MORE FROM WOOD.

EGGER

PROFESSIONAL

EGGER EUROSTRAND® OSB/2 AND OSB/3

› The **environmentally friendly standard board** for wood construction, concrete formwork and packaging

www.egger.com

SUSTAINABLE

FROM THE TREE TO THE PRODUCT – A CLOSED CYCLE

Our activities are centred on a closed cycle. In our core values, we have accorded the highest priority to the sustainable use of raw materials.

USING WOOD PROTECTS THE CLIMATE

Wood from controlled sources is initially used in materials at our plants. After the usage phase, our products can be utilised thermally.

Here only the amount of CO_2 that was bound during the growth phase of the wood is released.

1 m³ (35 ⅓ cubic feet) of OSB from EGGER binds approximately 864 kg CO_2 (calculation based on GWP 100 production)

This corresponds to the average CO_2 emissions for a mid-size car over a distance of 6,647 km (calculation based on the planned European standard of 130 g – 4 ½ oz – CO_2 /km).

For more information, please consult the EGGER Environment & Sustainability brochure or visit www.egger.com

EUROSTRAND® OSB EN 300

THE ENVIRONMENTALLY FRIENDLY STANDARD BOARD FOR WOOD CONSTRUCTION, CONCRETE FORMWORK AND PACKAGING

PRODUCT DESCRIPTION

PRODUCTION

EUROSTRAND® OSB is a flat hardboard with a three-layer structure of oriented distributed strands (micro-veneers) according to DIN EN 300. The special strand geometry (length up to 160 mm) and very high degree of strand orientation in the grain direction of the surface layer assure outstanding technical characteristics and very good inherent stability.

RAW MATERIALS USED

- Decorticated coniferous wood from domestic forestry
- Paraffin wax emulsion
- Low-emission MUF resin
- Water

OSB BOARD TYPES

EGGER EUROSTRAND® OSB boards are available from inventory in two classes according to EN 13986.

- EGGER EUROSTRAND® OSB/2 E1 EN 300, CE
- EGGER EUROSTRAND® OSB/3 E1 EN 300, CE

The materials are available:

- In board thicknesses from 6 to 40 mm
- With 2-sided and 4-sided asymmetrical tongue and groove
- With unsanded ContiFine surface
- In various board formats, see delivery programme
- Large format up to 6.3 m in length and max. 2.82 m in width

THE CERTIFICATES

- OSB/2 and OSB/3 CE certification by WKI Braunschweig
- REI 30 / REI 45 / REI 60 test certificate for load-bearing, space-enclosing wall construction
- UKR Sepro quality assurance Ukraine
- GOST certificate Russia/Belarus
- FSC Controlled Wood (CW) certificate
- Test certificate for ball-impact-resistant wall construction

Usage class

According to EN 1995-1-1 (EC5), EUROSTRAND® OSB/3 E1 EN 300 can be used for applications in usage class 1 (dry conditions) and 2 (humid conditions), EUROSTRAND® OSB/2 E1 EN 300 in usage class 1.

PRODUCT CHARACTERISTICS

STRUCTURAL-PHYSICAL CALCULATION VALUES

EUROSTRAND® OSB/2 E1 and OSB/3 E1 according to EN 300:2006

Characteristic	Standard	Unit	EUROSTRAND® OSB	
			OSB/2 E1	OSB/3 E1
Raw density	EN 323	kg/m³	≥ 580	≥ 600
µ-value	DIN V 20000-1	–	200	200/300
Thermal conductivity λ_R	EN 13986	W/(mK)	0.13	0.13
Specific heat capacity c	EN 12524	J/(kgK)	1,700	1,700
Reaction to fire	EN 13986	–	E, (d › 12 mm) D-s1, d0	(≥ 9 mm) D-s2, d0
24-hour thickness swelling	EN 317	%	20	15
Length change per 1% material humidity change	EN 318	%/%	0.04	0.03
Formaldehyde emissions E1	EN 717-1	ppm	≤ 0.1 ppm	≤ 0.1 ppm

We will gladly provide you with material values for additional moisture dynamics calculations.

