PLUS! THE FG1™ INSTALLATION GUIDE

LIONVEST TRADING (UK) LTD

Worldwide Wood Flooring Importers, Distributors & Agents

THE ESSENTIAL BUYER'S GUIDE

PLYWOOD
AND SHEET MATERIALS



INCLUDING

FG1™ Flooring Grade Plywood • Q-Mark Hardwood
Mixed Light Hardwood

A guide to British Standards
in relation to purchasing plywood

LIONVEST TRADING
(UK) LTD

A FEW WORDS FROM THE M.D.

People often ask me about our plywood grades, suitability, if competitor products are comparable with our range, why use FG1, what are the differences, pitfalls, etc. The simple answer is consistency!

You get peace of mind when you continue to buy reliable quality plywood from the same factories that we've worked with for almost two decades. We have both the experience and knowledge to ensure that the products you buy are dependable.

My background has always been plywood, starting back in 1986 when I worked for my dad, who was a plywood agent trading products from Brazil and the Far East. I worked at plywood factories on an exchange programme when I was just 18 years old in Brazil and have utilised this knowledge to navigate the plywood world ever since.

Plywood grades and specs are quite simple, as plywood only has two components: wood veneers and glue. All our plywood grades are manufactured with hardwood veneers only, without exception.

They are also all subject to stringent quality checks prior to dispatch. If the veneers are not the right moisture, not flat, have any over-lapping, or use the incorrect glue, all things that could lead to failures, then they are not shipped.

In this handy booklet, we have outlined our three grades, namely FG1™, Q-Mark and MLH, (mixed light Hardwood).

In our experience, plywood doesn't fail if used, stored and fitted correctly! It is down to poor workmanship, a failure to follow instructions, not taking moisture readings or using the wrong classification of plywood can lead to problems.

The three grades we import, stock, and distribute with confidence across the UK, are all quantified and bought regularly!

FOOD FOR THOUGHT: SUMMARY

There are, of course, cheaper alternatives, timber merchant quality, where cost is key. However, the savings are only relevant if the plywood is fit for purpose. Cheap alternatives that fail can, and will, run into the thousands to correct, for the sake of saving a few quid! It might cost more now, but in the long run, it will save you.

So, if in doubt, always ask the experts!

Wayne Gumbrell, MD
Lionvest Trading (UK) Ltd

ARE WOOD FLOORS BAD FOR THE ENVIRONMENT?

In short, no. It's hard to believe the act of cutting down trees can have a positive effect, but in fact, just like other wood products, in the right circumstances, wood floors can be carbon negative.

A bold statement for sure, but let's start with some simple facts that we know to be true. Wood is the only flooring material made from an entirely sustainable resource; it can, and is, regrown.

We also know that all wood products have net zero CO_2 emissions after production. This is because manufacturing wood produces very little CO_2 in the first place, and there is almost no waste. Even the sawdust is collected and turned into wood pellets for burners. So, when a wood floor is laid, it already has a carbon footprint of net zero.

Now let's talk about how we get from zero to negative. Very simply, wood has a very long life span and, more importantly, it can be reused and recycled. Wood floors can be sanded and resealed multiple times, extending the life of the floor. After that, it can be reused for any number of things and is 100% recyclable. Finally, wood should never go to landfill, but even if it does, it is, of course, biodegradable.

Because of the reforestation initiatives, the benefits that trees bring to the world during their lifetime, and the reusability of the end product, wood flooring certainly can have a negative carbon footprint.

RESPONSIBLE PURCHASING POLICY

All products sourced by Lionvest Trading (UK) Ltd are done so sustainably, complying with UK law (UKTR) and, where possible, FSC certificated. We ensure all procurements are checked prior to purchase.

UKTR (Timber and Timber Products Placing on the Market Regulations) came into effect in Great Britain (England, Scotland and Wales) from 1st January 2021, replacing EUTR (European Timber Regulations).

PLYWOOD PANEL PRODUCTS

WHAT IS PLYWOOD? HOW IS IT MADE?

