
Subject: A question of wood thickness

Posted by [tman](#) on Wed, 08 Dec 2010 13:17:43 GMT

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To build Pi2 Towers you recommend to use panel of 5/8" (that is almost 16mm). But if I want to cover them with a foil of 4mm plywood, must I use panels of 12mm? Or have I better to use panels of 14mm (for example), making a little larger port?

And what about mdf for panels? Is it a good solution?

Subject: Re: A question of wood thickness

Posted by [Wayne Parham](#) on Wed, 08 Dec 2010 15:38:43 GMT

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its rear panel thickness, the Helmholtz frequency is a function of the thickness of the wood. Here are some recommended hole sizes for various panel thicknesses:

1" thick panel => 4-3/4" diameter port cutout

3/4" panel thickness => 4-5/8" diameter port cutout

5/8" panel thickness => 4-1/2" diameter port cutout.

Subject: Re: A question of wood thickness

Posted by [tman](#) on Wed, 08 Dec 2010 16:43:31 GMT

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Many thanks!

But are there remarkable differences in "sound" between 5/8" and 3/4" thick panels (for example)?

Subject: Re: A question of wood thickness

Posted by [Wayne Parham](#) on Wed, 08 Dec 2010 20:06:20 GMT

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No differences in measurements or subjectively (at least to my ears) between various wood thicknesses, provided the braces are installed. You should have an internal cross-brace one-third the way up from the bottom and another one-third the way down from the top, just under the woofer. Those are what really prevent the panels from vibrating. Don't forget to put insulation on the braces too, spanning the cross-section of the cabinet.

Subject: Re: A question of wood thickness
Posted by [tman](#) on Wed, 08 Dec 2010 20:46:10 GMT
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Thank you again!

I think I'll choose the 3/4", due to the foils of plywood.
Otherwise the inner panels would have been too thin and hard
to assemble...

Subject: Re: A question of wood thickness
Posted by [Bill Epstein](#) on Fri, 10 Dec 2010 04:02:54 GMT
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Cut these "window panes" with the same saw setting, at the same time, as the top and bottom pieces. They help square the cabinet during glue-up and then function as braces.

File Attachments

1) [UniversityAltec build 005.jpg](#), downloaded 3099 times

Subject: Re: A question of wood thickness
Posted by [tman](#) on Fri, 10 Dec 2010 06:54:32 GMT
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Bill Epstein wrote on Thu, 09 December 2010 22:02

...

Cut these "window panes" with the same saw setting, at the same time, as the top and bottom pieces. They help square the cabinet during glue-up and then function as braces.

That's a good tip, thank you!

And what about using screws (with abundant glue of course) to assemble? Would it be wrong?
After I'll cover all with plywood...

Subject: Re: A question of wood thickness
Posted by [Bill Epstein](#) on Sat, 11 Dec 2010 13:08:36 GMT
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Quote:And what about using screws (with abundant glue of course) to assemble? Would it be wrong?

Not "wrong" just something I no longer use. I never liked having to fill the screw holes but worst of all, even when clamped, sometimes the torque of the screw would move the pieces. I also gave up on 18ga. nail gun nails, especially in MDF because they bend going in and come out all over the place.

Eschewing fasteners, once mastered, is easier and faster. The latest bar clamps from Bessey and Jorgensen with their square jaws really help, too.

Subject: Re: A question of wood thickness
Posted by [tman](#) on Sat, 11 Dec 2010 13:23:59 GMT
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No screws, then...
I wanted to economize on clamps...

Thank you.