CHARACTERISTIC STRENGTH VALUES AND RIGIDITY

EUROSTRAND® OSB/2 E1 and OSB/3 E1 according to EN 300:2006
The typical static calculation values are based on EN 12369-1.

Thickness (mm)	Strength values (N/mm²)							
	Deflection		Tension		Pressure		Pressure perpendicular to the board plane	Pressure in the board plane
t_{nom}	f_m		f_t		f_c		f_v	f_r
	0° 1)	90° 2)	0°	90°	0°	90°	–	–
6 – 10	18.0	9.0	9.9	7.2	15.9	12.9	6.8	1.0
› 10 ‹ 18	16.4	8.2	9.4	7.0	15.4	12.7	6.8	1.0
18 – 25	14.8	7.4	9.0	6.8	14.8	12.4	6.8	1.0

Thickness (mm)	Rigidity values (N/mm²)							
	Deflection		Tension		Pressure		Pressure perpendicular to the board plane	Pressure in the board plane
t_{nom}	E_m		E_t		E_c		G_v	G_r
	0°	90°	0°	90°	0°	90°	–	–
6 – 10	4,930	1,980	3,800	3,000	3,800	3,000	1,080	50
› 10 ‹ 18	4,930	1,980	3,800	3,000	3,800	3,000	1,080	50
18 – 25	4,930	1,980	3,800	3,000	3,800	3,000	1,080	50

1) 0° – main axis 2) 90° – secondary axis

For installation as load-bearing sheathing, the direction of the strong main axis of OSB boards (= parallel to the direction of the surface layer strands) must be observed.

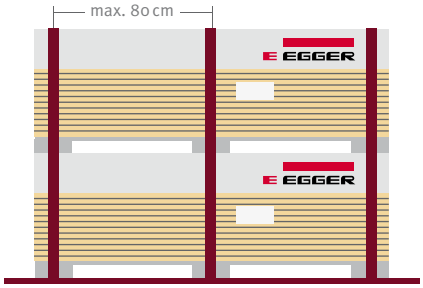
STORAGE RECOMMENDATIONS

Correct storage and protective measures during transportation are essential for problem-free processing. The following straight-forward principles should generally be observed:

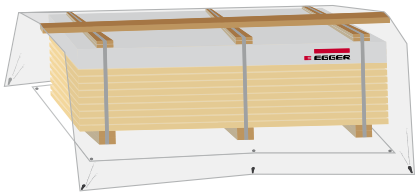
- EUROSTRAND® OSB should be stored level on several squared timbers. The maximum span should be 80 cm and the height of the squared timbers should be uniform.
- When several packages are stacked on top of each other, the squared timbers must be positioned vertically above each other.
- In the warehouse of the fabricator, the straps around the packages should be removed promptly in order to avoid compression stress in the package.
- Upright storage (standing nearly vertical) is only possible for few boards on a dry surface. In this case, tongue and groove boards must only stand on the groove edge.
- For transportation by lift truck, the squared timbers must be of sufficient height to avoid damage.
- Prior to installation, the boards in the package must be sufficiently protected against the elements (closed truck tarp, film cover).
- Storage facilities should be air-conditioned without major humidity and temperature fluctuations.
- 48-hour acclimatisation of the boards to the moisture level at the installation site prior to installation is expressly recommended.

MOISTURE PROTECTION

EUROSTRAND® OSB features low thickness swelling and high dimensional stability. For use as load-bearing, reinforcing components, corresponding measures must be taken for protection against the elements.

