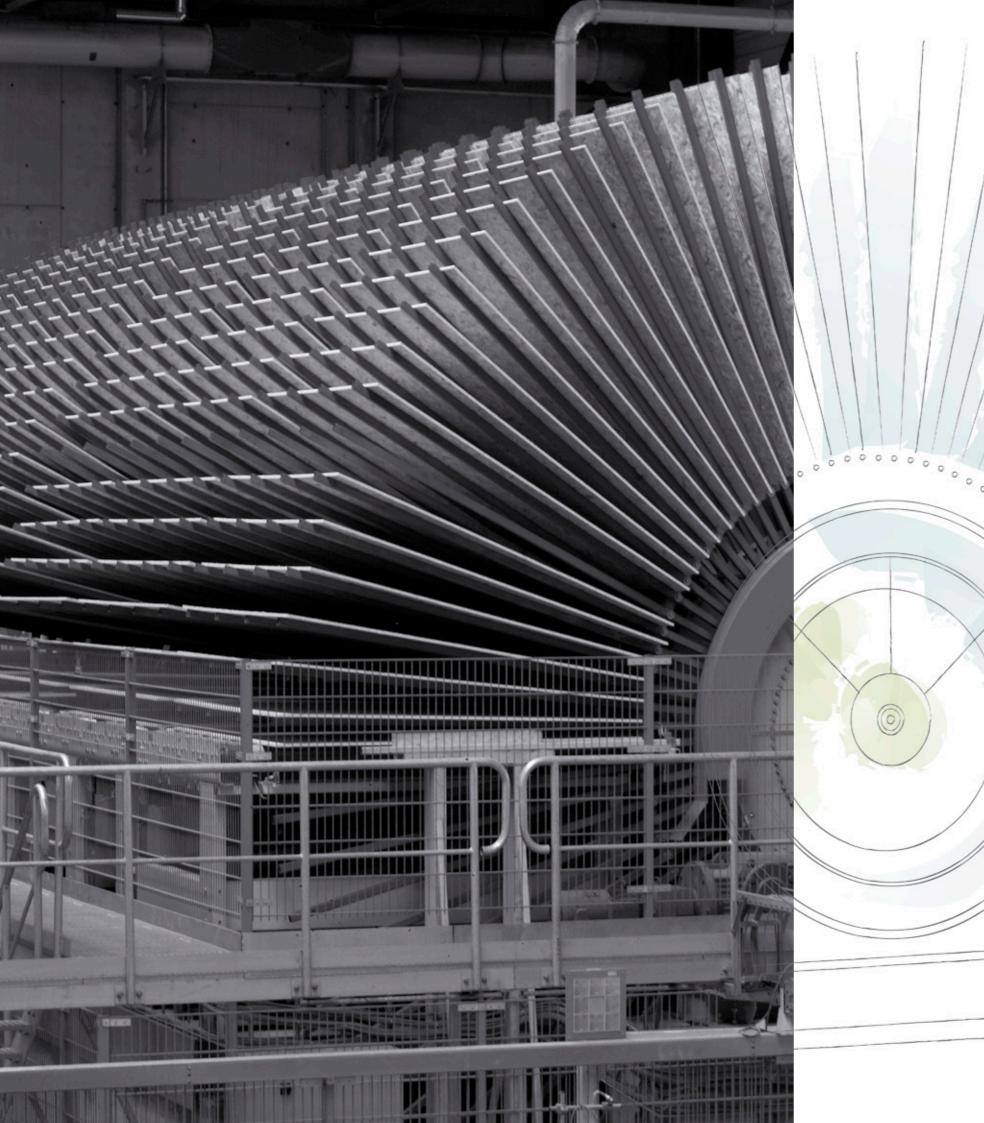




ABOUT COMPANY

Mission - provide solutions to
enhance customers product value.
Vision - to be a leader among wood
based panel producers in the region.
Values - innovation, integrity and
team commitment.



ECO

decorative applications.

