

Material Properties

OSB – wood based imported strandboard

Triboard – NZ made strandboard with sanded surface

MgO – imported magnesium sulfate sheet, reinforced with fibreglass

EPS – standard white (or grey high-performance) expanded polystyrene with fire retardant

Adhesive – purpose-made solvent-free polyurethane

Finished panels are Group 1S for fire

Finished panel properties

Core Thickness	Weight Kg/m ²	R-Value (white / grey)	Total Thickness
93	15	2.8 / 3.1	113
143	16	4.0 / 4.6	163
193	17	5.5 / 6.2	213
243	18.5	6.9 / 7.8	263
293	20	8.3 / 9.3	313

Floors (with residential loads)

Generally, design as a timber-framed floor, but with the panels replacing the joists, insulation and flooring. Provide for a 'boundary joist member' around the perimeter. For short spans as per table below, use insulated splines. For larger spans, use timber splines.

Thickness	Max Span (m)
113	2.4m
163	3.6m

Walls

Provide bottom plate (glued and nailed/screwed down), top plate, and 'studs' as follows:

- One at each end of each wall
- One each side of door openings
- Timber trim around each opening

Height	Distributed load	With concentrated loads
<3.6	Insulated splines	Timber splines
>3.6	Timber splines	Timber splines

Roofs

Panels typically span from wall-to-ridge for a gable, or wall-to-wall/beam for mono-pitch.

It is also possible to have the panels flat as a ceiling with trusses above.

Thickness	Max Span (m)
113	Not recommended
163	3.6m
213 and above	4.0m (limited by material size)