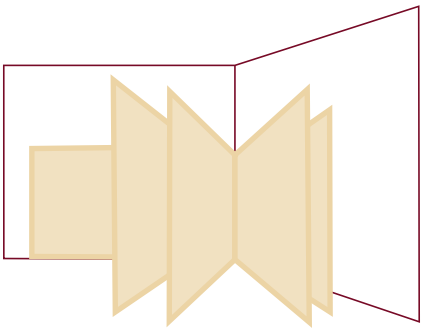


Cut straps on the packages on the construction site



Package protected by film cover

For acclimatisation on the construction site:
Boards set up with slats



For acclimatisation on the construction site:
Boards clamped in a corner of the room

The following should be checked on site prior to installation:

- Board thickness
- Board type / allowable moisture range
- Compliance mark
- CE certification

More information on the structural-physical characteristics and concrete component designs are available in the EGGER processing guideline.

STOCK PROGRAMME

EUROSTRAND® OSB E1 EN 300

Upon request, EUROSTRAND® OSB boards can be produced according to customer specifications or in custom lengths in addition to the stock programme. Please observe our production parameters for such orders.

- Board thicknesses d
  - 6 – 40 mm
- Board formats
  - Max. width 2.82 m
  - Max. length 6.30 m
  - e.g. 5,000 × 2,500, 5,000 × 1,250, 2,800 × 1,250 (mm)
- Surfaces
  - ContiFine, both sides unsanded
- Edging
  - straight
  - Tongue & groove on 2 sides (T&G),
  - Asymmetrical tongue & groove on 4 sides (T&G)

DELIVERY PROGRAMME

EUROSTRAND® OSB/3 E1 EN 300

Product / length × width (mm)	Board thickness d (mm)									
	6	8	9	10	11	12	15	18	22	25
Straight edge unsanded										
2,500 × 1,250	●	●	●	●		●	●	●	●	●
T&G 4 sides unsanded										
2,500 × 675						●	●	●	●	

EUROSTRAND® OSB/2 E1 EN 300

Product / length × width (mm)	Board thickness d (mm)									
	6	8	9	10	11	12	15	18	22	25
Straight edge unsanded										
2,440 × 1,220			●	●	●		●	●		

EUROSTRAND® OSB EN 300 features outstanding technical characteristics and very good inherent stability.

WOOD CONSTRUCTION
POWERFUL AND SUSTAINABLE

EGGER has accepted the mission to offer durable products and solutions with stable value for building and living with wood. Our EUROSTRAND® OSB boards are multi-talents for structural and decorative applications. Thanks to their good technical characteristics, they guarantee planning reliability along with straightforward and efficient processing at high quality.
EGGER guarantees consistent, high-quality wood-based materials that meet all requirements for building products with the CE marking, and of course also environmental protection and sustainability standards.

AREAS OF APPLICATION
- Residential and commercial construction
- New construction, renovation and modernisation
- Low-energy and passive houses
- Additions, extra storeys
- Trade fair fitting, shop fitting and interior design
- Sturdy substructures in the furniture industry

ECONOMICAL SOLUTIONS FOR
- Roof construction
- Flooring
- Exterior walls
- Interior walls
- Ceilings

CHARACTERISTICS
- Extremely strong and sturdy wood-based material board
- Load-bearing, reinforcing sheathing for wood frame construction
- Load-bearing sheathing for roof coverings and roof water-proofing
- Floor to ceiling sheathing for thermal-bridge-reducing components
- Airtight vapour barrier in roofs and walls
- Decorative surfaces of floors, ceilings and walls
- Sturdy and flat surfaces on OSB boards with tongue & groove (T&G) joints
- Ball-impact-resistant wall cladding in sports facilities and much more

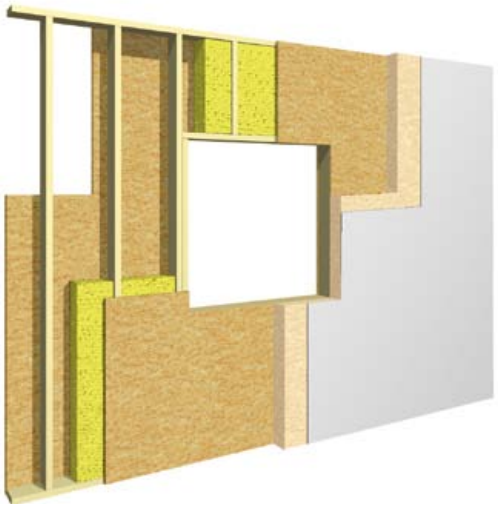
Advantages at a Glance

- Straightforward and fast processing without special tools
- High static loading capacity for the greatest possible application versatility
- Dry, clean processing for shorter construction times

