The plus for all!

The 5 advantages of the esb panelat a glance:

Better than OSB!

- Optimum board utilisation
- Transverse tensile strength 40% better than with OSB
- High dimensional stability when machining
- Top panel appearance
- Can be used as UDP-A according to ZVDH/Cologne

Suitable for painting!

Odour-neutral!

Water vapour permeable!

Good value!

WINNER
German Sustainability Award Companies 2025



The application advantages:

- Native spruce wood - naturally low in VOCs
- Minimum raw density 620 kg/m³
- Bending resistance & E-module equal in both directions for optimum panel yield
- Mostly open to diffusion - for open & closed construction methods
- Processing & recycling friendly due to gluing without isocyanates
- Low-splinter processing and sanded surface
- High screw and nail extraction value
- Can be used as sarking board N+F (UDPA) according to ZVDH/Cologne
- Guarantee through certifications

Comparison of esb and OSB boards Top floor ceiling

...If one evaluates the load-distributing layer itself, it also shows that the OSB board has a significantly higher water content and, in contrast to the esb board, wood-destroying fungi can also grow on it in the worst case. From a building physics point of view, the variant with esb board is therefore more fault-tolerant in the long term and accordingly preferable to OSB board.

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www.elka-holzwerke.de/downloads/esb-vs-osb

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The solution for healthy Building & Living



5 Convincing advantages of the esb panel

Why is esb board better than an OSB board?

Thanks to good static (in accordance with DIN EN 12369 Part 1/DIN 20000-1) and technical values (in accordance with DIN EN 13986 and DIN EN 312), esb is suitable for floor construction, wall and roof cladding, construction fencing, shop and trade fair construction, interior fittings, statically effective ceilings, roofs and wall panels in timber frame construction and packaging.
The technical properties in detail:

Flexural strength & modulus of elasticity:

The flexural strength and the modulus of elasticity of the **esb boards** are the same in both directions.
With the OSB board, however, the value is halved in the transverse direction.
Advantage: This enables the craftsman to achieve the optimum panel yield when cutting.
Processing errors due to confusion between the main and the minor axes are ruled out with the **esb board**.

Transverse tensile strength:

The transverse tensile strength is 40% better than that of an OSB board.
Advantage This leads to better screw and nail pull-out values.

Swelling values:

The swelling values are significantly lower than with OSB boards.
Advantage: High dimensional stability during processing.

Excellent panel appearance with sanded surface:

The **esb board** has a very light surface and a clean appearance. Unique on the German market, it is made from domestic fresh wood. **esb boards** are delivered sanded.
Advantage: No finishing, no re-sanding.

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Qualitätsgemeinschaft Holzwerkstoffe e.V.

CE

DGNB NAVIGATOR
Registrierungs-Code
5GAXCD
www.dgnb-navigator.de

PEFC
PEFC/04-31-0625
Förderung nachhaltiger Waldbewirtschaftung
www.pefc.de

Is it possible to paint esb?

Yes! Since the **esb board** is basically sanded and has an almost dense surface, varnishes that are open to diffusion can be applied as well as paints or adhesives.

Can the use of esb panels in the house result in cause odour nuisance?

No! The **esb board** is largely odourless and supports a healthy living climate.

OSB boards, on the other hand, can release volatile organic compounds such as hydrocarbons, aldehydes, acetone and organic acids into the indoor air under certain conditions. Odour nuisance, irritation of the mucous membranes and toxic long-term effects are listed as possible effects by the Federal Environment Agency's research project "Determination of VOC emissions from OSB boards-UMID 1 2013".

What is the significance of the greatest possible diffusion openness of the esb panel?

Similar to the way heat always moves from the warm to the cold side, a balance also takes place between areas of different humidity. To ensure that this works perfectly, vapour retarders and our largely diffusion-open **esb boards** can be intelligently combined with each other if necessary. The latter prevents the formation of condensation and thus moisture-related structural damage.
The **esb board** is a largely diffusion-open wood material that compensates for climate fluctuations in the house. The **esb board** has also proven its worth on exterior walls, e.g. as a support for a ventilated formwork or under a diffusion-open thermal insulation.

The **esb board** thus ensures moisture transport over the entire wall thickness and over the entire service life of the panel.

If required, the **esb board** can be provided with a foil as a vapour barrier on the warmer side for a diffusion-sealed construction. This technology, proven over decades technology is used in the prefabricated house industry. For a structure without a vapour barrier, a building physics check of the selected structure is indicated.

What does esb cost?

The brand product price of the **esb board** depends on the current timber prices and the quantity ordered. Thanks to its wide usage spectrum, esb can replace P2, P3, P5 particle board and OSB/2, OSB/3 in the timber trade as well vapor-permeable wood fibre panels.

TO SUM UP: esb is a real all-rounder with many advantages!!

esb boards (P5) are manufactured in accordance with DIN EN 312. They can be supplied FSC® and PEFC-certification and are labelled with the CE mark.

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