

OSB User Guide

FLOORING

Floors decking :

Floating Floors (continuously supported) :

Self supporting floating floors

General

OSB - Oriented Strand Board is a structural wood-based panel suitable for a wide range of floorings. Advice on transport, handling, storage and conditioning are given in user guide on storage & handling. Eurocode 5 gives guidance.

Definition

A structural floor decking is attached to a series of joists.

A floating floor is attached to an existing floor to improve the quality of surface (overlay for floor covering) or to reduce the transmission of sound. It is supported by resilient material without being fixed to the floor base.

Floor decking rests either on insulation above a sub-floor, or on a series of battens (insulation between them).

Panel type

Select according to the loading criterions, joist span and moisture conditions/service class according to EN 12172 (consult an architect or a structural engineer if unsure).

Preparation of structure

Supporting joists, noggins and edge support should be laid to line and level. Their moisture content should be less than 20 % (to avoid localised board swelling) and must provide a minimum bearing for board edges of 18 mm.

Note: Pre-plan any required access traps or ducting and the necessary noggins and edge supports at all edges. In case of joisted ground floor, verify local or European requirements for ventilation (beneath the floor).

The sub-floor has to be totally flat (deviation <5mm over a 3 m straight edge). Where OSB is to be laid over a concrete sub floor, a damp proof membrane is to be positioned over the slab to protect floor from residual moisture: In all cases, boards should not be laid until the latest opportunity (dry conditions, wet trades completed). The desired floor covering material should be installed immediately

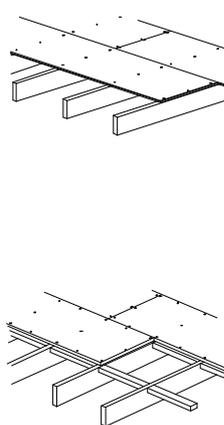
The existing floor must be totally flat and a damp proof membrane is to be laid over the existing floor to avoid localised swellings on boards. Consideration should be given to the provision of access to pipes and services.

Laying direction

Important: It is essential that OSB is laid with the major axis (indicated by the flakes direction on both surfaces) at right angles to the support.

Insulation

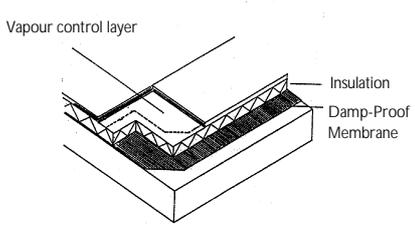
Insulation sheets should be placed on the sub-floor butting the joints tightly together. If battens are provided at room perimeters, thresholds, access traps, etc sheets should be laid so that joints will not coincide with the wood overlay.



Tongued and grooved boards should have both short edges supported on a joist or other edge support and TG edges glued together

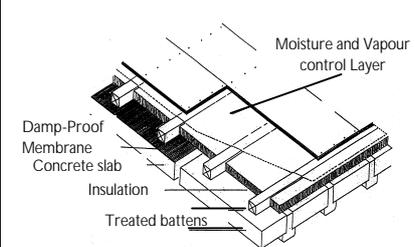
Square edged boards should be continuously supported along all edges. Short edges should be butted at joists and long edges supported by noggins.

Continuously supported floating floors or Overlays:



All joints have to be glued with a suitable PVAC adhesive

Self supporting floating floor with battens:



Tongued and grooved flooring laid with short edges supported on battens and all joints glued



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Fixing: Both nails and screws can be used:

Nail type: Corrosion resistant. It is better to use flat headed improved nails (annular grooved, ringshank nails) than plain shank nails because of their higher holding power. Can be punched by a hammer or a nail gun.

Screw type: Corrosion resistant. Use conventional countersunk woodscrews or self-drilling, self-tapping where fixing to steel. Fix them with a powered screwing machine.

Size (available for nails and screws): Minimum length is 50 mm, or 2.5 times the board thickness (if thickness > 20 mm).

Continuously supported floating floor or overlays

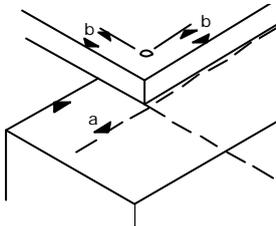
Tongued and grooved boards have to be glued with a suitable PVAC adhesive to prevent creaking in use. Adhesive must coat both surfaces of the tongues.

Self supporting floating floor with battens :

Nails and screws can be used to fix battens (Refer to "floor decking" instructions). Tongued and grooved boards have to be glued with PVAC adhesive (see above).

Fixing distances

Distances to be respected (available for nails and screws):



A minimum edge nailing distance (b) of 8 mm should be maintained and a minimum bearing (a) of 18 mm provided to each board. The frequency and pattern of nailing to joists and noggins should be 150 to 300 mm for perimeter framing and 300 mm for intermediate framing. Where European technical approvals have been issued for a particular application of a product, or where manufacturers' instructions are supplied with the boards, their recommendations have to be followed.

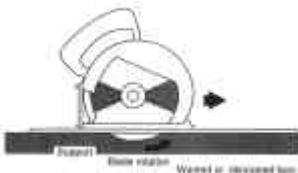
Notes: - Nails heads should be punched home by 2-3 mm, screws should be countersunk.

- For Tongued & grooved Boards, all joints have to be glued with a PVAC adhesive, it is further recommended that OSB is also glued to the supporting timber joists with PVAC adhesive to prevent creaking in use.
- After fixing, heavily trafficked areas should be protected until building works are finished with a temporary board covering.

General instructions: - Use sharp cutting edges.

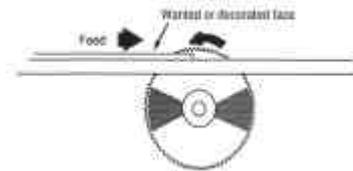
- Avoid panel vibrations by pressing it against cutting table and guides.
- Cut to size **after** conditioning (to avoid size variations).
- Use TCT blades because of their longer cutting life.
- Contact tool manufacturer for tip patterns, angles, feed speeds, cutting speeds.
- Personal protective equipment shall be worn at all times.

Sawing: Tools designed for solid timber can be used but prefer TCT tools (longer cutting life) especially for laminated OSB.



To avoid board face chipping, place the wanted or decorated face as indicated:

If a portable circular saw is used, see the illustration on the left
If a circular saw is used, see the illustration on the right



Spindle and Router: Simple forms can be produced with little risk of breakout, the final quality will be improved with high spindle speed and high number of cutters.

Drilling: Drill speed and angle should be the same as used for natural wood.

Sanding: Light sanding (by hand or powered sanders) is possible, avoid excessive sanding (risk to unbalance the panel).