EGGER WOOD CONSTRUCTION
AREAS OF APPLICATION IN THE ROOF, WALL AND CEILING

EXTERIOR WALL

In addition to bracing the structure, EUROSTRAND® OSB also assumes the function of a vapour barrier (s_d-value › 2.0 m). With taped joints, seams and openings, OSB sheathing also ensures the required air-proofing.
Numerous interesting possibilities are offered for façade design. These range from modern thermal insulation bonded board systems, e.g. with a classic plaster façade, to board-like curtain façades to the popular wood façades.
There are no restrictions on colours and designs. Even demanding architectural requirements can be met with the systems described here.



SAMPLE COMPOSITION FROM THE INTERIOR TO THE EXTERIOR

- 12.5 mm drywall board *(not shown)*
- (if applicable, approximately 50 × 30 mm battens for installation level)
- ≥ 12 mm EUROSTRAND® OSB/3 according to static requirements
- Vapour barrier
- Approximately 60 × 160 mm wood stud framework with insulation
- ≥ 12 mm EUROSTRAND® OSB/3 according to static requirements
- 100 mm thermal insulation bonded system
- Exterior plaster

INTERIOR WALL

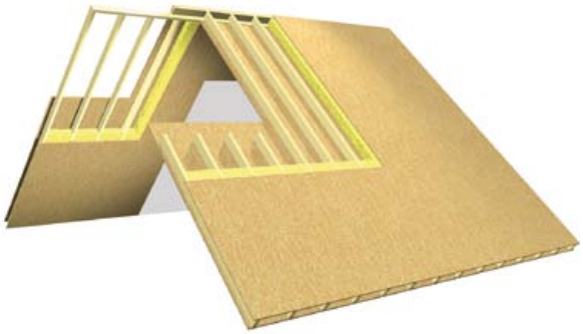
Outstanding technical characteristics and numerous formats, also with tongue and groove profile, make EUROSTRAND® OSB ideal as interior wall sheathing. With EUROSTRAND® OSB, loads such as cabinets or shelves can be easily surface-mounted without the need for special dowels. The high edge strength of the OSB boards permits reduced nail spacing from the board edge under load. This means the respective wood cross-sections of the supporting framework can be optimised.

SAMPLE COMPOSITION

- Approximately 60 × 100 mm wood stud framework with insulation
- 10 / 12 mm sheathing on both sides
- 9 mm drywall board

PERFECT FORMWORK FOR THE ROOF

Of all components, the roof is the most exposed to weathering and the elements. This is why planning and execution are of special importance here. Using the attic as a living area imposes new requirements. Protection against overheating in the summer, heat insulation in the winter, adequate noise insulation and fire protection requirements – all of these can be reliably realised with OSB boards.



SAMPLE COMPOSITION FROM THE INTERIOR TO THE EXTERIOR

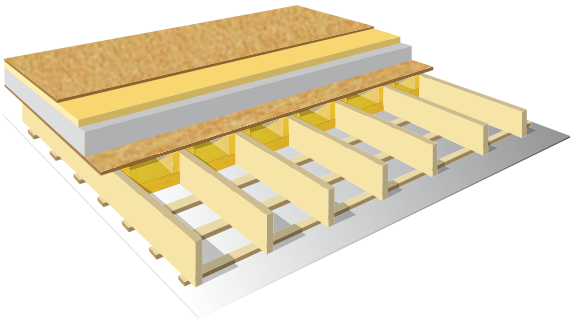
- 12.5 mm drywall board
- ≥ 12 mm EUROSTRAND® OSB/3
- Vapour barrier
- Rafter with insulation
- EUROSTRAND® OSB/3, thickness according to static requirements

Not shown:

- *Underlay*
- *Battens/lathwork if required*
- *Roof covering*

WOOD BEAM CEILING, SINGLE-FAMILY DWELLING

Sound insulation is an important factor for the quality of residential space. A well-planned design can avoid undesirable impairments and disruptions. Minimum requirements are defined in the corresponding standards. Additional, higher sound insulation requirements must be separately coordinated with the builder.
OSB/3 tongue & groove boards are ideal for visually appealing floor surfaces.



