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Bolderaja Ltd OSB/3 floor and roof sheathing, load bearing boards for use in humid conditions

are affirmed by WKI with properties, fields of application and conditions as stated in this document.

1. Holder of this technical compendium

Bolderaja LTd.
7 Gubernciema Street
LV-1016 Riga
Latvija

2. Manufacturer

Bolderaja Ltd., LV-1016 Riga, Latvija

3. Product description

Bolderaja Ltd. OSB/3 are wood-based oriented strand boards with strands from pine and spruce, bonded together under high temperature and pressure with moisture resistant resin and wax. The wood strands are cross-oriented in the layers with the wood fibres in the face layers mainly oriented to the length of the board.

The boards are produced in accordance with technical class OSB/3 as specified in EN 13986 and EN 300.

Standard thicknesses are nominal 12 mm, 15 mm, 18 mm and 22 mm, with tongue and groove edge profiles at the long edges, see fig. Standard sizes are 2500 mm x 1250 mm and 2500 mm x 650 mm while other sizes are delivered on request.

Dimensional tolerances measured according to EN 324-1 and 324-2 are:

- Thickness, sanded $\pm 0,3$ mm
- Length and width $\pm 3,0$ mm
- Edge straightness 1,5 mm/m

- Squareness 2.0 mm/m
- Mean density is ≥ 600 kg/m³ measured according to EN 323.

The boards are delivered from the factory with a moisture content of 5% to 12% weight, measured according to EN 322.

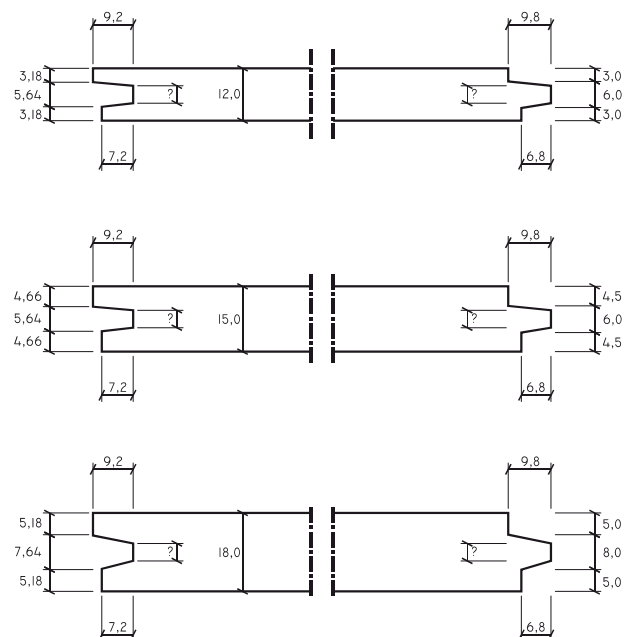


Fig. 1
Bolderaja Ltd. OSB/3. Tongue and groove profiles.

4. Fields of application

Bolderaja Ltd. OSB/3 may be used as subfloor on floor joists in residential and other buildings with similar floor loads, and as load bearing roof sheathing in timber roof structures. See also conditions for application in section 6.

5. Properties

Mechanical and swelling properties

EN 300 shows the requirements for specified mechanical and swelling properties of load-bearing boards for use in humid conditions type OSB/3. Structural design properties for

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calculating main load bearing structures are given in EN 12369-1.

Moisture resistance properties

EN 300 shows the requirements for moisture resistance of load-bearing boards for use in humid conditions type OSB/3.

Characteristic values and mean stiffness values

EN 12369 gives both the characteristic density (kg/m^3) and strength (N/mm^2) values and mean stiffness values of load-bearing boards for use in humid conditions type OSB/3.

Properties related to fire

Reaction to fire classification according to EN 13501-1 is D-s2, d0 and DFL-s1 as flooring, taken from EN 13986 table 8.

Water vapour permeability

The water vapour resistance factor according to EN 12524 is $\mu = 50$ for dry conditions and $\mu = 30$ for wet conditions, taken from EN 13986 for OSB with mean density of 650 kg/m^3 .