BOLDERAJA OSB SUPERFINISH®

WITH A 100% FORMALDEHYDE-FREE BINDER

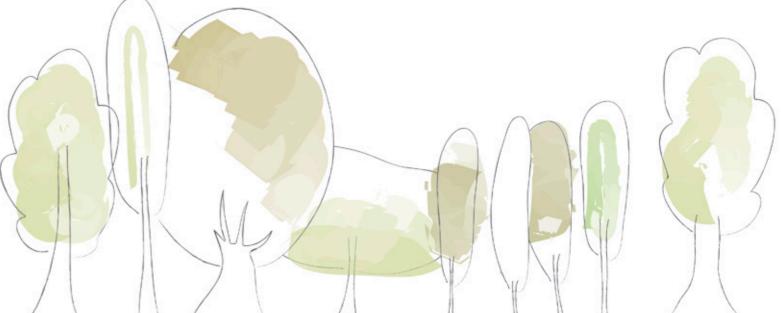
OSB stands for "Oriented Strand Board" and is a wood-based product made from thin veneer strands that are bonded together with a synthetic resin. OSB SUPERFINISH® ECO consists of three cross-oriented layers with the surface of the board formed from strands oriented along the length of the board and the core strands arranged in cross orientation. This crosswise orientation of the individual layers achieves a high level of dimensional stability and an excellent mechanical performance.

OSB SUPERFINISH® ECO is manufactured from good quality softwood, primarily spruce. The veneer strands are precisely sliced from the side of clean, debarked wood logs so that the plane of the strand is parallel to the grain of the wood. These freshly cut strands are then dried, sorted and blended with a synthetic resin binder and a defined portion of paraffin emulsion before they are formed into large continuous mats. These mats are oriented in cross directional layers and pressed into panels by means of high temperature and pressure in the course of an uninterrupted continuous pressing process. Because of its bending strength OSB SUPERFINISH® ECO is the ultimate engineered wood product for timber framed construction. With its light and uniform wood surface it provides an attractive natural appearance and is used for a variety of



