

**MORE FROM WOOD.**



## **EGGER OSB 3**

**THE PROFESSIONAL CHOICE  
FOR WOOD CONSTRUCTION**



# EGGER OSB 3

## THE ECOLOGICAL AND EFFICIENT SOLUTION FOR APPLICATIONS IN HUMID ENVIRONMENTS

OSB (oriented strand board) is a rigid and dimensionally stable wood panel made of three layers of thin wood strands, glued together with a synthetic moisture resistant binder, under high temperature and controlled pressure conditions.

Resulting from their special shape, quality and orthogonal distribution across the board thickness, EGGER OSB 3 has

**outstanding properties** – increased elasticity along the axis and excellent bending strength.

EGGER OSB 3 has a low formaldehyde content which is equivalent to natural wood – a fact which has been confirmed by independent external testing and is CE-certified according to EN 13986.

### RAW MATERIALS USED

- Debarked soft and hardwood from domestic forestry
- Paraffin wax emulsion
- Low-emission MUF resin
- Water

### CERTIFICATION

- OSB 2 and OSB 3 CE certification by WIKI 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

### 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.

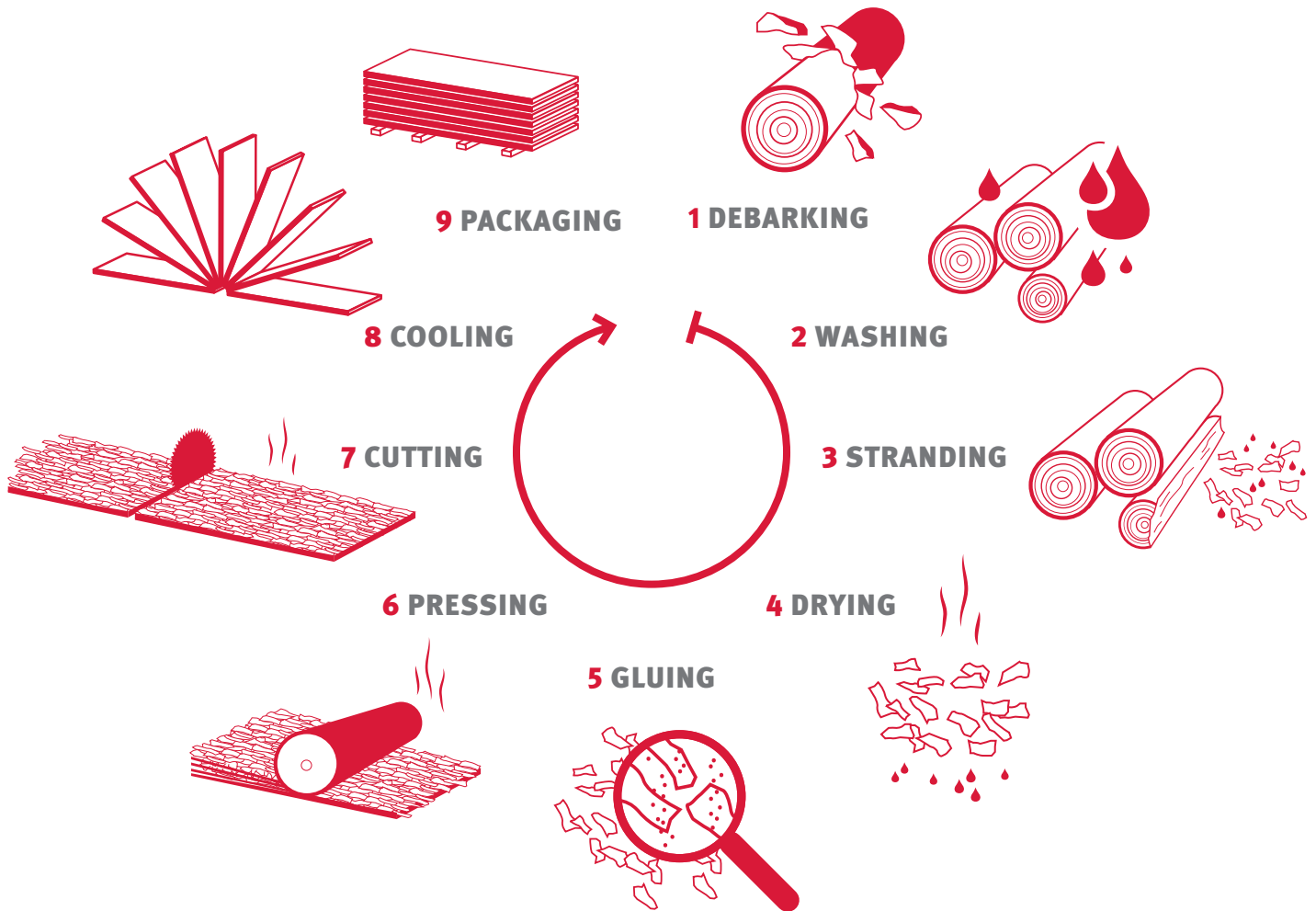


### AT-A-GLANCE BENEFITS

- Suitable for indoor and externally protected structural use in humid conditions
- Outstanding properties – increased elasticity along the axis and very good bending strength
- High quality and environmentally friendly board
- Certified product



# EGGER OSB – PRODUCTION



## 1 DEBARKING

The bark is peeled off from logs by their fast rubbing each other inside revolving debarkers

## 2 WASHING

By spraying hot water over debarked logs into washing tunnels, all sand and bark residues are removed and wood takes moisture, in order to ease stranding

## 3 STRANDING

Thin wood strands are peeled from logs by means of chipping machines (called drum-knives flakers), working pretty similar as giant pencil sharpeners

## 4 DRYING

The wet strands are dried from their original moisture content of 85-110% down to 2-3%, in gas operated rotary dryers

## 5 GLUING

In order to strongly bind the strands to one another, they are sprayed with a special moisture resistant synthetic resin, which exhibits full chemical reaction inside the press

