

The Plywood Specifiers Guide

Construction



Optimum performance classification and fully compliant for use in construction applications

Plywood in construction

Have you ever wondered why **Marine Plywood** is referred to in construction applications?

The answer is that this description has simply been used in the belief that the product will be a higher quality of plywood and will be suitable for application. Marine Grade Plywood compliant with the standard BS 1088 was not originally intended for construction applications, as the name suggests, it was produced for the boat/shipbuilding industry.

In today's world the availability of legal and sustainable hardwoods to produce Marine Grade Plywood is very limited, which makes the product relatively expensive to produce.

Construction specifications should be satisfied with products that are fit-for-purpose taking into account the application and the particular performance criteria required. With this in mind, Hanson Plywood have worked to develop and present a product that is specifically intended for the construction industry and offers full technical and environmental classifications.

Performance Plywood® is the result of this work and is a reliably branded hardwood plywood produced specifically for construction applications. It is CE marked and tested to meet EN 636 Use Class 3 thus making it suitable for use as structural components in exterior conditions. The product carries FSC® chain of custody and is FLEGT licenced to verify legality under the European Union Timber Regulation (EUTR).





Optimum performance classification and fully compliant for use in construction applications

The logical and reliable alternative to general commercial Marine Plywood offering full classification and performance in all conditions.

Tested to meet EN 636 Use Class 3, EN 314-2 Class 3 and CE marked. Ensuring Performance Plywood® is the correct choice for architects and specifiers.



FSC® chain of custody certification



Fully legal and sustainable

Applications:



Construction



Joinery



Portable buildings



Wall panelling



Roofing & flooring



SpecifiedBy



Timber Trade Federation
growing the use of wood

bimstore

PRODUCT TECHNICAL DATA

SPECIFICATION DETAIL:

Manufactured to	EN 636-3 S
Glue bond	EN 314-2 Class 3 (Exterior)
Formaldehyde release	0.21-0.23 mg/m ² h - Class E1 (Tested to EN 717-2)
Moisture content	10% (±2)
Veneers	High quality face and core
Average density	500 kg/m ³ - 550 kg/m ³
European Timber Regulation (EUTR) status	Compliant
CE Marked	BS EN 13986
Chain of Custody	FSC® certified – FSC 100%
Material Safety Data Sheet	Available

The product is from sustainable, legal and responsible FSC® Certified forest management units.

Applications

General construction, joinery, all applications which demand full compliance with exterior classification standards.

PRODUCT COMPARISON

SPECIFICATION CHARACTERISTICS:	 PERFORMANCE PLYWOOD®	GENERAL COMMERCIAL PLYWOOD
EN 636-Use Class 3 S	CE marked for performance in all conditions	Most structural panels only meet EN 636 Use Class 2
Veneer glue bond	EN 314-2 Class 3 Exterior fully tested and reliable	Supposedly EN 314-2 Class 2 minimum, but not always tested
Moisture content	Very accurate and precise drying in manufacture resulting in a fully stable and conditioned panel	Can vary a lot resulting in distortion. Poor drying can cause mould growth on the surface of boards
Thickness of face and back veneers	Minimum 0.75mm for maximum performance	Can be as low as 0.12mm and are readily permeable to moisture and glue. These thin veneers can also transmit the inferior core quality onto the faces
Core veneer quality	High quality core veneers	Core overlaps and gaps are common in most plywoods and result in poor surface quality and thickness variation that can affect overall performance
Flatness and stability	Superior construction ensures Performance Plywood® is much more reliable and stable	Boards can be badly distorted due to manufacturing processes
Thickness and dimensional tolerances	Very tightly controlled to ensure optimum performance	Can vary considerably in some panels creating further surface preparation attention

Performance Plywood® is FSC® certified.



Environment and Sustainability

The UK timber industry has comprehensive systems in place to ensure legality and sustainability of timber products. Products have to be technically sound and fit-for-purpose and have to comply with all relevant environmental criteria.

Performance Plywood® is certified fully legal under Indonesia's SVLK assurance scheme and the FLEGT (Forest Law Enforcement, Governance and Trade) agreement with the EU. In addition to this Performance Plywood® is certified FSC® 100%.



Summary

In construction applications, Performance Plywood® is **the complete panel** in terms of fitness-for-purpose, compliance, legality and sustainability.

Specifying plywood for use in exterior conditions.

EN 636-3 specifies the requirements for plywood for use in external applications as defined in Use Class 3, where the moisture content will frequently be above 20%. Use Class 3 is defined fully in EN 335:2013 but essentially it outlines situations in which wood or wood-based product is above ground and exposed to the weather (particularly rain). Attack by disfiguring fungi and wood destroying fungi is possible as well as attack by wood boring insects, including termites.

Essential elements of plywood for EN 636-3

Bonding quality - The bonding quality of the plywood needs to comply with the requirements of Bonding Class 3 of EN 314-2.

Biological durability - Plywood shall be appropriate for the prevailing climatic conditions. It is therefore important to assess whether the durability of the plywood to be used is sufficient and if not, consider another solution such as design or preservative treatment. Guidance on factors affecting durability can be found in CEN/TS 1099.

When specifying plywood for Use Class 3, appropriate surface and edge coating should also be considered.

Performance Plywood® meets EN 636-3 classification.

Property	Application	Standard	1-Dry	2-Humid	3-Exterior
			20°C with R/H 65% interior applications no risk of wetting	20°C with R/H 85% protected exterior applications or humid environments	Moisture content higher than 20% unprotected exterior applications
Bonding Quality		EN 314-2	Bonding Class 1	Bonding Class 2	Bonding Class 3
Durability		EN 335	Use Class 1	Use Class 2	Use Class 3
Mechanical Properties	Structural - Characteristic Values - Bending Strength	EN 12369-1 or EN 789/EN 1058 EN 310	✓	✓	✓
	Non Structural - Bending Strength	EN 310	✓	✓	✓
Formaldehyde Emission*	Construction	EN 13986	E1 or E2	E1 or E2	E1 or E2
	Non- Construction	EN 636/DD ENV 717-1/EN 717-2	E1 or E2	E1 or E2	E1 or E2
Dimensional Tolerance		EN 315	✓	✓	✓

*All Timber Trade Federation (TTF) members adhering to the TTF Code of Conduct - Panel Products Code of Practice must trade in products that meet E1 Classification. Formaldehyde emissions higher than E1 are not acceptable.

Plywood for permanent use in construction must demonstrate compliance with the Construction Products Regulation (CPR) via the use of CE Marking.

This table is designed for guidance only and all specific performance requirements for particular projects should be cross checked in detail.

Notes



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