

WALLBOARD INSTRUCTIONS

I wanted more of a furniture-quality finished product to look nice in our clinic. There are several short-cuts you can take to speed-up assembly and have a finished wall board that's just as sturdy. I used pine throughout, but if you want to get really fancy - build them from hardwood!

The wall board is 8' high and 3' wide. It has 16 cross-rods on 5 1/4" centers (or approximately 4" apart) - located starting from the bottom. The cross-rods are made from 1 1/4" pine closet rod. There is one additional larger diameter rod at the top made from 1 7/16" round pine handrail. The backing - which is used to hold the uprights together and attach the entire thing to the wall - can either be pine cleats or the entire back of the unit can be solid pine plywood. The cleats are more difficult to attach, but are much better for attaching the mirror that's inside the unit. The plywood backing is much simpler to assemble.

The side rails can be 1.25" to 1.5" thick and 7" wide. The top 12" of the rails are 12" wide. The extra material at the top is attached with biscuit joints - it needs to be a very strong joint. I used construction grade 2" x 8" x 10' that I hand-picked to find ones that were straight and had minimal knots ... or at least nicer looking knots. I ripped them on both sides to 7" to clean-up the edges, attached the top pieces, and then ran them thru a planer to get a consistent thickness of 1 3/8".

I drilled the holes for the cross-rods using a Forster bit to get straight, clean, flat-bottomed holes. The holes can also be drilled all the way through, but then finish sanding is more difficult. The centers of the holes are 1 1/2" inches from the front edge of the side rail, leaving about 3/4" of material to the front edge. If you use blind-drilled holes, be sure you use some sort of fixtures to get the depths exactly the same and cut the rods exactly the same or final assembly will be very frustrating!

The cleats used on the back of the clinic wall boards are made from 1" x 6" pine. Again I hand-picked the lumber for straightness and minimal knots. To completely hide the joints, I rabbeted the ends of the cleats and routed mating rectangular pockets in the side rails. It would be a lot faster to dado slots in the side rails and have the ends of the cleats exposed. I used 5 cleats for strength and located them to match the reinforcing we had inside the walls.

Final assemble required plenty of bar clamps and fast work. Make a trial assemble of the wall board to make sure everything fits before you start spreading glue. I used poly-urethane glue (Gorilla Glue). Put lots of glue in each rod pocket - they will get a lot of stress during use and you don't want them to break loose. You'll need 4 or 5 clamps across on each edge (cleats and rods) and one long diagonal clamp to square the whole thing up. The cleats were also attached to the side rails with screws, which were drilled, counter sunk, and fitted before final assembly. After the glue is dry and the clamps removed, I used an air-nailer to put a 2" nail from the backside of each rod into the side rail as a little added insurance that they wouldn't break free and rotate.

After final assembly, I coated the wall boards with one coat of sanding sealer and two coats of urethane varnish. I used cabinet screws to attach the units to the wall.

For clinic use, we attached a 2' x 6' mirror inside of each wall board behind the cross-rods. (Get a safety backing added to the mirrors, if you decide to add them.) I assembled the mirrors inside of the unit before I mounted them on the wall. This may not be that easy depending on what sort of backing you use for the wall board and/or where the studs are located in the mounting wall. We had the clinic walls built with horizontal reinforcing so that I could place the mounting screws in the exposed cleat between the mirror and side rail.