## 6 PRESSING

At the end of the forming area, the mat goes into a hot-rolled continuous press (Contiroll), where it is progressively pressed down to high temperature to about 6 times the initial thickness until it reaches the final sturdiness

## 7 CUTTING

Right after exit from Contiroll, the side edges of the board are trimmed at the nominal width, and the boards are cross-cut by a diagonal saw at the master-size format

## 8 COOLING

When leaving the press, the panels are too hot to be stored safely, therefore they need to be cooled down to 30-40°C before being stacked and warehoused. This is done by 2 star-coolers, where each panel is rotated half-circle 0°-180° and backwards

## 9 PACKAGING

After conditioning the boards in the warehouse for at least 48 hours, the master-size panels are brought back in the production area for their final processing, which includes: cutting to size, tongue-and-groove edge profiling (if necessary), marking, palletizing and labeling

# AREAS OF APPLICATION

**EGGER OSB 3** is mainly used in the construction of new timber frame houses with standard or high energy saving requirements (low energy, passive or zero energy houses), but also for refurbishment of existing houses, for attics conversion and lightweight storey additions. EGGER OSB 3 is designed to perform in humid conditions, where relative humidity of air is up to 85%.



## MAIN STRUCTURAL APPLICATIONS OF EGGER OSB 3:

- **Walls (External / Internal)**  
→ wall sheathing on studs
- **Floors**  
→ structural floor decking on joists (subfloor), rigid underlay for floor covering in floating floors and/or structural floors
- **Roofs**  
→ roof sheathing on rafters (rigid underlay for roof covering) or below rafters
- **Staircase**  
→ steps (rigid underlay for steps covering)

## OTHER AREAS OF APPLICATION

- Commercial and educational buildings: shops, libraries, kindergartens, schools
- Industrial and agricultural buildings: warehouses, hangars, production halls
- Entertainment and sport arenas: summer theatres, skating rings, sport halls
- Temporary use or low importance constructions: site-barracks, storerooms, garages
- Concrete formwork
- Packaging