SAMPLE COMPOSITION FROM TOP TO BOTTOM

- ≥ 18 mm EUROSTRAND® OSB/3, T&G 4 sides
- Impact sound insulation board
- Ceiling weights (e.g. concrete blocks)
- ≥ 18 mm EUROSTRAND® OSB/3
- Undisturbed air
- Ceiling beam with insulation
- Approximately 50 × 30 mm battens
- 12.5 mm drywall board

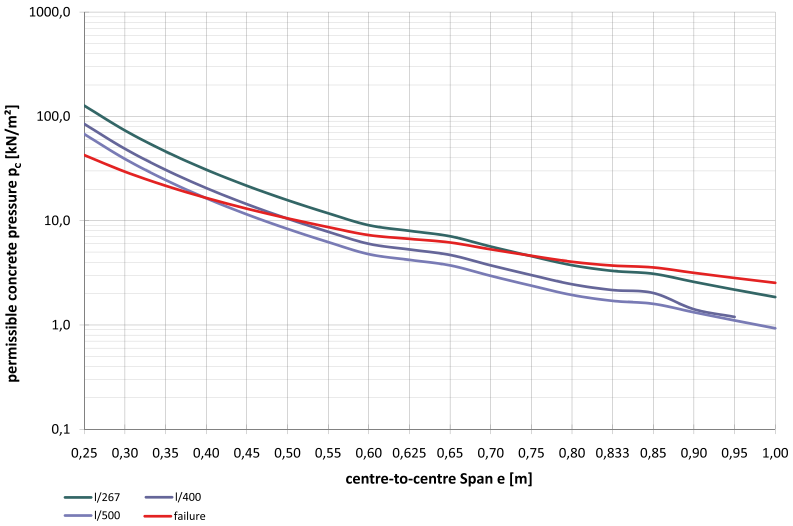
CONCRETE FORMWORK
MOISTURE-RESISTANT AND ABLE TO WITHSTAND HEAVY LOADS

AREAS OF APPLICATION
- Sheathing for repeated use
- Textured facework, e.g. ceiling cladding
- Ceiling edge formwork and foundation formwork
- Cost-effective alternative for permanent formwork (base slab)
- Fitted boards for system formwork (e.g. DOKA, PERI)

CHARACTERISTICS
- EUROSTRAND® OSB/3 with moisture-resistant gluing
- Low thickness swelling and high dimensional stability
- High loading capacity
- Firm fit of fasteners even close to the edges
- Up to three cycles and more with corresponding handling and care
- Use of mould releasing agent is recommended
- Recommended board thickness d ≥ 20 mm

PRE-ANALYSIS ORIENTATION FOR FORMWORK MADE OF EUROSTRAND® OSB

EUROSTRAND® OSB/3 E1 ContiFine d = 20 mm



The diagrams offer orientation values for the allowable concrete pressure p_b, which have been established
- for failure due to breaking and
- requirements for allowable deformation l/267, l/400 and l/500.

