

Oriented Strand Boards (OSB)
Definitions, Classifications and Specifications

3. Definition

3.1 **OSB** – multi-layered board made from strands of wood of a predetermined shape and thickness together with a binder. The strands in the external layer are aligned and parallel to the board length or width; the strands in the center layer or layers can be randomly oriented, or aligned, generally at right angles to the strands of the external layer.

3.2 Major axis : direction in the plane of the board in which the bending properties have the higher values.

3.3 Minor axis: direction in the plane of the board at right angles to the major axis.

3.4 Dry conditions: conditions defined in terms of service class 1 of ENV 1995-1-1 for load-bearing boards and characterised by a moisture content in the materials corresponding to a temperature of 20⁰ C and a relative humidity of the surrounding air exceeding 65% only for a few weeks per year.

3.5 Humid conditions: conditions defined in terms of service class 2 of ENV 1995-1-1 for load-bearing boards and characterised by a moisture content in the materials corresponding to a temperature of 20⁰ C and a relative humidity of the surrounding air exceeding 85% only for a few weeks per year

4. Classifications of boards.

OSB/1 – General purpose boards, and boards for interior fitments (including furniture) for use in dry conditions.

OSB/2 - Load-bearing boards for use in dry conditions.

OSB/3* - Load-bearing boards for use in humid conditions.

OSB/4 - Heavy duty load-bearing boards for use in humid conditions.

* - Boards of this type are suitable for use in biological hazard classes 1 and classes 2 of EN 335-3

7. General requirements of all OSB types

Table : General requirements of all OSB types

N	Property	Test method	Requirement
1 ^{1), 2)}	Tolerances of nominal dimensions Thickness (sanded) Thickness (unsanded) Length and Width	EN 324-1	± 0,3 mm ± 0,8 mm ± 3,0 mm
2 ^{1), 2)}	Edge straightness tolerance	EN 324-2	1,5 mm/m
3 ^{1), 2)}	Squareness tolerance	EN 324-2	2,0 mm/m
4 ¹⁾	Moisture content OSB/1, OSB/2 OSB/3, OSB/4	EN 322	2 % to 12 % 5 % to 12 %

¹⁾ Certain uses of OSB can require other tolerances.

²⁾ This value are characterised by a moisture content in material corresponding to a relative humidity of 65 % and a temperature of 20°C

Table : Requirements for specified mechanical and swelling properties

Property	Test method	Unit	Type	Requirement		
				Board Thickness Range,(mm nominal)		
				6 -10	> 10 and < 18	18 - 25
Bending Strength Major axis	EN 310	N/mm ²	OSB/1	20	18	16
			OSB/2	22	20	18
			OSB/3	22	20	18
			OSB/4	30	28	26
Bending Strength Minor axis	EN 310	N/mm ²	OSB/1	10	9	8
			OSB/2	11	10	9
			OSB/3	11	10	9
			OSB/4	16	15	14
Modulus of Elasticity Major axis	EN 310	N/mm ²	OSB/1	2500		
			OSB/2	3500		
			OSB/3	3500		
			OSB/4	4800		
Modulus of Elasticity Minor axis	EN 310	N/mm ²	OSB/1	1200		
			OSB/2	1400		
			OSB/3	1400		
			OSB/4	1800		
Internal Bond	EN 319	N/mm ²	OSB/1	0,3	0,28	0,26
			OSB/2	0,34	0,32	0,3
			OSB/3	0,34	0,32	0,3
			OSB/4	0,5	0,45	0,40
Swelling in thickness 24 hour	EN 317	%	OSB/1	25		
			OSB/2	20		
			OSB/3	15		
			OSB/4	12		