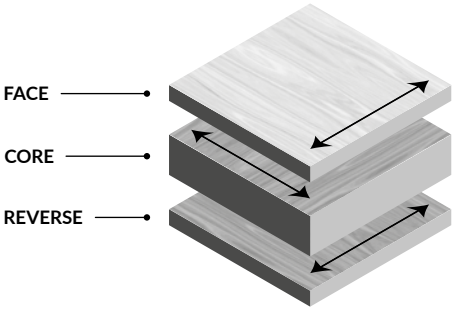
Plywood is a sheet material which is mainly used in construction and flooring, and consists of just two materials: wood and glue.

At least three layers of wood (known as plies or veneers) are bonded together with adhesives which are graded for internal and external use.

Each ply is positioned at right angles to the layers above and below which improves strength and helps reduce shrinkage.

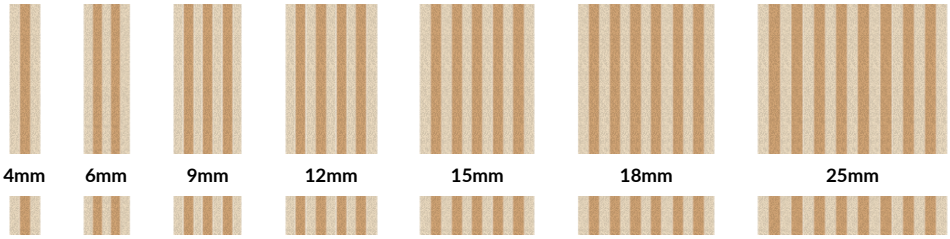
The two outer veneers are known as the face and reverse. These are graded based on their appearance and quality.

The core (central) layer is sandwiched between the two outer veneers.



ABOVE: Plies are positioned at right angles to the layers above and below

BELOW: Standard plywood thicknesses showing the number of plies in each (drawn to scale)



A GUIDE TO PLYWOOD FACE VENEER GRADES

Veneer grades refer to the finished appearance of the face veneer which allows buyers to select a material suitable to their application.

Grading rules vary depending on the country of manufacture. Below is a UK grading system and may not be accurate for all plywood types.

GRADE	DESCRIPTION
B	Neatly cut one-piece being almost defect-free and sanded smooth
BB	Minor defects are permitted within strict limits provided they are filled and sanded smooth
C+/C-	Permits all defects, open or closed, although limited in number and size. However, open defects are sanded for the UK market.

PLYWOOD APPLICATION AND ITS MANY USES

The unique cross-grain construction of plywood results in a strong and stable panel so that even thin and/or lightweight varieties are suitable for challenging applications.

Several structural and non-structural hardwood, softwood and mixed core varieties are produced for a wide range of applications including walls, roofs, flooring, furniture, vehicle manufacturing as well as marine plywood for boats or areas exposed to high humidity or wetting.

For structural use, it is vital to choose plywood that complies with the required British Standard. Please contact our Sales Team for advice.

The guide to plywood applications and uses on this page is not intended as an exhaustive list. If you have a specific project in mind, please contact our Sales Team for advice.

TYPE	APPLICATION AND USE
Hardwood	• Ceilings • Walls (external) • Heavy-duty floors • Furniture / packing cases • Van lining
Softwood	• Concrete shuttering • Internal joinery • Floors • Furniture / packing cases
Marine	• Boat building (not waterproof) • Outdoor furniture • Areas of exposure to high humidity/wetting
FG1™	• Flooring Grade Plywood (certified BS 8203:2017) • Suitable for all flooring applications

STRUCTURAL USE

Plywood panels manufactured for Structural Use only applies from 9mm thickness upwards. Panels less than 9mm thickness do not possess structural load-bearing strength. If you require further advice, please call our Sales Team on **01273 426570.**

PLYWOOD BONDING BS EN314-2:1993 and PLYWOOD SPECIFICATION BS EN636:2003

INTRODUCTION

EN314-2 and EN636 both work together as "harmonized standards" to clarify which plywoods are suitable under different conditions. These tests then determine the class that a particular plywood can be specified under.

