

# OSB USER GUIDE

## FIXING

### General

OSB - Oriented Strand Board is a structural wood-based panel that can be fixed with nails, staples, screws and glue. OSB can be cut by hand or power saw and machined (routed, spindled, planed or bored) with normal woodworking machinery.

Before fixing panels should be conditioned to bring them into equilibrium with the end use environment.

For fixing of OSB flooring, see also OSB User Guide on laying instructions.

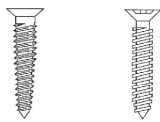


### Mechanical Fixings

Wherever possible, fittings that depend upon face fixing should be selected. Fittings that depend upon the expansion of a component inserted into the board edge should be avoided.

Fixings should generally be long enough to allow about 20mm penetration into the substrate or have an overall length of about 2.5 times the panel thickness, whichever is the greater.

#### Screw Fixings



Parallel core screws should be used because they have greater holding power than conventional tapered wood screws.

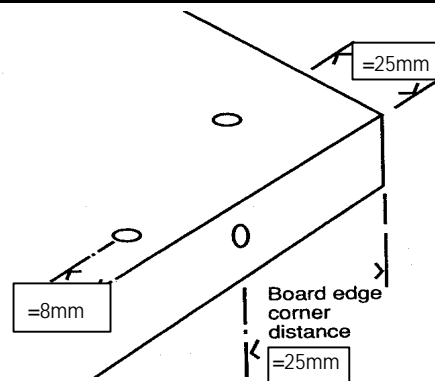
#### Nails & Staples



Nails and staples can be used for lightly loaded fixings or to hold glued joints while the adhesive sets.

### Screw fixings

Drill pilot holes for all screw fixing. Typically, the holes should be 85 to 90% of the screw core diameter. Fixings into the board face should not be within 8mm of edges and 25 mm of the corners.



### Nails and staples

Nails and staples should not be inserted close to the panel edge as this can lead to "tear out". It is necessary to adopt a fixing pattern that does not cause bow or distortion of the panel; this is especially so with thin panels. It is usually advisable to start from one edge of the panel and work across ensuring that the panel is kept flat.

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### Adhesive bonded joints

Adhesives can be structural or non-structural, used alone or with mechanical fasteners. There are a wide range of synthetic adhesives formulated for specific end use requirements. Generally all adhesive types used for woodworking applications are suitable for use with OSB.

In selecting an adhesive some performance aspects to consider are:

1. Strength
2. Moisture resistance and long term durability
3. Ease of use; some adhesives require mixing at the point of use: some require the application of pressure until the bond has developed fully; some applications require the ability to reposition the panel.
4. Curing times.
5. Compatibility with panel binders and coatings or impregnation.
6. For thin panels adhesives with fillers may not spread sufficiently when the panel is pressed into position and the spreading pattern of the adhesive may 'grin' through the panel.

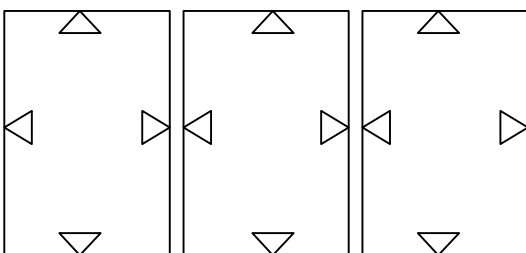
For more specific information, please follow the manufacturer's guidelines.

### Movement gaps

OSB expands on taking up moisture and shrinks on losing moisture, whether it be from the surrounding air or structure (see the OSB User Guide on storage & handling). Prior to fixing, it is important that panels are at a moisture content as close as possible to that which they will attain in service.

In environments with typical humidity and temperature conditions, it is recommended that when fixing adjoining square edged panels, that a 3mm gap should be left at all edges of each panel. For very dry or very humid conditions: see chapter conditioning of EPF user guide on storage and handling or contact the manufacturer (Note: this does not apply to panels where movement allowance is automatically machined into the tongue and groove joint). For all panels that are adjacent to a wall or rigid upstand, a perimeter movement gap of minimum 10mm, or 2mm per metre run, should be allowed.

#### Rigidly fixed panels with movement gaps at joints



#### Panels fixed as a composite unit with a movement gap at the perimeter

