**Mocka Luna Cube storage wall assembly instructions**

**Summary:**

My units fit within a 2.7m x 2.7m room on polished wooden floors. The storage wall is arranged 2 units wide (horizontal pairs) and 3 units high (a stack).

To assist with planning:

Each assembled unit measures: 789mm (H) x 1282mm (W) x 390mm (D)
The complete storage wall including negative details measures: 2577mm (H) x 2577 (W) x 390mm (D)

The storage wall sits on a plinth (essential a sturdy wooden box that can support the weight of the units whe whose top is level) made from 18mm melamine painted white that is 200mm high. Incidentally this is 50mm higher than my timber skirting boards which also gives me approximately 150mm clearance at the ceiling (enough to get my hand above the unit holding a stubby screw driver to secure the at the top to the wall) and I have 70mm gaps on each side from the side walls. The bottom units have a timber spigot matched to a slot in the carcass so when assembled together than cannot move independently.

Most of the effort in making the wall will go into building the plinth and assembling the Mocka units, if you rs and some money on materials. ***For this exercise, I won't go into making the plinth but will talk through a straight forward assembly sitting directly on the floor.***

Between each of the units I have maintained a 3mm negative detail. Each horizontal pair of units is dowelled on the sides near the top to help stability and each unit in the stack is dowelled on the top/bottom at the corners to ensure each unit in the stack cannot move independently of the one above or below.

The two stacks are connected to the wall at the ceiling by fitting a 2m wide 50x50x3mm aluminium angle to

the wall at the studs and 10g x 12mm stainless steel self-tapping pan head screws at 300mm centres to fix to the top of the units, this way I can avoid countersinking the aluminium angle as I have to predrill it because This angle effectively ties the whole thing together and makes the unit behave as one piece and provide safe restraint to the wall.

**Material you will need:**

Dowels x 22 + drill bit to suit
1.2mm or 1.6mm or 2mm thick stainless steel washers depending on what is available (internal diameter big enough to just slip them over the dowels) x 44 of the same thickness if you are wanting the negative detail.
2m of 50x50x3mm mill finish aluminium angle. This might need to be 50x75mm if your walls are out of plumb or your skirting boards push the unit out further from the wall.
500mm of 50x50x3mm (buy a metre and cut it down if need be) mill finish aluminium angle (needed to make a template for the dowels) you actually only need a piece the same width as the units
14g x 40mm (minimum) hex head tek screws (qty will depend on the number of studs)
an head self-tapping screws (pozi or phil
3mm mdf strips or similar hard durable material to use as shims/packers for out of level floors.

**Tools you will need:**

Tape measure
Pencil
A longish spirit level

Drop saw with an aluminium blade or a hacksaw with a nonferrous metal blade suitable for aluminium
6mm drill bit
5mm drill bit
Drill bit to match dowels.
Socket for tek screws
Bit for 10g screws
Ezy-grip clamp (optional)

**Instructions:**

**Step 1**: Assemble one unit, I save the white dots till last so I can tweak the connecting nuts again if need be

**TIP1:** d these units before make sure when tightening up the connecting nuts that they go at least 1/3 of the way round, but ideally as close to a the wooden swarf (debris from drilling the hole) from the hole (blow it out), use the biggest screw driver you can get to fit as the better the fit the greater the torque and the easier they are to tighten. I recommend you wear some gloves to save

able to get them as tight as you need.

**Step 2:** Using a **tape measure**, mark out the floor to match the size of the units essentially creating an outline on the floor. I used **pencil** marks on the skirting to match the back of the units and a couple on the floor to match the other corners.

**Step 3:** Use the marks as reference points so you can check the location of fixtures like power points and light switches. Adjust the marks/unit location to avoid clashes if possible. Now mark the centre of the units and run a plumb 100mm above the top of the units when assembled.

**Step 4:** Check the walls for plumb with a **spirit level**, make sure you check across various points of your wall, not just the ends. If your wall leans into your room at the ceiling you will need to move the base out by the same distance as the lean to ensure the units sit
how the units sit parallel to visible markers like wooden floors and adjust your base position to get the best aesthetic look.

**Step 5:** Check t matter) you may want to obtain some 3mm mdf strips or similar hard durable material to use as shims/packers under the units so they sit stable on the floor.

**Step 6:** Check your walls for the stud locations (plenty of YouTube videos to show you how to do this) marking them out with a pencil.

**Step 7:** Pick up your materials from your hardware store now that you know if you need a 50x75 or 50x50 aluminium angle, whether you need materials for packing the units depending on floor levels and how many fixings you need into the studs.