Product	Merchant Grade MLH	Q-Mark (TRADA Endorsed)	FG1™
Origin	China	China	Indonesia
Hardwood Species	Poplar	Eucalyptus	Meranti
Plywood Bond Performance	BS EN314-2 Class 2	BS EN314-3 Class 3	BS EN314-2 Class 3
British Standard	BS EN636-2 Class 2	BS EN636-3 Class 3	BS EN636-3 Class 3
Does it Meet CFA Approval?	✗	✗ Class 3 is a suitable alternative but not guaranteed by B.S.	✓
Usage	Only humid (not wet) conditions	Exterior and exposure to weather	Exterior and exposure to weather

BS EN314-2

Plywoods are produced using glue bonds. The type of bond is based on whether the plywood is for use in dry, humid or exterior conditions.

BS EN314-2 plywood bonding quality requirements define three classes on the basis of test requirements that the plywood bond must meet (see the table opposite).

These classes are determined by laboratory tests in which the different plywood boards are tested to destruction, to assess how well the bond has survived the weathering process.

The integrity of the plywood bonds after the tests will determine its bond class. Once that has been established, assessment to **EN636** can begin.

CLASS	USAGE
Class 1	Dry conditions (interior, dry use only)
Class 2	Humid conditions (protected external service; damp internal uses and limited exposure during construction)
Class 3	Exterior conditions (exposure to weather over substantial periods or continuous exposure to relative high humidity)

AND DON'T FORGET...

In line with all other timber-based products, it is essential that plywood specified for use in humid and / or exterior conditions receives an appropriate protective finish to all faces and edges. This is in order to minimise moisture ingress and to prolong the overall service life of the product.

BS EN636

Following on from BS EN314-2 testing, plywood boards are then required to comply with one of the three performance classes within EN636 for use in construction. This takes into account the quality of the bond and the durability of the timber species used.

The requirements for each class can be summarised as follows:

USE	EN	USAGE CLASS	END USE
Plywood for use in dry conditions	**EN 636-1**	**Class 1 —** appropriate for normal interior climates	Warm roofs, intermediate floors, internal timber frame and partition walls
Plywood for use in humid conditions	**EN 636-2**	**Class 2 —** appropriate for protected external applications. It is also suitable for interior situations where the service moisture content is raised above the Class 1 level.	Cold roofs, ground floors and external timber frame walls
Plywood for use in exterior conditions	**EN 636-3**	**Class 3 —** designed for exposure to weather over sustained periods	Fully exposed service conditions

PURCHASING THE RIGHT PLYWOOD FOR YOUR PROJECT

It is vital to specify and purchase plywood suited to the job you are using it for, based on the classes above. For example:

- If you have previously purchased Interior or MR (moisture resistant) plywood for construction purposes, you should now specify plywood to comply with **EN 636, Class 1.**
- If you have previously specified or purchased WBP (weather and boil-proof) or Exterior quality plywood for construction purposes, you should now specify plywood to comply with **EN636, Class 3.**

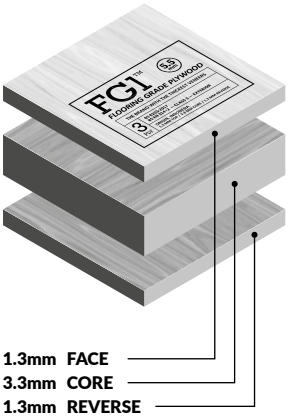
FG1™ FLOORING GRADE PLYWOOD

Inferior plywood flooding UK markets in recent years has caused significant issues for the construction industry. In response, and with the need for clarity of plywood standards, Lionvest introduced FG1™ — a superior quality Flooring Grade hardwood panel.

The result is a panel that far exceeds British Standard *BS 8203:2017 Installation of resilient floor coverings — code of practice*, which requires a minimum thickness of **0.75mm** for top and reverse veneers.

FG1 has 1.3mm top and reverse veneers (before sanding), greatly surpassing the British Standard, offering several advantages:

- Far greater stability, structural and mechanical properties, making it ideal for gluing and bonding
- Greatly reduces the risk of delamination and face veneers failing when sawn or bonding to
- High production qualities makes it suitable for a wide range of applications where strength and durability are a priority



Incredibly, inferior panels have as little as **0.15-0.3mm** top and reverse veneers, leading to serious delamination issues and face veneers failing. This is why it is vital to have thicker face veneers when bonding to, and why FG1 is an essential step to ensuring successful floorlaying and subfloor prep.

