

## Formaldehyde-free moisture-proof bonding

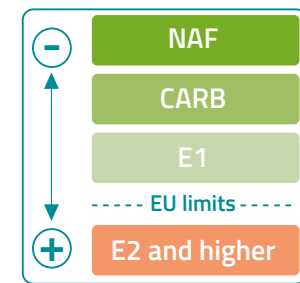


ZERO is an exclusive Bonzano brand; the panel is guaranteed to be 100% formaldehyde-free. The formaldehyde emissions of these products are equal to those of natural wood, in line with the latest market requirements in term of living space air quality.

By choosing a ZERO brand product a consumer can be certain there won't be any increase in indoor pollution values.

N.B. All zero brand products are tested in independent laboratories acknowledged at an international level, and come with a test report.

### FORMALDEHYDE EMISSIONS



The glue used to bond the LSB panel is called MDI (Methylene Diphenyl Diisocyanate).

MDI adhesives bond strongly with wood, and the glue is moisture-proof. This makes the LSB panel moisture-proof, putting it in utilization class 2 – damp indoor environments or outdoor covered environments (EN 335).

### EN 317- swelling test\* (1)

Max. limit for moisture-resistant panels	14%
Results of the LSB panel	<10%

\* the swelling test measures the percentage increase in panel thickness after being immersed in water at 20° for 24 hours

(1) the figures in the table refer to panels 13 - 20 mm thick

MDI glue is 100% formaldehyde-free. This means the LSB panel meets NAF certification requirements, the highest standard in the world in terms of indoor pollution.

Today, consumers are increasingly concerned about air quality in enclosed spaces. The LSB panel provides a solution to this problem.

The use of high-performance glues, and an innovative wood impregnation system, means only a small amount of glue needs to be used, less than 4%.

### AVERAGE GLUE CONTENT kg/m<sup>3</sup>

HDF	137
Chipboard	84
Plywood	71
Blockboard	38
<b>LSB</b>	<b>25</b>

\* The figures in the table are indicative values obtained from in-house laboratory tests done on standard product samples.



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## Poplar is our world



[www.bonzano.com](http://www.bonzano.com)



LSB panels

## A unique panel

LSB is the first panel of its kind in the world.

This panel has been designed by Bonzano for the construction of doors, furniture and kitchens. LSB is also used in other sectors such as yachting, shipyards and in automotive applications.

**THE LSB PANEL HAS BEEN DESIGNED TO BE USED AS A SUPPORT FOR NATURAL WOOD VENEERS, LAMINATES AND MELAMINE SHEET. IT CAN ALSO BE LACQUERED OR DECORATED USING THE LATEST DIGITAL PRINTING TECHNOLOGY.**

A unique panel with a high level of engineering, guaranteeing the user mechanical performance comparable to that of multilayer panels, at a lower price.

### FIELD OF APPLICATION



FURNITURE



AUTOMOTIVE



DOORS AND DOOR JAMS



MARINE

The LSB panel has redefined sector standards, and is an excellent example of Bonzano's culture and values: innovation, environmental sustainability and the vertical integration of the production cycle.

Despite numerous attempted imitations, LSB panels remain unique in terms of characteristics and properties.

### FEATURES

- ideal for facing
- **moisture-proof**
- easy to work
- excellent holding power with screws and fixings
- **no added formaldehyde**
- strong and dimensionally stable



## The ideal panel for facing

The LSB panel is designed to be faced with natural wood veneers or laminates. It can also be lacquered or decorated using the latest digital printing technology. The LSB panel is available in the version Type 3, whose average density is 540 kg/m<sup>3</sup>.

