

Planning Shomera

The idea of a DIY [Shomera](#) was born from Pinterest inspired images and plans published to build it myself. It did not originate from a single plane, but rather from a collection of ideas I stumbled upon while browsing Pinterest. (Yes I am ashamed! 🙈)



So the basic ideas that came from the online research and the core ideas are:

1. You can build with and seal [OSB](#) as long as the right grades(OSB3) are selected.
2. It can be plastered with cement with the right preparation.
3. The base needs to be secured on concrete pillars for stability and seasonal movement.
4. Proper insulation using [Polyurethane](#) foam.
5. The right [tools](#) for the job.

Tools

That I need to get

Tool Description	Supplier	Pounds	Euro	Link	Pick
Frame Nailer	Amazon	£437	€515	DCN692P2	:XED:
Frame Nailer	Powertool World	-	€446	DCN692P2	:CHECKED:
Concrete Mixer	Amazon	£129.99	€153	120L	:CHECKED:
Earth Auger	Amazon	£149.99	€177	T-Mech	:CHECKED:
			€776		

That I already have

- Cordless drill/screwdriver
- Circular saw
- Jig saw
- Table saw
- Router
- Trowels
- Staple guns

BOM

Wood and Sheet Material



- Floor 16'x 10'
- Side panels
 - 2 x 12'x 8'
 - 2 x 10'x 8'
- Partitioning 10'x 8'
- Roof
- Door
- Windows

Frame and Cladding

Product Name	Unit Price	Qty	Subtotal
WHITEWOOD TANALITH 22 X 50 X 4.8M (2x1) 16'	€3.60	10	€36.04
WHITEWOOD TANALITH 22 X 225 X 4.8M (9x1) 16'	€9.50	10	€94.96
WHITEWOOD TANALITH 35 X 50 X 4.8M (2x1.5) 16'	€6.52	10	€65.19
WHITEWOOD TANALITH 44 X 50 X 4.8M (2x2) 16'	€7.49	10	€74.90
Rough White Deal 150 X 22 X 4.8 (6 X 1)-16'	€5.76	20	€115.13
18MM OSB 3 CONDITIONED SHEET CE2 8x4	€19.68	6	€118.08
11MM OSB 3 CONDITIONED SHEET CE2 8x4	€13.91	14	€194.76
1 TONNE BAG BUILDING / MORTAR SAND	€50.97	1	€50.97
CEMENT - 25KG	€4.99	10	€49.94
POST SQUARE TREATED 3" X 3" X 8FT	€8.24	10	€82.41
50mm Ballytherm Insulated Plasterboard 2400mm x 1200mm	€29.77	14	€416.72
Subtotal			€1,056.18
VAT			€242.92
Grand Total			€1,299.10

Roofing

Material Description	Unit price	Quantity	£	€
Ondula classic red	£10.30	16	£168	€200

Other

Material Description	Quantity	Unit Cost	Total
Polyurethane Foam	50kg	£189	€223
Nails			€60
Total			€283

Note: In hindsight I discovered that this price excludes shipping and VAT and cannot ship to Ireland, so had to find another local supplier that can ship to Dublin.

Calculations

My hand

calculation references and notes
taken during "research" and design.

Roof Angle

The objective is to maintain a roof angle of more than 20 degrees for the roof tiles and weather proofing criteria.

The rafter design has a 2ft middle beam across the side areas of 8ft or 10th width. The final design will be 10ft wide.

$\tan^{-1}\frac{2}{4}=26.565\dots$	$\tan^{-1}\frac{2}{5}=21.801\dots$
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Roof Area

Hover over the calculations for comments.

$\sqrt{2^2+5^2}=5.385\dots$	$5.5 \times 16 = 88$	$88 \times 2 = 176$
$\sqrt{176} = 13.266\dots$	$13.266 \times 12 \times 0.0254 = 4.043\dots$	$4.043^2 = 16.345\dots$