FG1™ — Flooring Grade Plywood — BS 8203:2017 — Class 3 EXT Glue (EN314-2)

SIZE	DIMENSIONS		GRADE	VENEER	CORE	FINISH
5.5mm	**4×2ft**	1220 × 610mm	BB/CC	Meranti	Mersawa	Unfinished & lightly sanded
5.5mm	**8×4ft**	2440 × 1220mm	BB/CC	Meranti	Mersawa	Unfinished & lightly sanded
9mm	**8×4ft**	2440 × 1220mm	BB/CC	Meranti	Mersawa	Unfinished & lightly sanded

★★★★★
For professional floor laying, building stairs, sheds + more

Manufactured to	BS EN 636-2
Appearance class	Based on Class 1 from BS EN 635-2
Glue bond	EN 314-2 Class 3 (Exterior) LFE E1 Emission
Moisture content	8-10%
Thickness tolerance	5.5mm: ±0.2mm
Dimensional square tolerance	Tight to EN 315
Veneers	Overlay quality without core overlap or gaps
Length AND width	-0.0/+2.0mm
Diagonal difference	Maximum 2.0mm
Edge straightness	Maximum 1.0mm

FG1™

FLOORING GRADE PLYWOOD

STILL GOING STRONG.

In 2017, we raised the bar. We launched FG1™ — a panel light years ahead of everything that had come before it.

Our tightly controlled manufacturing process ensured performance that the construction industry could finally depend on.

With 0.3mm thick top and reverse veneers, FG1 also went far beyond the minimum requirement of BS 8203:2017 (Annex A).

Today, FG1 is the No.1 plywood panel for successful floorlaying and subfloor prep.

- 1.3MM OUTER VENEERS
- ✓ EXCEEDS BS 8203: 2017
- TWO SIZES 5.5 & 9 MM
- NO CORE OVERLAPS OR GAPS
- EASY TO CUT
- ✓ UKTR COMPLIANT
- ✓ FLEGT COMPLIANT

FG1™ by LIONVEST TRADING (UK) LTD

fg1.co.uk | info@lionvest.co.uk | Tel: 01273 426570

Q-MARK PLYWOOD

Q-Mark Plywood is a versatile panel suitable for various applications. Poplar veneers produce a lightweight panel, while the Eucalyptus veneers produce a more durable panel. Uses include:

- Structural applications include walls, roofing, wind bracing and flooring
- Ideal for outdoor use once sealed with a suitable preservative
- Bookcases, outdoor furniture, crates and widely used for packing cases

Q-Mark Plywood — Hardwood — Class 3 EXT Glue (EN314-3)

SIZE	DIMENSIONS		GRADE	VENEER	CORE	FINISH
3.6mm	**4×2ft**	1220×610mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
5.5mm	**4×2ft**	1220×610mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
3.6mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
5.5mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
9mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
12mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
18mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
25mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded
18mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Eucalyptus	Unfinished & lightly sanded

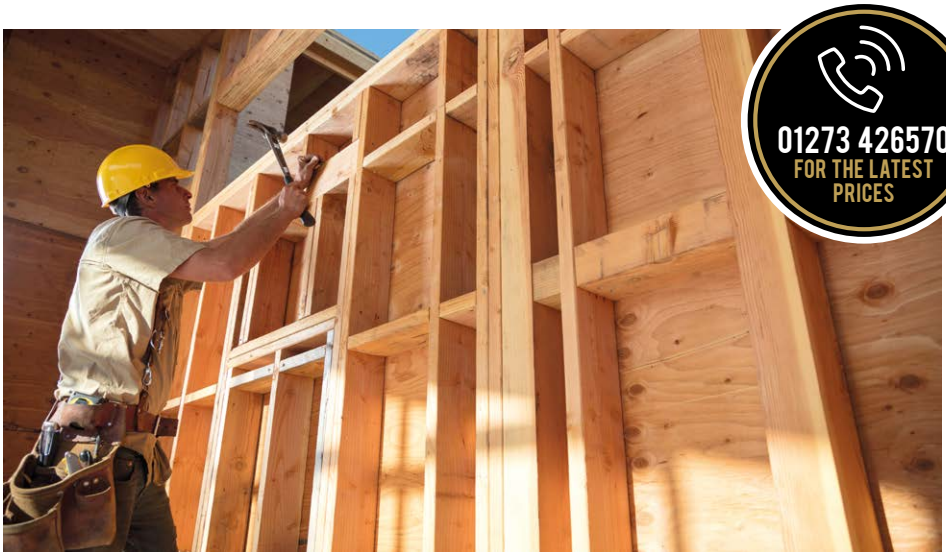
FAR EASTERN MLH (MIXED LIGHT HARDWOOD)