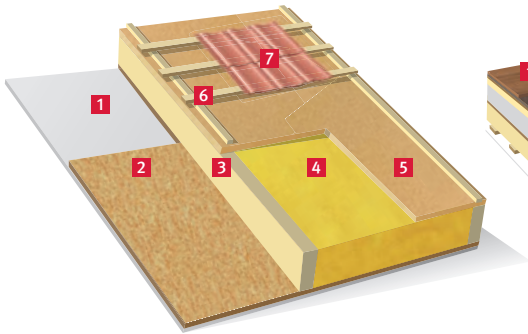
## EGGER OSB WITH T&G FORMAT

Tongue and groove formats allow two or more flat boards to be joined strongly together. Each board has a cut (the groove) all along one edge, and a thin, deep ridge (the tongue) on the opposite edge. Thus the boards fit together closely and make an accurate flat surface. Areas of application: roof and floor

### AT-A-GLANCE BENEFITS

- EGGER OSB 3 is ideally suited to projects in humid conditions where a highperformance board is required to provide dimensional stability and high load-bearing properties
- EGGER OSB with T&G format available for easy and perfect

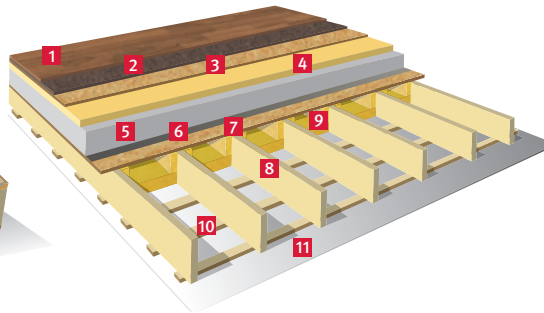
# 1 PITCHED ROOF



- 1 fire-rated gypsum plasterboard or gypsum fiberboard
- 2 EGGER OSB 3  $\geq 12$  mm
- 3 rafters
- 4 thermal insulation
- 5 EGGER DHF
- 6 counter battens+battens
- 7 roof covering

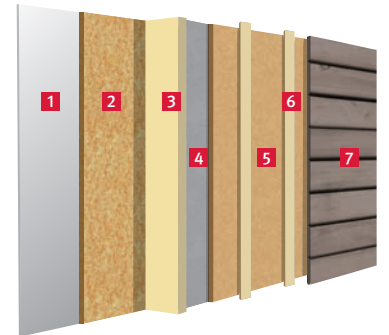
Alternative: it is possible to use EGGER OSB 3  $\geq 12$  mm instead of EGGER DHF (5) but use also a vapour barrier between gypsum plasterboard (1) and EGGER OSB 3 (2) and a sarking membrane between EGGER OSB 3 (5) and battens (6)