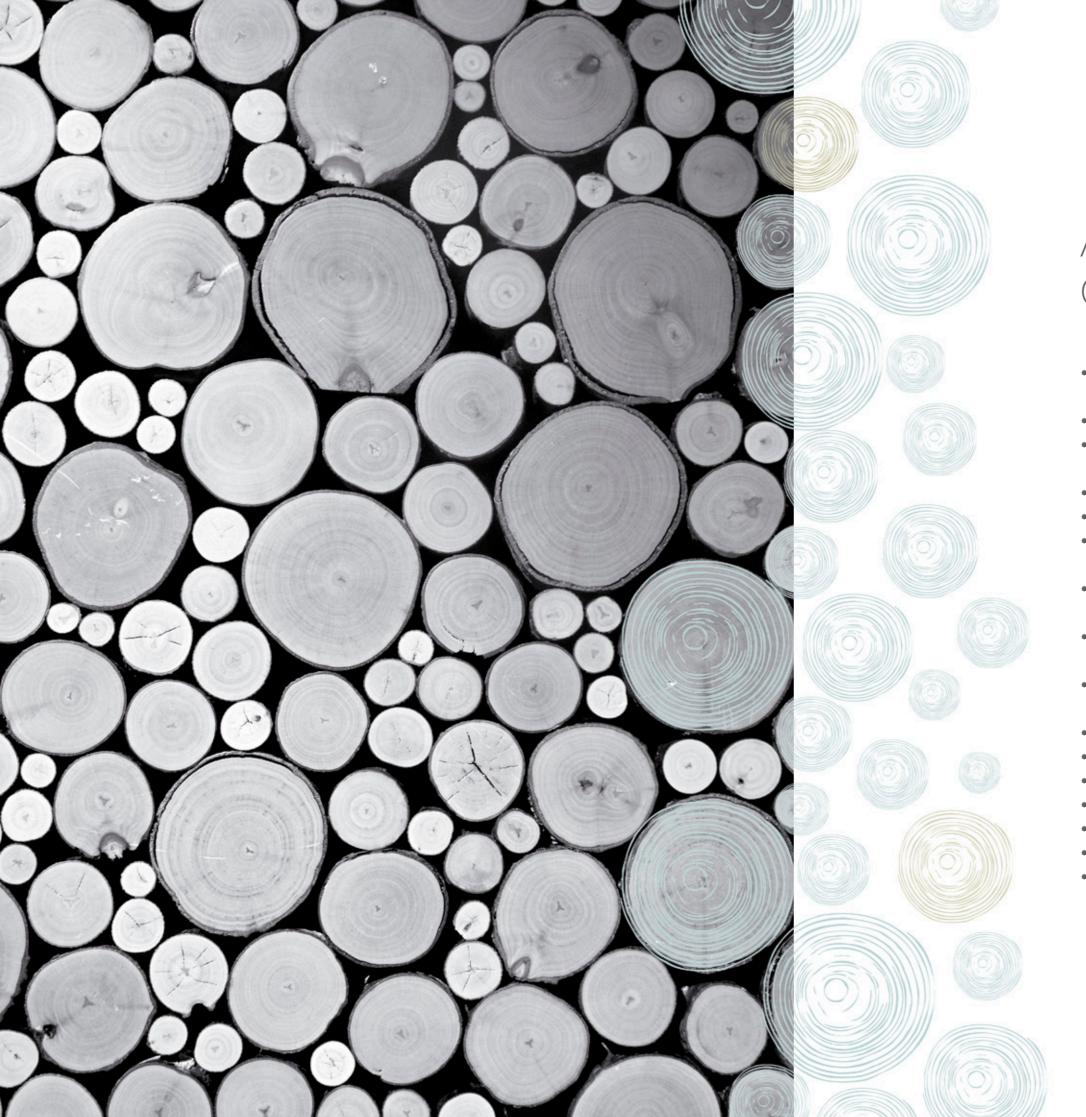
ENVIRONMEN-TALLY FRIENDLY DEHYDEFREE CONSTRUCTION BINDER

Contemporary timber framed construction is a lifestyle choice. Architects, developers and builders are looking increasingly at the environmental impact of their projects. Home buyers and consumers are aware of environmentally design. Due to its environmental and overall sustainability credentials timber as a construction material has a significant role to play in SUPERFINISH® ECO being limited to the natural helping to protect the environment. Timber framed construction delivers high building quality, a more efficient construction process and the opportunity to design beautiful and durable homes. Being a wood-based product with 95 % of its volume made of wood of woodlot thinnings sourced from wellmanaged forests OSB SUPERFINISH® ECO supports and contributes to sustainable construction.



GLUED WITH A 100% FORMAL-

In addition to the above OSB SUPERFINISH® ECO is one of the most advanced OSB boards currently available. OSB SUPERFINISH® ECO is manufactured using a formaldehydefree polyurethane resin-based binder and contributes to a more environmentally friendly living environment. With the formaldehyde content of OSB formaldehyde content of wood (< 0.03 ppm HCHO – as determined by the chamber method) stronger ecological requirements of the timber framed construction industry are met. A permanent quality control and a regular supervision by independent certification agencies (Wilhelm Klauditz Institut Holzforschung) ensure full compliance to stronger quality standards and emission regulations. With its wide range of OSB SUPERFINISH[®] ECO products Bolderaja LTD promotes the environmentally friendly timber framed construction.



- exterior use

- - Low thickness swelling
 - structure systems

 - thickness and panel size

 - Natural wood surface finish
 - Quick assembly
 - Excellent price-performance ratio
 - Good environmental credentials
 - content of wood

ADVANTAGES OF OSB SUPERFINISH® ECO

• Environmentally friendly wood-based panel both for interior and

- Exceptional dimensional stability and stiffness
- Excellent load bearing properties with high bending,
 - compression and tension strength values
- Excellent fastener retention, also near the edge
- Can be used for both diffusion-open and diffusion-closed
- The surface of OSB SUPERFINISH® ECO has a certain degree
 - of resistance to short-term wetting
- Advantageous thermal insulating and sound absorbing
 - properties when compared to similar construction materials
- Can be custom manufactured to meet specific requirements in
- Suitable for humid conditions (OSB/3 and OSB/4)
- Is easy to cut and fix using conventional woodworking tools
- Formaldehyde content limited to the natural formaldehyde



