

PLYWOOD SELECTION GUIDE

How to choose the right plywood for the job — the standards that matter, how to read a stress grade, bond type and veneer grade, and which panel suits structural, flooring, formwork, marine, external and decorative work.

STRUCTURAL

FLOORING

MARINE & EXTERNAL

DECORATIVE

FORMPLY

00 NOT ALL PLYWOOD IS EQUAL

THICKNESS ALONE TELLS YOU NOTHING

Two sheets can look identical on the pallet and behave completely differently in service. What separates them is **three things you can't see at a glance**: the stress grade (can it carry load), the glue bond (will it survive moisture), and the veneer/face grade (how it looks and finishes). Get those three right for the application and the panel performs; get them wrong and you get delamination, deflection or a face that won't take a finish. This guide walks the three decisions, then maps them to the common trade applications.

THE GOLDEN RULE

IF A PANEL ISN'T STRESS GRADED, IT ISN'T STRUCTURAL — WHATEVER ITS THICKNESS

Structural plywood is stress graded and certified to **AS/NZS 2269** with an A-Bond (Type A phenolic) glue line, so it can carry load. Non-structural plywood uses a less durable bond and is not rated for load-bearing use. Never substitute a non-structural sheet into a structural application on the assumption that "it looks thick enough."

01 DECISION 1 — THE STRESS GRADE

CAN IT CARRY THE LOAD?

Stress grade (the "F" rating) tells you the panel's structural capacity. Higher numbers carry more. Pine structural plywood is commonly F11 (F14 on request); hardwood structural plywood runs higher, from F17 up to F27. Match the grade to the load, span and spacing in your design — and confirm it against the manufacturer's span tables, never by eye.

TYPICAL GRADE	MATERIAL	WHERE IT'S USED
F11 / F14	Radiata pine structural	Bracing, flooring, general structural sheeting, appearance-grade uses
F17	Hardwood-faced structural	Heavier structural work, flooring, formwork face (as formply)
F22	Hardwood structural	High-load structural & formwork, off-form finishes
F27	Total hardwood	Premium high-load work; heavy-duty / high-reuse formwork

If appearance is secondary, structural CD/DD panels are the cost-effective choice. Only step up the stress grade the design actually needs — higher grades cost more.

02 DECISION 2 — THE GLUE BOND

WILL IT SURVIVE THE MOISTURE IT'LL SEE?

The bond (glue line) decides how the panel copes with water. This is the most common — and most costly — plywood mistake: using an interior-bonded sheet where it'll get wet.

THE STRUCTURAL / EXTERIOR BOND

A

A-Bond (Type A phenolic)

A permanent, fully waterproof glue line. Required for all structural plywood to AS/NZS 2269 and for any panel exposed to weather, moisture or repeated wetting. If in doubt outdoors or in wet areas, this is the bond you want.

B

Lesser bonds (interior / non-structural)

Non-structural plywood uses a less durable bond, fine for dry, protected interior applications but **not** load-bearing and **not** for moisture exposure. Cheaper, but only where conditions are genuinely dry and stress-free.

WATCH FOR

Marine plywood (AS/NZS 2272) also uses an A-Bond, but adds a virtually void-free core and higher-grade veneers for superior resistance to water penetration and delamination during *prolonged* moisture exposure — more than an A-Bond alone provides.

03 DECISION 3 — THE VENEER / FACE GRADE

HOW IT LOOKS AND FINISHES

Face and back veneers are graded A, B, C or D. A panel is labelled by its face then back grade (e.g. CD = C face, D back). Specify the face grade to the finish the job needs — higher grades cost more but deliver a finish-ready surface, so don't pay for an A face on something that gets covered.

GRADE	SURFACE	BEST FOR
A	Highest quality, near flawless	Clear finishing where appearance is paramount (limited availability in radiata)
B	Appearance grade, minor features	High-quality paint finishes
C	Structural face, some features	Structural uses with a solid, paintable face
D	Structural back, appearance secondary	Hidden faces, bracing, substrates

Rule of thumb: pay for appearance only on the faces that will be seen. CD and DD panels do the structural job for less where looks don't matter.

Structural — bracing, flooring, beams

AS/NZS 2269

Load-bearing sheeting for walls, floors and structural assemblies. Must be stress graded with an A-Bond. Pine (F11/F14) covers most residential structural sheeting; hardwood (F17+) for heavier loads.