# 2 STRUCTURAL FLOOR



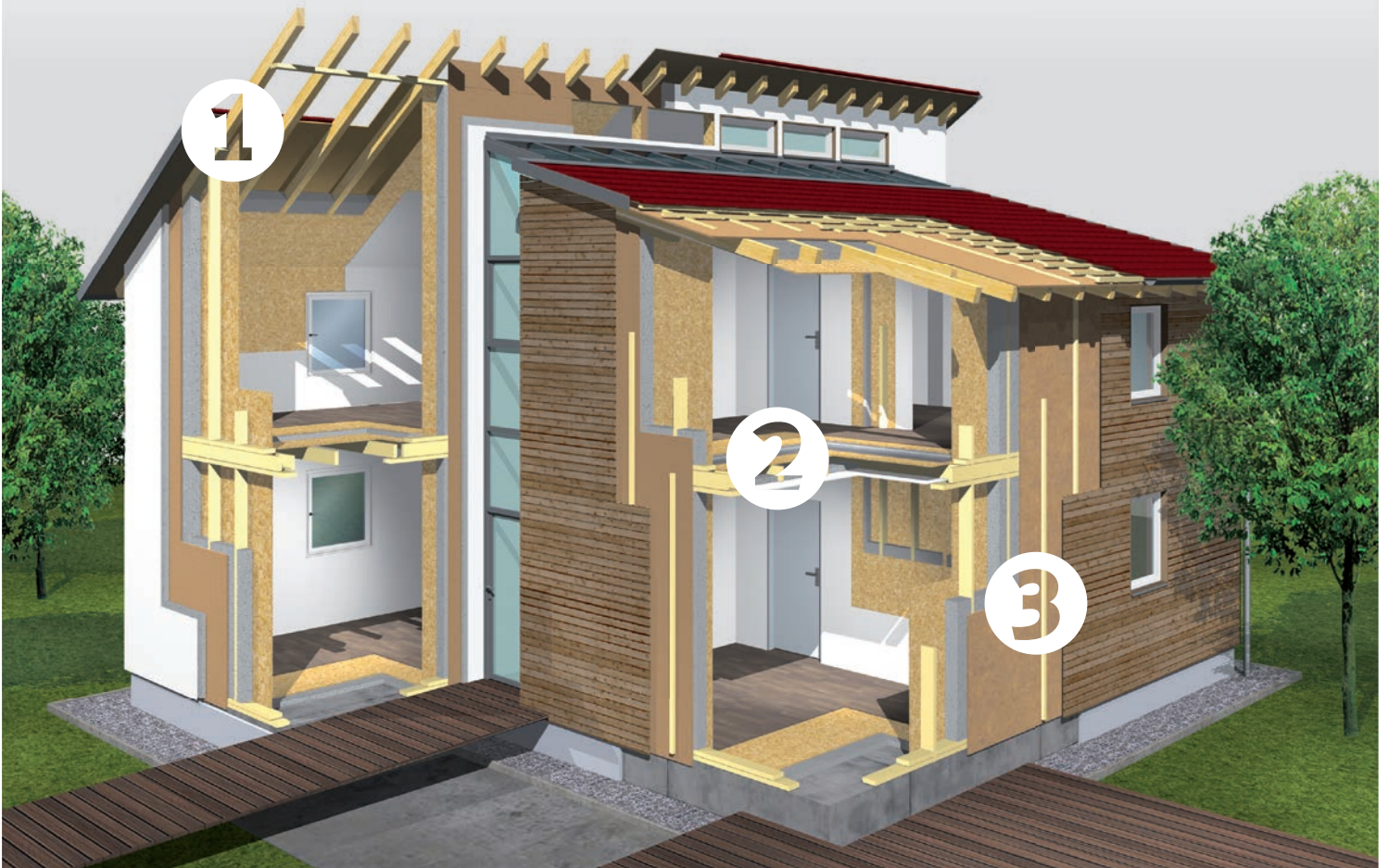
- 1 laminate floor
- 2 sound absorbing mat  $\geq 3$  mm
- 3 EGGER OSB 3 T&G thickness  $\geq 12$  mm as rigid underlay
- 4 impact sound insulation, thickness 30 mm
- 5 cement screed, thickness 50-70 mm
- 6 vapour barrier
- 7 EGGER OSB 3 thickness  $\geq 18$  mm as structural floor decking (subfloor)
- 8 wooden beams – according to static calculation
- 9 insulation
- 10 laths 30x40 mm or galvanized CD profiles 27x60 mm
- 11 fire-rated gypsum plasterboard or gypsum fiberboard

# 3 EXTERNAL WALL



- 1 fire-rated gypsum plasterboard or gypsum fiberboard
- 2 EGGER OSB 3  $\geq 12$  mm
- 3 construction timber
- 4 thermal insulation
- 5 EGGER DHF
- 6 vertical laths
- 7 facade render (wood planking)

Alternative: it is possible to use EGGER OSB 3  $\geq 12$  mm instead of EGGER DHF (5) but use also a vapour barrier between gypsum plasterboard (1) and EGGER OSB 3 (2) and a sarking membrane between EGGER OSB 3 (5) and vertical laths (6)