TYPES OF SURFACE FINISHES	Type 3
Veneered	X
Laminated	X
Lacquered	X
Digital printed	X
Faced with melamine sheet	

N.B.: For more information on the characteristics and proprieties of these panels, see the specifications on the web site [www.bonzano.com](http://www.bonzano.com)



Veneered LSB

Faced LSB

Laminated LSB

Unfinished LSB

## A panel Engineered

### 5-ply construction

The panel core is a triple cross-ply construction; same strand orientation in each layer. The origins of this design derive from OSB construction panels and guarantees high mechanical strength, as well as excellent holding power with screws and all other fixings. The two outer layers are made of poplar microparticles. The uniform, pale-colored faces of the panel are smooth and flat; this makes them the perfect support for covering.



Microparticles

Longitudinal strands

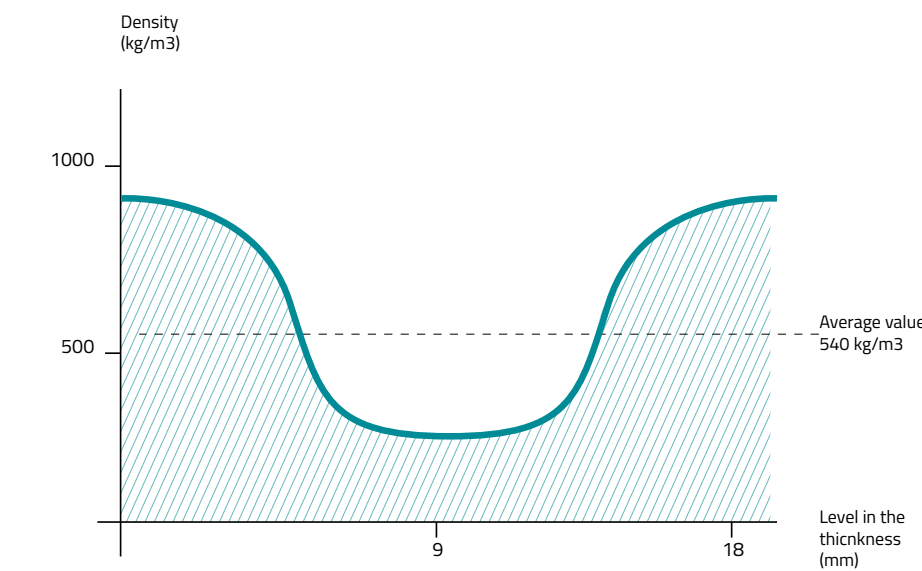
Cross strands

Longitudinal strands

Microparticles

### Diversified density

Wood panels typically have a more-or-less uniform density in terms of thickness. This means the consumer often has to choose between light weight and strength. The density of the various layers in a LSB panel on the other hand is diversified. The result is a panel that's quite light (540 kg/m<sup>3</sup>) but with high density faces (>800 kg/m<sup>3</sup>).



### Did you know?

The strands in the inner layers of the LSB panels are characterized by their significant size (up to 120 x 40 mm) despite being very thin (0.6 mm). The result is a more stratified panel that guarantees dimensional stability and strength, while providing a strong holding medium for screws and fixings. In this example you can compare the dimensions of a strand and the wood chips used to produce chipboard.



## Made with virgin poplar from certified plantations

LSB is made mostly of virgin poplar from certified plantations. This means these trees come from non-forest plantations which, as on all plantations, are replanted after cutting. Using poplar as the main element makes the LSB both lightweight and easy to work: it doesn't splinter and tool wear is over 30% less than with other wood types.

Unlike panels made of recycled materials, the LSB panel can be traced all through the production chain, and the only raw material used in panel construction is wood.



### A SUSTAINABLE CHOICE

Poplar based panels are a sustainable choice. Poplar is grown in plantations that have no impact on deforestation. It's obtained from "non-forest" plantations. What's more, for a poplar tree to grow to a weight of 6.5/7.5 tons takes just 10 years: which is over twice the growth rate of other trees, including fir. Bonzano poplar panels come with FSC® and PEFC™ environmental certification.

For more information on the advantages and characteristics of poplar, visit our web site [www.bonzano.com](http://www.bonzano.com)