MAIN APPLICATION AREAS

OSB SUPERFINISH® ECO offers a wide range of possible applications both for interior and exterior use. Its exceptional properties make OSB SUPERFINISH® ECO ideal for timber framed construction. At the same time the growing popularity of this product result in new



AREAS OF USE

- Construction of timber framed buildings
- Ideal for low-energy and passive environmentally friendly
- Wall sheathing (both for interior and exterior walls)
- Hoardings around building sites.
- Concrete boarding: sacrificial shuttering, foundation shuttering,
 - pre-cast concrete shuttering
- Production of containers and site barracks
- Warehouse construction and agricultural buildings
- Furniture industry (e.g. frames for upholstery, doors and
- Exhibition stand construction, displays, platforms
- Pallet and crate packaging industry
- Shelving and racking manufacturing
- Shop fitting, decorative paneling



WHY BOLDERAJA OSB SUPERFINISH ECO? WHY TIMBER FRAME CONSTRUCTION?

Contemporary timber frame housing is a lifestyle choice. Architects, developers and builders are looking increasingly at the environmental impact of their projects. Home buyers and consumers are both design conscious and environmentally aware. Due to its environmental and overall sustainability credentials timber as a construction material, has a significant role to play in helping to protect the local and global environment. Timber frame construction delivers high build quality, a more efficient construction process and the opportunity to design beautiful and durable homes. When deciding to build with timber, you make a positive contribution to tackling climate change. Bolderaja OSB SUPERFINISH® ECO as a wood based product – 95% of the board's volume consists of wood – supports and contributes to sustainable construction.

DESCRIPTION OF OSB BOARDS ACCORDING TO EN 300

General requirements for OSB boards (type OSB/2, OSB/3 and OSB/4)

Dranart (Taat mathad	Linit		Nominal thic	ckness, mm	
Property		Test method	Unit	6-10	>10-18	>18-25	>25-32
Tolerance on nominal	Lenght and width	LVS EN 324-1	mm		=	±3	
dimensions	Thickness	LVS EN 324-1	mm		±	:0,8	
Edge straightness toler	ance ¹	LVS EN 324-2	mm/m			1,5	
Squareness tolerance ²		LVS EN 324-1	mm/m			2	
Moisture content		LVS EN 322	%		2-	-12	
Tolerance on the mean	density within a board	LVS EN 323	%		±	15	
Formaldehyde release according to EN300	E1	LVS EN 120	mg/100g		2	8	

¹ These values are characterised in the material corresponding to a humidity of 65%, and temperature of 20°C. ² Perforator values are related to boards with moisture of 6,5%. In case of boards with different moisture content the perforator value is recalculated.

Properties for load- bearing boards for use in dry (OSB/2) and humid (OSB/3) conditions

Drapart		Toot mothod	Linit		Nominal thic	ckness, mm	
Property		Test method	Unit	6-10	>10-18	>18-25	>25-32
Ponding strongth	Major axis	EN 310	N/mm2	22	20	18	16
Bending strength	Minor axis	EN 310	N/mm2	11	10	9	8
Bending strength after	cyclic test - major axis	EN 321	N/mm2	9	8	7	6
Modulus of elasticity	Major axis	EN 310	N/mm2		35	00	
in bending	Minor axis	EN 310	N/mm2		14	.00	
Internal bond		EN 319	N/mm2	0,34	0,32	0,30	0,29
after cyclic test		EN 1087-1	N/mm2	0,18	0,15	0,13	0,10
after boil test		EN 321	N/mm2	0,15	0,13	0,12	0,06
Swelling in thickness	OSB/2	EN 317	%		2	0	
- 24h immersion	OSB/3	EN 317	%		1	5	

QUALITY THAT WINS

Bolderaja OSB SUPERFINISH® ECO is manufactured to a series of inter-related European standards, of which the main product standard EN 300 – Oriented Strand Board (OSB) : Definitions, classification and specifications refer to other standards, such as EN 13986 – The harmonized European Standard for wood-based panels for use in construction.