Pick: structural plywood to the F-grade your design calls for; CD/DD face where appearance is secondary.

Flooring substrates

STRUCTURAL FLOORING GRADE

Structural flooring plywood provides a stable, rigid platform. Available in larger 2250 × 1200mm structural flooring sheets; tongue-and-groove options aid continuity across joists.

Pick: structural flooring-grade ply sized to your joist spacing; confirm span in the tables.

Concrete formwork

AS 6669 — FORMPLY

Film-faced formply certified to AS 6669 is the plywood purpose-made for formwork (F17/F22/F27). Structural ply to AS/NZS 2269 carries load but lacks the release face — so it's not a substitute where the off-form finish matters.

Pick: formply (ArmourForm / Deckply) matched to reuse and finish class — see the dedicated formwork guide.

Marine & prolonged wet exposure

AS/NZS 2272

Where panels face constant or prolonged moisture (boat building, wet areas, some external joinery), marine plywood adds a void-free core and higher-grade veneers over structural ply for superior water and delamination resistance.

Pick: marine plywood to AS/NZS 2272 — don't rely on standard structural ply for prolonged wetting.

External / weather-exposed

A-BOND REQUIRED

Anything facing the weather needs an A-Bond (Type A) glue line at minimum, and a face grade suited to the finish and exposure. Consider treatment/durability for the hazard level.

Pick: A-Bond structural ply (or marine for severe exposure); paintable B/C face for coated finishes.

Anti-slip / access & walkways

ANTI-SLIP PLYWOOD

Textured anti-slip plywood for ramps, walkways, trailers and access platforms — available cut to size for a clean fit.

Pick: anti-slip plywood, cut to size where a tidy install matters.

Decorative — feature walls, ceilings, cabinetry

APPEARANCE GRADE

For visible interior surfaces, choose an appearance-grade face: A for clear finishing where the timber is the feature, B for high-quality paint. Decorative panel ranges (e.g. ArmourPanel) suit feature walls and joinery.

Pick: appearance-grade or decorative plywood with the face grade set to the finish (clear vs paint).

Read the whole spec, not the thickness

Always confirm stress grade, bond type and face/back grade together. Thickness is the last number that matters, not the first.

Demand certification

Look for EWPA product certification with JAS-ANZ accreditation and PEFC/AFS chain-of-custody. It's your evidence the stamped grade and bond are real and verified.

Don't over-spec the face

Pay for an A or B face only where it's seen. CD/DD structural panels do the hidden work for less — the saving adds up across a job.

Store flat, dry & off the ground

Keep sheets flat, dry, off the ground and out of the weather; reseal cut edges on exposed work. Good storage protects both the bond and the face.

Match sizes to the job

Standard sheet is 2400 × 1200mm; hardwood F22/F27 also in 1800 × 1200, structural flooring in 2250 × 1200, and cut-to-size on request — less cutting, less waste.

Ask the manufacturer

As the maker, Big River's branch teams can advise directly on stress grade, bond and veneer selection — local know-how that a generic reseller can't match.

WHY AUSTRALIAN-MADE LOCAL KNOW-HOW MATTERS**MANUFACTURED AT GRAFTON, NSW SINCE 1936 — ONE OF AUSTRALIA'S LAST REMAINING PLYWOOD MILLS**

Big River has manufactured plywood at its Grafton mill for decades, producing structural, marine, formwork and decorative panels under the EWPA product certification scheme with JAS-ANZ accreditation, and PEFC chain-of-custody for sustainably sourced timber. Buying from the manufacturer means consistent product, verifiable certification, technical advice on grade/bond/veneer, and stock across a national branch network with crane-truck delivery — the practical backup that keeps a professional job moving.

THE THREE-QUESTION TEST BEFORE YOU BUY

1) What stress grade does the design need (or is it non-structural)? 2) What bond will the exposure demand (A-Bond / marine)? 3) What face grade suits the finish? Answer those three and you've specified the right sheet.



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This guide is general trade information prepared by Big River Group to help with plywood selection. It does not replace project-specific engineering design. Always confirm stress grade, bond type, veneer grade, certification (AS/NZS 2269 structural, AS/NZS 2272 marine, AS 6669 formply) and suitability for your specific application, size members using current manufacturer span tables, and retain evidence of compliance. Product specifications, sizes and stocked grades vary by branch — contact your local Big River branch to confirm.