**Step 8:** Find the middle of your 2m angle, mark it clearly then the middle of your storage wall, line them up and mark out the location of your studs you identified at **Step 6** on the aluminium. Using a **6mm drill bit**, drill holes that match the stud marks in roughly the middle of the 50mm up-stand leg.

**Step 9:** On the opposite leg of the aluminium angle, from the centre mark drill 150mm either side in roughly the middle of the leg with a **5mm drill bit**. Continue to drill holes 300mm apart from these points in roughly the middle.

**Step 10:** Start making ing out the dowels. Lay out the short length of 50x50x3mm aluminium on the assembled unit in the short side. Hold it flush to one end and mark the other so it is exactly the same length as the short side. Cut precisely on the mark with either a **drop saw with an aluminium blade** or a **hacksaw with a nonferrous metal blade suitable for aluminium**.

**Step 11:** On the inside face of one leg of the aluminium angle, drill two holes, each 75mm in from either end of the angle exactly in the middle (Use a large fairly sharp nail and hammer and tap a small impression at the centre of where the hole should be to enable more precise drilling). Do the same process again on the other side but 50mm in from either end of the angle. When drilling the holes, **use a drill bit that is the same diameter as the dowels**. Make sure the angle is held firmly before drilling by using a vice or clamp the angle to a piece of waste timber that you can hold more firmly.

**TIP2:** Being precise in cutting and drilling out the jig is important as you will use it on every unit and the holes need to match exactly otherwise the fitted dowels will not match to the holes in the adjoining units when assembling. Check your marks and measures several times to make sure this is correct before cutting or drilling out the jig!

**Step 12:** Locating and drilling out the dowels

ed in the top and/or bottom

so the 50mm holes are facing up, hold firmly in place using an **ezy-grip clamp** if you have one other wise firm pressure and just drill a few millimetres into the unit, pop a dowel into the hole if not using a clamp to help keep it located. Now do exactly the same thing into the 75mm holes in the side but only to the panels that face the adjacent stack. Remove the jig and finish drilling out the holes for the dowels blowing out the timber swarf. If you have a drill with a depth gauge set it so it is slightly deeper than half the length of a

ave a depth guide.

over-drill the holes (3-4mm too deep will be fine).

**Step 13:**

**Step 14:** Now

**(if you want to have the negative detail)** and present the second unit lining up the dowels to the holes. You may need to apply a bit of pressure to get the pieces to come together if the dowels and are a snug fit. If you have an ezy-grip clamp use this to draw the units firmly together.

**Step 15:** Repeat the process of unit assembly making up as many as you like at this point, note though that the middle units will need holes drilled on the top **and** bottom. So drill out the top as per **Step 12** including the side holes. Then on a towel, blanket or carpet, flip the unit end over end until the bottom is now

50mm holes in the end of the side panels on the bottom and the 75mm holes in the side at the other end (at the top) only.

**Step 16:** . Place the dowels in the tops and of the already installed units. Remove the ezy-

**Step 17:** Look at the junction of the top and side panels; if your side panels extend a millimetre or two higher than the top panel only place 1 washer over each dowel, if they meet flush, place two. This should allow the gaps to match that of the already assembled units (but only if you want the negative detail).

**Step 18:** Even though these units are made from hollow core construction they are still fairly heavy so you may want a little help to make it easy on yourself. So grab the helper and repeat **Step 14**. A bit of wiggling should make it all slip into place.

**Step 19:** Repeat **Steps 16 and 14**

rubber feet.

**Step 20:** Now we are ready to do the final and possibly the most important part and that is to secure the units to the wall at the top using the aluminium angle prepared at Step 8 and 9. Place the side with the

6mm holes at stud centre against the wall, line up the centre line drawn at step 3 with the one on the angle. Hold the angle down firmly and using a tek screw and the driver bit secure the first fixing to the wall. Now fix off the remainder of the angle to the wall keeping downward pressure when installing the fixings.

**Step 21:** Make sure that your stacks are sitting tightly together, use the ezy-grip clamp if you have it, and in the right position on the floor. Using your spirit level, start at one end of the unit check for plumb then using the self-tapping 10g screws and the stubby screw driver (if you have limited space above the unit) screw in the first screw as close to the end of the unit as possible. Now go to the other end of the unit then the middle doing the same thing. When fixing the middle, make sure that the two units are sitting nice and flush together (they should be if the dowels are well executed) before fixing off. Now fix off the remainder of the aluminium.

**Step 22:** Run over all the connecting nuts and give them a tweak and make sure they are tight, then place

RE DONE!!! GOOD JOB!!!!!