



Sheathing: thickness and nailing info

Here are the requirements for sheathing thickness and nailing (plus patterns) for wall and roof sheathing.

Required thickness of wall sheathing

	40 cm (16") OC	60 cm (24") OC
Fibreboard (insulated)	9.5 mm (3/8")	11.1 mm (7/16")
Gypsum sheathing	9.5 mm (3/8")	12.7 (1/2")
Lumber	17 cm (11/16")	17 cm (11/16")
Rigid mineral board	25 mm (1")	25 mm (1")
OSB O-2	6 mm (15/64")	7.5 mm (1/4")
OSB O-1	6.35 (1/4)	7.9 mm (5/16")
Waferboard, R-1	25 mm (1")	25 mm (1")
Phenolic, faced	25 mm (1")	25 mm (1")
Plywood (exterior)	6 mm (15/64")	7.5 mm (1/4")
Polystyrene 1 & 2	38 mm (1.5")	38 mm (1.5")
Polystyrene 3&4	25 mm (1")	25 mm (1")
Polyurethane, Polyiso Type 1	38 mm (1.5")	38 mm (1.5")
Polyurethane, Polyiso Type 2 & 3	25 mm (1")	25 mm (1")

Thickness of roof sheathing

Truss/rafter spacing	Plywood and OSB O-2 grade		OSB, o-1 grade, Waferboard, R-1 grade		board lumber
	Edge supported	Edges unsupported	Edge supported	Edges unsupported	
300 mm (12")	7.5 mm (1/4")	7.5 mm (1/4")	9.5 mm (3/8")	9.5 mm (3/8")	17 mm (11/16")
400 mm (16")	7.5 mm (1/4")	9.5 mm (3/8")	9.5 mm (3/8")	11.1 mm (7/16")	17 mm (11/16")
600 mm (24")	9.5 mm (3/8")	12.5 mm (31/64")	11.1 mm (7/16")	12.7 mm (1/2")	17 mm (11/16")

Note that requirements for earthquake panels in NBC 2015 are slightly more restrictive: In general, the requirement is for 2 1/2" nails (no, the standard 2 3/8" nail will NOT do) OR 2" screws at a standard spacing - 6" on edges, 12" on intermediate supports (if required.)

Required fasteners for sheathing

Element	Common/spiral nails	Ring nails/screws	Roofing nails	staples	Spacing
Board lumber 184 mm (7 1/4")	51 mm (2")	45 mm (1 3/4")	x	51 mm (2")	2 per support
Board lumber > 184 mm (7 1/4")	51 mm (2")	45 mm (1 3/4")	x	51 mm (2")	3 per support
Fibreboard sheathing <= 13 mm (1/2") thick	x	x	44 mm (1 3/4")	28 mm (1 1/8")	15 cm on edge, 30 cm middle (6 & 12")
Gypsum sheathing up to 13 mm (1/2") thick	x	x	44 mm (1 3/4")	x	15 cm on edge, 30 cm middle (6 & 12")
Plywood/OSB/waferboard to 10 mm (3/8") thick	51 mm (2")	45 mm (1 3/4")	x	38 mm (1 1/2")	15 cm on edge, 30 cm middle (6 & 12")

Plywood/OSB/waferboard 10 mm (3/8") to 20 mm (13/16") thick	51 mm (2")	45 mm (1 3/4")	X	51 mm (2")	15 cm on edge, 30 cm middle (6 & 12")
Plywood/OSB/waferboard more than 20 mm (13/16") thick	57 mm (2 1/4")	51 mm (2")	x	x	15 cm on edge, 30 cm middle (6 & 12")