280-320 grit sandpaper.

As a deck substrate, prior to the installation of the waterproof layer, the CD Ply must be prepared in accordance with the relevant waterproof supplier's requirements and E2/AS1.

7. MAINTENANCE

Under normal conditions, EziPly Ply will need no maintenance as long as finished layer or coating has been maintained.

Regular inspections should be carried out to check the sheets have not been damaged by humidity or moisture.

If there is evidence of swelling to bracing sheets, they must be removed and replaced with new ones.

If water damage does occur to an area where EziPly ply has been used, first remove the finished layer or coating. Allow for the area to dry thoroughly before you replace the ply if necessary and reinstate the finishing.

In the unlikely event the ply is damaged it can be repaired by patching or stopping with a suitable interior grade filler. For larger holes, or if the ply is being used as a bracing element sheet replacement is required.

Document prepared by TBB March 2022.