## TECHNICAL PRODUCT CHARACTERISTICS

Technical characteristic	Standard	Technical characteristic value
Service class (SC)	EN 300, EN 13986	SC 2 – dry and humid conditions (relative humidity of air = max. 85 %)
Density	EN 323	≥ 600 kg/m <sup>3</sup>
Reaction to fire*	EN 13501-1	D-s2, d0, ≥ 9 mm
Water vapour permeability (m)	DoP	150 (humid) 200 (dry)
Thermal conductivity (l)	EN 13986	0,13 W/m*K
Moisture content	EN 322	2-12 %
Dimensional change per 1% change of moisture content	EN 318	0,02% (length) 0,03% (width) 0,5% (thickness)
Formaldehyde content **	EN 120	≤ 8,0 mg/100 g (E1)

\* Normal combustible (D) – medium smoke release (s2) – no burning droplets (d0).

\*\* No health damage is expected under normal use of EGGER OSB boards

## DELIVERY PROGRAMME

### EGGER OSB 3

Product/ length × width (mm)	thickness (mm)													
	6	8	9	10	11	12	15	18	20	22	25	30	35	40
<b>Square edge unsanded</b>														
5.000 × 2.500							•**	•**		•**	•**			
5.000 × 1.250							•*	•*		•*	•*			
2.800 × 1.250						•	•*	•*						
2.500 × 1.250	•	•	•	•	•**	•	•	•	•**	•	•			
2.440 × 1.220 <b>NEW!</b>					•		•							
<b>T&amp;G 4 unsanded</b>														
2.500 × 675						•	•	•		•	•**			
2.500 × 1.250						•	•	•						

\* Minimum delivered quantity is 2 full trucks, approximately 70 m<sup>3</sup>

\*\* Customer order with minimum order volume (MOV) 250 m<sup>3</sup> for the first order, 500 m<sup>3</sup> for the following orders

For a size that is not mentioned please ask for a quotation

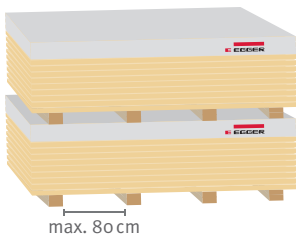
### AT-A-GLANCE BENEFITS

- Remarkable mechanical properties and dimensional stability
- Outstanding precision of the customer-specific format requirements

# STORAGE RECOMMENDATIONS



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

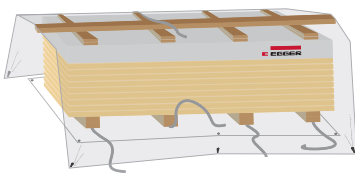


Cut straps on the packages on the construction site

## A) WAREHOUSE STORAGE:

- Store the boards **indoor**, in a dry and ventilated area, on a stable and horizontal platform
- Store the boards (bundles) on top of each other by intermediate supports (wood spacers) of equal height, perfectly aligned vertically

- Make sure that spacers are spanned at a maximum distance of 80cm, to avoid excessive deflection of the boards
- 48-hour acclimatization of the boards to the moisture level at the installation site prior to installation is expressly recommended

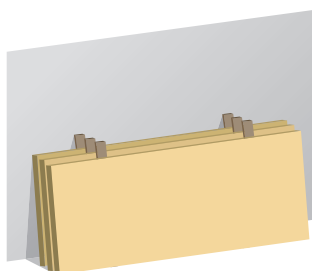


Package protected by film cover

## B) ON-SITE STORAGE:

- Keep outdoor storage on-site for as short as possible
- Store the boards on sufficiently height wood pallets or supports to avoid direct contact with water or vegetation
- Protect the boards against unexpected rain or snow by covering them with waterproof membranes (plastic foils, lorry canvas, etc)

- When applying the water protection, make sure it allows the free ventilation of the boards on the sides and on the bottom
- Cut and remove the fixing strips from the bundle at delivery on site, to reduce the stress in the boards



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

## CAUTION

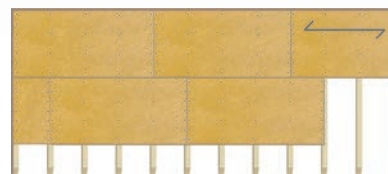
- Incorrect storage may cause change of the original technical product characteristics.