Bolderaja OSB SUPERFINISH® ECO complies with the strict requirements both of EN 300 and EN 13986. Permanent quality control and regular supervision by national

certification agencies ensure full compliance to these standards. This includes test sampling on raw materials and the finished product during and after production process and provides third party guarantee of Bolderaja OSB Superfinish's ECO excellent performance. Requirement for heavy duty load bearing boards for use in humid conditions (type OSB/4)

Droport		Toot mothod	Unit		Nominal thi	ckness, mm	
Property		Test method	Unit	6-10	>10-18	>18-25	>25-32
Danding strangth	Major axis	EN 310	N/mm2	30	28	26	24
Bending strength	Minor axis	EN 310	N/mm2	16	15	14	13
Bending strength after	cyclic test - major axis	EN 321	N/mm2	15	14	13	6
Modulus of elasticity	Major axis	EN 310	N/mm2		48	00	
in bending	Minor axis	EN 310	N/mm2		19	00	
Internal bond		EN 319	N/mm2	0,34	0,32	0,30	0,29
after cyclic test		EN 1087-1	N/mm2	0,18	0,15	0,13	0,10
after boil test		EN 321	N/mm2	0,15	0,13	0,12	0,06
Swelling in thickness - 24h immersion	OSB/4	EN 317	%		1	2	

Loading and packing (for deliveries by truck) of OSE

Thicknose [mm]		Pallet				S	hipment		
Thickness [mm]	pcs./pallet	m2	m3	Pallets	m2	m3	Density kg/m3	kg	kg/pallet
6	112	350	2.10	17	5950	35.70	640	22685	1334
8	84	263	2.10	18	4734	37.80	585	23811	1323
9	75	234	2.11	18	4214	37.98	606	23901	1328
10	69	216	2.16	18	3888	38.88	607	23956	1331
11	64	200	2.20	18	3600	39.60	601	23980	1332
12	59	184	2.21	18	3312	39.78	595	23970	1332
15	47	147	2.20	18	2646	39.60	565	23841	1325
18	39	122	2.19	18	2196	39.42	560	23811	1323
22	32	100	2.20	18	1800	39.60	553	23790	1322
25	28	88	2.19	18	1584	39.42	550	23766	1320
30	25	75	2.35	18	1350	40.50	575	23286	1294

PROPERTIES OF OSB SUPERFINISH® ECO

OSB SUPERFINISH® ECO complies with EN 300 for OSB3 but has lower formaldehyde content

Property	Test method	Requirement
Formaldehyde content 1	EN 717-1	< 0,03 ppm

¹ As determined by the chamber method

Weights of individual boards*

Turne	Thickness (mm)											
lype	Format	6	8	9	10	11	12	15	18	22	25	30
OSB2 / OSB3 **	kg/m ³	615	605	600	595	590	585	580	570	550	545	540
T&G OSB2 / OSB3 **	kg/m ³						610	595	590	580	570	555
OSB4	kg/m ³		635	620	620	615	610	595	590	580	570	555

* Producer has a right to change technical specifications without prior notice. ** Average weight $\pm 15\%$ (OSB/2 and OSB/3)

OSB SUPERFINISH® ECO AVAILABILITY

OSB 3	Sizo mm						Thickne	ess, mm				
000 0	Size, mm	6	8	9	10	11	12	15	18	22	25	30
	2500x1250	112	84	75	69	64	59	47	39	32	28	
	2440x1197					64						
Straight edge	897x2440					64						
	2440x1220			75		64	59	47		32		
	2800x1250			75	69	64	59	47	39	32		
4790	2500x1250 *						59	47	39	32	28	
4T&G	2500x625 *						59	47	39	32	28	25
2T&G	2440x1220 *						59	47	39			
ZTAG	2397x1198 *						59	47	39	32		



* Cover size

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The mark of responsible forestry