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## Specification of plywood for exterior use

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### WBP plywood / EN 636:2003 Plywood - Specifications

Some confusion still exists amongst specifiers and buyers concerning the properties of "exterior grade" plywood. Most confusion arises from a misinterpretation of terminology and standards. Although becoming less common, **WBP plywood** remains a "market" term to describe exterior plywood particularly in the construction industry. The WBP (Weather Boil Proof) reference relates to standard BS 6566 (part 8) that was withdrawn in 1998.

Although similar resins are used, this terminology has been fully replaced by the European Standards **EN 636:2012+A1:2015 Plywood - Specifications**, which classifies plywood for use in dry conditions (**EN 636-1**), humid conditions (**EN 636-2**) and exterior conditions (**EN 636-3**).

Here, "exterior conditions" corresponds to external weathering which can be expected to include periods of persistent wetting. The standard refers to the quality of the glue bond and uses a method to assess glue bond quality similar to the old "WBP" test.

TRADA informs that the current BS **EN 636** does not include a specific minimum durability against decay for the wood used in the manufacture of plywood. Since sapwood cannot easily be excluded from plywoods, TRADA considers that all plies should be assumed to be "not durable" (i.e. Durability class 5 according to BS **EN 350:2016 Durability of wood and wood-based products. Natural durability of solid wood. Guide to natural durability and treatability of selected wood species of importance in Europe**).

Since the plywood manufacturer is unlikely to be aware of the eventual end use, the responsibility rests with the specifier to consider issues such as; exposure, protection, maintenance, ease of replacement and desired service life.

Ultimately, these issues determine whether or not the product has sufficient durability for a specific application. It will be necessary to treat exterior plywood, including those meeting the **EN 636-3** specification, to avoid failure - particularly if long term exposure or severe wetting is likely.

That said, most of the exterior quality plywood used in construction is in applications that are generally dry with only occasional wetting during the construction process or in service, for example internal flooring, wall and roof sheathing. These are Service Class 2 situations for which an **EN 636-2** plywood would be appropriate and for such applications wood durability is of less importance.

*Service class 2 is characterized by a moisture content in the materials corresponding to a temperature of 20 °C and the relative humidity of the surrounding air only exceeding 85 % for a few weeks per year. In such moisture conditions most timber will attain an average moisture content not exceeding 20 %.*

Even, plywoods using wood veneers classified as "not durable" have been used in these situations for more than 50 years in the UK and Ireland without problems (ref: TRADA). A plywood manufacturer is not required to provide the durability class of the wood used to manufacture plies as part of the CE marking requirements.

Lumin® products are correctly labelled as EN636-2 due to the natural durability of the species used in manufacture and are classified **Bonding Class 3 under EN 314-2: Exterior conditions** and **Use Class 2 for biological durability under EN 335:2013**.

*(See also Technical Bulletin 1948-TB-01 revised 05/10/2017).*

### BS 5268-2:2002. Structural Use of Timber / EN 13986:2004+A1:2015

Additionally, buyers and specifiers still frequently refer to standard BS 5268 (Structural Use of Timber) although this standard was withdrawn in 2010 and superseded by **Eurocode 5 (EC5)**, or more specifically **EN 1995-1-1: Design of Timber Structures**.

EC5 applies to the design of buildings and civil engineering works in timber or wood-based panels joined together with adhesive or mechanical fastenings.

Under the Construction Products Regulation CPR, effective July 2013, it is mandatory for manufacturers to apply CE marking to any product covered by either a harmonised European standard (hEN) or a European Technical Assessment (ETA). Manufacturers must publish Declaration of Performance (DoP) documents to include reference to appropriate standards and characteristic performance data for use in structural applications.

The harmonised European Standard enabling the CE marking of plywood is EN 13986:2004+A1:2015 *Wood-based panels for use in construction – Characteristics, evaluation of conformity and marking*. The standard also gives performance characteristics for plywood meeting the requirements of the (updated) EN 636:2012+A1:2015 *Plywood – Specification*.

The standard defines the performance characteristics and test methods for wood-based panels, including a series of tables listing the relevant performance characteristics for load-bearing (structural) and non-structural applications in the three service environments – dry, humid and exterior.

Above detail taken from TRADA technical notes – abridged and modified [www.trada.co.uk](http://www.trada.co.uk)

With **Lumin**<sup>®</sup> plywood you can be assured that the product selected (regardless of grade) meets the attestation of verification of constancy of performance level 2+ (referred to as CE2+) and complies with:

- EN 636-2 S (structural, humid).
- EN 1995-1-1 – Service Class 1 or 2
- EN 314 - Bonding Class 3 (Exterior)
- Formaldehyde - Class E1 (and CARB Exempt)
- PEFC and FSC Chain of Custody Certifications

Further information including DOPs of the products can be found on [www.lumin.com](http://www.lumin.com).

## Contact Information

Uruply staff and technical support is at your disposal for any question you may have in this matter and can be contacted as follows:

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