# ASSEMBLY INSTRUCTIONS OF EGGER OSB BOARDS

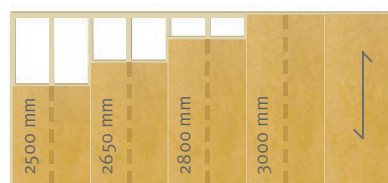
## PLACING THE BOARDS ON JOISTS

Due to the special strands orientation on the core and surface layers, OSB has a particular feature: the bending strength and bending stiffness (modulus of elasticity) of panels is about 2,5 times higher on the major axis (strength axis), compared to the minor axis. For easy identification, major axis represents the length of the board, and the minor axis is given by the board width.

- For **floor** and **roof** sheathing over joists, the boards must be installed with their long edges spanning the supports, and with their short edges supported on joists.
- Cross-joints must be avoided. To achieve this, panels must be staggered by at least 40cm on adjacent rows.
- For **wall** sheathing, maximum stiffness is obtained when panels are installed vertically.
- For avoiding extra labour, additional noggins and excessive waste, EGGER recommends installers to choose the most suitable panel size from stock program



horizontal installation



vertical installation

## GLUING

Permanently elastic polyurethane or silane based adhesives are suitable (for instance in case of a double layer floating floor). Sanded boards are of course more suitable for gluing.

If working with unsanded panels, is mandatory to slightly sand the surface before applying the binder, to increase the glue adhesion. In all cases, the base boards must be plane, strong and dry, free of oil, dust and dirt.

## PLASTERING

If OSB panels are used for the outdoor sheathing of an external wall, a thermal insulating cladding system (ETICS) can be additionally applied to improve the overall heat loss efficiency.

Pursuant to the rules of building physics, we recommend the use of a rendered facade made of vapour permeable insulating products (stone wool or insulating wood fiberboards) or a ventilated wooden siding facade.

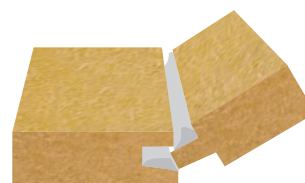
## PAINTING

The long and thin wood strands in the surface layer “ennoble” the boards and give walls or floors surface the warm and rustic look of the natural wood.

For an improved visual appearance and a dust-free surface, EGGER recommends the use of sanded T&G panels and the application of 2-3 thin layers of primer before painting. The paint and primer must be based on mineral or synthetic oils. The use of water-based paints must be avoided. Depending on the desired effect, both transparent and pigmented wood lacquers can be used.

### When installing T&G panels, please notice the following:

- For an improved floor stiffness and prevention of cracks, all edges must be glued with a permanently elastic PVAC or polyurethane based glue from the bonding class D3 or D4, prior to installation.
- Hardening of the glue occurs in about 24 hours, under constant squeeze pressure given by the temporary use of wedges or belts on the room perimeter.

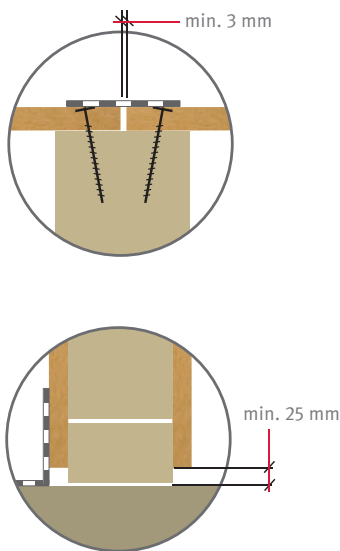


gluing of T&G boards



# EXPANSION GAPS

For a safe and trouble free installation, the edges of OSB panels must be allowed to expand and shrink freely in service. Failure to do so can result in possible panel sagging and squeaking noises produced by weakened embedded strength of fasteners.