Our Far Eastern MLH is a versatile plywood panel with a variety of uses. Poplar veneers produce a lightweight panel and Eucalyptus veneers produce a more durable one. MLH has a light sanded finish which can easily be cut and painted. Popular applications include:

- Treated exteriors such as decking, sheds and fencing
- Moist interior usage such as bathrooms, kitchens and boat interiors

Far Eastern MLH (Mixed Light Hardwood) Plywood — Class 2 EXT Glue (EN314-2)

SIZE	DIMENSIONS		GRADE	VENEER	CORE	FINISH
3.6mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Poplar	Unfinished & lightly sanded
5.5mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Poplar	Unfinished & lightly sanded
9mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Poplar	Unfinished & lightly sanded
12mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Poplar	Unfinished & lightly sanded
18mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Poplar	Unfinished & lightly sanded
25mm	**8×4ft**	2440 × 1220mm	B/BB	Eucalyptus	Poplar	Unfinished & lightly sanded



Installation Guide
FG1 (5.5 and 9mm)

FG1™
FLOORING GRADE PLYWOOD

1.3mm TOP | 3.3mm CORE | 1.3mm REVERSE (before sanding)

Installing underlayment is one of the best ways to ensure that your end result is a stable and comfortable vinyl floor.

The FG1™ plywood panel is specifically designed as an underlayment material and is BS 8203:2017 compliant. It has 1.3mm thick top and bottom veneers which offer the perfect surface to bond to.

A FEW NOTES TO BEGIN WITH

This is a guide only. For more information, please refer to *BS 8203:2017 Installation of resilient floor coverings — code of practice.*

- FG1 is always stamped on the face veneer (the better graded side) and should **ALWAYS** be laid face-up.
- Before starting any installation, you should take a RH (Relative Humidity) reading, check the moisture content of the subfloor, and get the temperature reading. Keep a note of all three readings.
- The boards **MUST** be allowed to acclimatise for 24 hours prior to installation, in the room where they will be fitted.
- If it is not possible to lay them flat, then **ALWAYS** stand the boards on their long edges and try to separate the boards as much as possible.
- The correct thickness of ply is dependent on the quality of the subfloor as well as the overall height you have to work with. In most cases, a 5.5mm thick board is suitable.

BEFORE YOU COMMENCE WORK

1. Subfloor preparation is an important first step. Make sure the area is clean and free from any debris.
2. Make sure all floorboards are secure and there are no nails sticking up.
3. Check the moisture of the ply. It should be within ± 2.0% of the moisture content of the subfloor. If the subfloor has a moisture content of 9%, your ply should be 7-11%.

ONCE YOU ARE READY TO BEGIN

1. It is recommended to lay FG1 perpendicular, at 90° to the direction of the floorboards for maximum stability and strength.
2. Loose-lay the boards first, ensuring the seams are staggered (see figure 1 opposite). Where possible, always have the factory-cut edges facing each other, and the edges you have cut yourself should face the wall.
3. Start in the corner of the room so that you can use an uncut 8 × 4 sheet at the start, as this will make the job easier.
4. You should leave a 5mm expansion gap around the edge of the room and at least 2mm between the boards.
5. Before fitting, make sure the seams between two ply boards are not sitting on top of any joints in the subfloor, otherwise this will create a weak point in the floor and compromise the stability.