Thermal insulation

Design thermal conductivity according to EN 12524 is $\lambda_d = 0,13 \text{ W/(mK)}$, taken from EN 13986 for OSB with mean density of 650 kg/m^3 .

Release of formaldehyde

Bolderaja Ltd OSB/3 satisfies formaldehyde class E1 according to EN 13986. The boards are regarded to have negligible effect on the indoor climate for people who are not particular sensitive to formaldehyde.

Waste treatment/recycling

The boards may be delivered at ordinary public waste deposits. The material energy may be retrieved by burning.

6. Special conditions for use and installation

Floor sheathing

18 mm Bolderaja Ltd. OSB/3 may be used as subfloor on floor joists spaced maximum c/c 610 mm, provided that the imposed load is maximum category A (EN 1991-1-1) in service class 1 (EN 1995-1-1) according to EN 12871. Finally, when this OSB -3 panels are implemented for floors (category A) in service class 1, the maximum allowed imposed concentrated load (Q_k) is $Q_k < 2,38 \text{ KN}$

Roof sheathing

12 mm Bolderaja Ltd. OSB/3 may be used as roof sheathings joists spaced maximum c/c 610 mm, provided that the imposed load is maximum category H (EN 1991-1-1) in service class 2 (EN 1995-1-1) according to EN 12871. Finally, when this OSB -3 panels are implemented for roofs (category H) in service class 2, the maximum allowed imposed concentrated load (Q_k) is $Q_k < 1,49 \text{ KN}$

15 mm Bolderaja Ltd. OSB/3 may be used as roof sheathings joists spaced maximum c/c 815 mm, provided that the imposed load is maximum category H (EN 1991-1-1) in service class 2 (EN 1995-1-1) according to EN 12871. Finally, when this OSB -3 panels are implemented for roofs (category H) in service class 2, the maximum allowed imposed concentrated load (Q_k) is $Q_k < 1,58 \text{ KN}$

18 mm Bolderaja Ltd. OSB/3 may be used as roof sheathings joists spaced maximum c/c 1220 mm, provided that the imposed load is maximum category H (EN 1991-1-1) in service class 2 (EN 1995-1-1) according to EN 12871. Finally, when this OSB -3 panels are implemented for roofs (category H) in service class 2, the maximum allowed imposed concentrated load (Q_k) is $Q_k < 0,98 \text{ KN}$

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7. Factory production control

The manufacturer's factory production control is certified and continuously inspected by the notified body Fraunhofer Institut for wood research (WKI) as part of CE-marking of the product according to EN 13986.

8. Basis for this compendium

The approval is based on the material properties verified according to the requirements for OSB boards technical class OSB/3 in EN 13986 and EN 300, plus performance testing as floor and roof sheathing according to EN 12871 as verified in the following reports:

- WKI Report 2009-0492
16.02.2009
Determination of load bearing characteristics for OSB/3, grooves and loose cross tongue, thickness 18 mm, in prototype method according to EN 12871 (EN 1195) for use floors as structural floor decking.
- WKI Report 2009-0493
16.02.2009
Determination of load bearing characteristics for OSB/3, grooves and loose cross tongue, thickness 12 mm, in prototype method according to EN 12871 (EN 1195) for use in roofs as structural roof decking.
- WKI Report 2009-0494
16.02.2009
Determination of load bearing characteristics for OSB/3, grooves and loose cross tongue, thickness 15 mm, in prototype method according to EN 12871 (EN 1195) for use in roofs as structural roof decking.
- WKI Report 2009-0528
23.02.2009
Determination of load bearing characteristics for OSB/3, grooves and loose cross tongue, thickness 18 mm, in prototype method according to EN 12871

(EN 1195) for use floors as structural floor decking.

9. Marking

Bolderaja Ltd. OSB/3 shall be CE-Marked according to the provisions of EN 13986. WKI technical compendium mark no. 002 may also be used.



WKI Compendium mark 002

10. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against WKI.

11. Technical management

Project manager for this compendium is Dipl.-Ing. Harald Schwab from Fraunhofer-Institute for wood research (WKI) in Braunschweig, Germany.



Dipl.-Ing. Harald Schwab
Head of Department Quality Assessment
Fraunhofer-Institute for wood research (WKI)