Advantages at a Glance

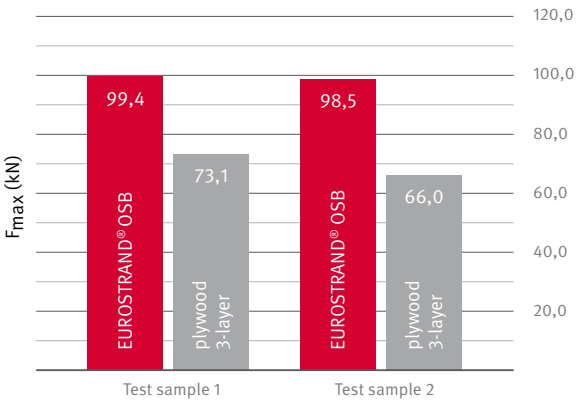
- Economical alternative to coniferous plywood (e.g. maritime pine)
- Reusable
- Straightforward handling

PACKAGING
STURDY AND LOAD-BEARING

AREAS OF APPLICATION
- All types of packaging
- Boxes, pallets and transport packaging
- Securely protects goods against impacts and exterior temperature fluctuations

CHARACTERISTICS
- Clean, hygienic and food safe
- IPPC, ISPM 15 compliant from the plant
- Best strength and dimensional stability, even under the influence of moisture
- High pull-out resistance of the fasteners; no breakout tendency, even along the edges
- Resistant against Sirex wasp infestation

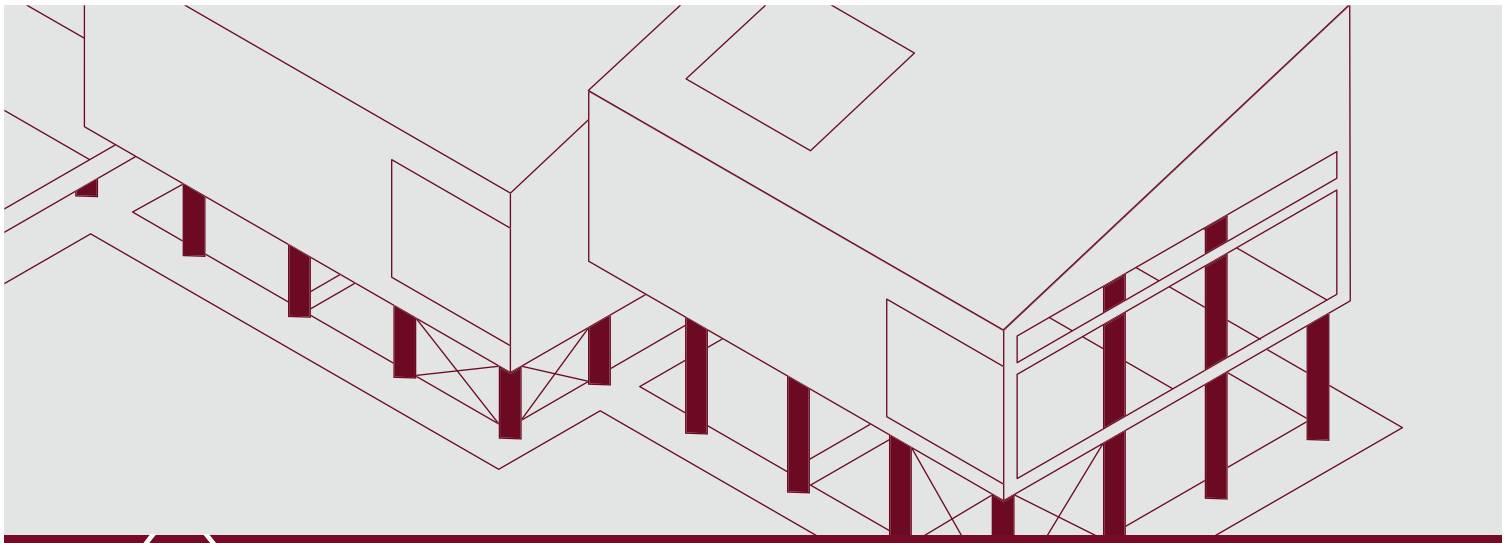
FULL-SURFACE COMPRESSION LOAD AFTER 4 WEEKS OUTDOOR STORAGE



Comparative studies show that the use of EUROSTRAND® OSB for crate construction results in significant quality and strength advantages compared to 3-layer plywood. Source: BFSV, test report number 4887/02

Advantages at a Glance

- Very sturdy and load-bearing
- Economical alternative to plywood packaging
- Straightforward processing



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