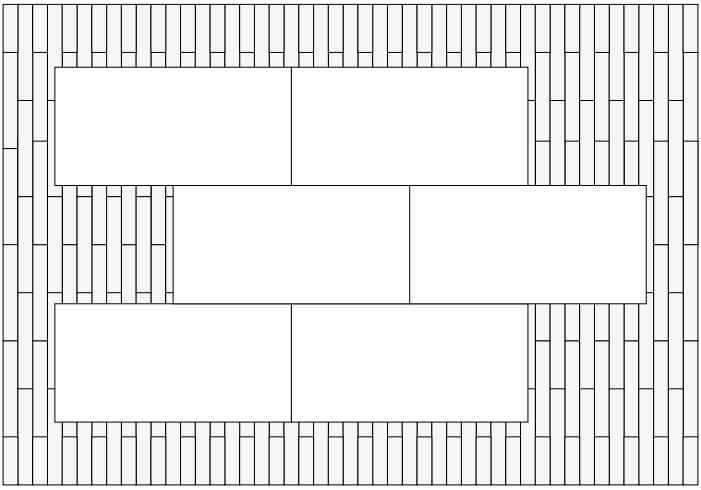


Figure 1:
First, loose-lay the boards, ensuring the seams are staggered.

Where possible, always have the factory-cut edges facing each other, and the edges you have cut yourself facing the wall.

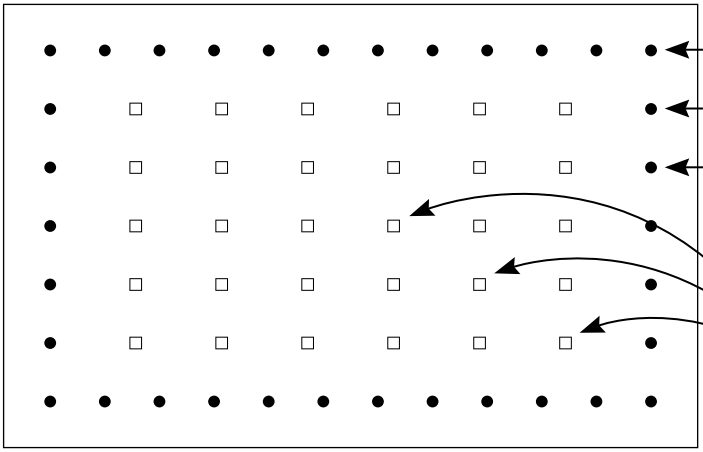


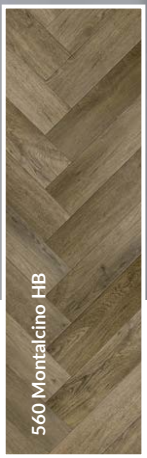
Figure 2:
Fixings around the edge should be spaced 100mm (4") apart and 12mm (1/2") away from the edge

Figure 2:
In the centre, they should be spaced 150mm (6") apart

6. Once happy with the layout, you are ready to fix the boards down using ring-shank nails, divergent staples or counter-sunk screws.
7. Fixings around the edge of the board should be spaced 100mm (4") apart and 12mm (½") away from the edge (see figure 2).
8. In the centre, the fixings should be spaced 150mm (6") apart.
9. Start from the centre of the board and work towards the edge — in order to prevent any bubbling in the sheets.
10. Once fixed, feather the edges with seam filler. **REMEMBER** — this contains water so the ply will need time to acclimatise again **BEFORE** you install your vinyl floor.
11. Once the filler is completely dry, sand it so it is flush with the ply.
12. Now you are ready to fit your vinyl.

7 COLOURS
7 PLANKS
6 HERRINGBONE

542 Barolo LVT plank


560 Montalcino HB


561 Arezzo HB


562 Barolo HB


564 Gubbio


565 Palermo


566 Limoncello

lalegno
STICK DOWN LVT

2.5mm EIR LUXURY VINYL FLOORING

The latest development in the hugely successful Lalegno vinyl range is 100% waterproof 2.5mm LVT. Available in plank and stylish herringbone options in ultra-realistic EIR wood-finish with aluminium oxide scratch-resistant coating.

2.5MM DEPTH
0.7MM WEAR LAYER
EASY FIT STICK DOWN
AUTHENTIC EMBOSSED TEXTURE
WATER PROOF
MICRO BEVELLED EDGES
SUITABLE FOR UFH*

* Suitable and guaranteed for use ONLY with water-based UFH systems in sunken screed. Installation guidelines must be strictly followed.

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