## FOR STRAIGHT-EDGE BOARDS

- Provide a minimum 3mm expansion gap between adjacent panels, on all 4 edges of each board.
- For wall sheathing, allow a minimum 25 mm gap to floor, at the bottom of panels.
- For floating floors, a compensation gap of 15 mm must be provided at the room perimeter, between floor and walls.
- In case of OSB sheathing of areas bigger than 10 m, a 10-15 mm per permanently elastic expansion gap must be provided on each direction, every 10 m.

## FOR TONGUE & GROOVE BOARDS

- Unlike straight-edge boards which require expansion gaps on installation, T&G panels have a 1 mm gap already incorporated in the edge profile.
- The use of T&G OSB gives not only a perfectly flat surface on installation (which is particularly important in case of floor covering with thin finishing layers or for roof covering with shingles), but the use of noggins to support the long (unsupported) edges in case of such panels is no longer needed!

## IMPORTANT

- When building external walls and roofs in diffusion closed systems (OSB sheathing on both sides of the timber frame), install an additional vapour barrier (plastic foil) on the inside and seal all OSB joints from the inside sheathing with sealing tapes, to avoid moisture airflow by convection!

# EASY PROCESSING – CUTTING, DRILLING AND FIXING



OSB panels can be sawn and drilled using conventional electric hand power tools. For fast and accurate cutting, table circular instruments are highly recommended. Drilling should be performed with drill bits designated for drilling wood.

OSB can be fixed on supports by using all type of fasteners suitable for wood: nails, wood screws and staples. Due to the high shear strength of the panels resulting from special distribution of the strands, fasteners can be applied even close to board edges, without the risk of breaking or pull-out.

For fast assembling, we recommend the use of pneumatic nail or staple guns. Wood-screws fixing is also possible, yet less time efficient.

	Maximum fastener spacing		Minimum fasteners spacing from board's edge	
	Centers at edges (on board's perimeter)	Centers at the intermediate supports	Distance from the edge of the board	Distance from the corner of the board
<b>Nails/screws</b>	150 mm	300 mm	10 mm	25 mm
<b>Staples</b>	75 mm	150 mm	20 mm	25 mm

## NAILS

- Use spiral, ring or grooved nails. Avoid the use of smooth carpentry nails.
- Use nails of minimum 3 mm diameter.
- The minimum nail length must be 2,5 times the board thickness, but no smaller than 50 mm.

## WOOD SCREWS

- Use self-tapping wood-screws with countersunk head.
- The minimum diameter of the screws must be 4,2 mm.
- The minimum screw length must be 2,5 times the board thickness, but no smaller than 45 mm.

## STAPLES

- Use staples of minimum gauge 1,53 mm, length 50mm and width 11 mm.
- Shot the staples in the board slope-wise, at a minimum 30° angle against the panel surface.
- Place the staples at minimum 30mm distance from each-other.

## AT-A-GLANCE-BENEFITS

- Straightforward and fast processing without special tools
- Dry and clean processing which saves installation time

# WHAT SETS EGGER OSB 3 APART?

Our panel is a plane and sturdy board, with remarkable mechanical properties and dimensional stability. Its main function is the structural use (structural floor, roof and wall sheathing), but also incorporates the function of a vapour barrier and of an airtight layer when used in the exterior components of wood frame houses. EGGER OSB 3 is a structural wood panel engineered for performance in a wide variety of structural and industrial uses.



## ENJOY THE PERFORMANCE USING EGGER OSB 3



outstanding properties – increased elasticity along the axis and very good bending strength



High quality and environmentally friendly board



Accurate installation is possible with simple tools



Ideally suited to projects in humid and dry conditions



Certified product



Easy board processing guarantees saving of time and money comparing to other construction products



Very performant board which provides high load-bearing properties



Outstanding precision of the customer-specific format requirements



Tongue and groove formats are available for fast and easy installation

[www.egger.com/osb3](http://www.egger.com/osb3)



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