
Subject: R13 insulation: what to do? spray glue down?

Posted by [Maxjr](#) on Wed, 14 Mar 2012 10:41:55 GMT

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I'm coming through the home stretch of my 4Pi build. I have crossovers coming from Wayne in the next week and just finished mounting the baffle, port, and all 4 sides. Prior to gluing up the rear panel, I'd like to install the braces and R13 insulation. Does this sound like the correct sequence?

My main question is: do I spray the R13 insulation with glue prior to installing it so it doesn't fall, or is the material rigid enough to stay put? I was also thinking of misting a light spray of glue on the other side of the R13 (non wood side) to prevent loose fibers from flying around. Will this affect performance if I do it lightly? If glue is recommended, is there a specific one? I was thinking of using 3M.

Lastly, I'd like to mount the crossovers in the cabinet on the bottom panel. Is it recommended to screw them down with shower liner in between (as a gasket). Can I then lay the R13 over the crossover?

I've read through the plans and many builds here, but haven't seen these specific issues addressed. Thanks in advance, Wayne and everyone else!

Cheers,
Joel

Subject: Re: R13 insulation: what to do? spray glued down?

Posted by [Wayne Parham](#) on Wed, 14 Mar 2012 14:36:53 GMT

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Remove the vapor barrier (paper backing) if there is one. Then cut to size. Run a bead of white glue all along the surface to cover. Just lay it down in a line back and forth until you've covered the surface with lines spaced a couple inches apart. Press in the mat of insulation and you're done with that side. Repeat for all surfaces (back, top and side nearest the port). Then cut one that fits the cross-section (same size as top), run a bead of glue on the cross-brace and install the sheet.

The insulation will make you itchy but you only have to do it once.

As for a spray adhesive to capture/contain fibers, I don't advise it. The insulation doesn't shed fibers by any appreciable amount once it's in place. The only exception is cases where you want to hide the insulation in an open port, painting it black, for example. But if this is done use the absolute minimum amount. The fibers need to be free to move and they can't absorb energy if they're all stuck together.

Subject: Re: R13 insulation: what to do? spray glued down?

Posted by [Maxjr](#) on Wed, 14 Mar 2012 18:25:29 GMT

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Thanks for the quick and detailed response, Wayne. I'll be installing the insulation today. Regarding white glue, are you referring to regular water based Elmer's glue that kids use in school? Also, regarding mounting the crossovers in the cabinet, how do you recommend on proceeding? Should I wait on installing the bottom R13 sheet until the crossovers come in?

Thanks in advance!

Subject: Re: R13 insulation: what to do? spray glued down?

Posted by [Wayne Parham](#) on Wed, 14 Mar 2012 21:17:12 GMT

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Yes, that's the stuff. Just good old Elmer's white glue. You can also use yellow wood glue, which is very similar.

You can install the insulation now, but do be sure to think about where you will run your wires. The wire going from the amplifier connector will go through the back sheet of insulation, and the internal wire going from the crossover board to the tweeter will go through the sheet of insulation sitting on your cross-brace.

I like to mount the crossover board to the inside bottom with screws. Make a gasket with cardboard or PVC and put it under the crossover board. That will prevent it from buzzing at high volume levels. I've never actually found that to be a problem, but a gasket surely doesn't hurt.

Your speaker doesn't have insulation on the bottom - yours is on the top. But most models have insulation on the bottom. In that case, I like to mount the crossover before installing the insulation. I cut an access flap into the bottom insulation sheet, like shown below. I only apply glue around the perimeter, so the center flap can be lifted up to mount the crossover board, and to service it if that's ever necessary.

File Attachments

1) [bottom_insulation_cuts.gif](#), downloaded 4974 times

Subject: Re: R13 insulation: what to do? spray glued down?

Posted by [Maxjr](#) on Thu, 15 Mar 2012 08:27:14 GMT

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Elmers glue it is!

Thanks for the tips about keeping in mind about where the speaker wires will be run. For some

reason, I thought there was R13 on the bottom due to this thread: (msg 63366)

<http://audioroundtable.com/forum/index.php?t=msg&th=15168&prevloaded=1&&start=50>

But, your right, it is on the top, side nearest port, back, and on the cross brace. Did BigmouthinDC lay it wrong? Or was there a specific reason he put it on the bottom?

Subject: Re: R13 insulation: what to do? spray glued down?
Posted by [Wayne Parham](#) on Thu, 15 Mar 2012 19:05:47 GMT
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It almost doesn't matter if it's on the top or the bottom. Most of my speakers have it on the bottom, but then again, most have the port nearer the bottom. This model has the port nearer the top. So the insulation actually works a little better on the top than the bottom, but the difference is marginal.

Subject: Re: R13 insulation: what to do? spray glued down?
Posted by [steve f](#) on Sat, 17 Mar 2012 17:03:25 GMT
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I use Super 77 or DAP spray adhesive. Mostly for the faster tack. Plain old wood glue works fine.

Subject: Re: R13 insulation: what to do? spray glued down?
Posted by [dutchswan0311](#) on Tue, 20 Mar 2012 12:25:41 GMT
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Quote:

The insulation will make you itchy but you only have to do it once.

One...twice..fifteen times. But who's counting. I actually stopped by the forum today to ask the same question, so the timing of this thread is perfect. Just one follow-up question: Is the insulation on the cross bracing laying flat on the bracing, or is it hanging down from it. I inferred that it was laying flat since it was instructed to cut it the same size as the top piece; but figured I would ask anyway.

Subject: Re: R13 insulation: what to do? spray glued down?

Posted by [Wayne Parham](#) on Tue, 20 Mar 2012 17:07:25 GMT

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It should be laying flat, spanning the cross-section. It sort of partitions the cabinet into upper and lower sections. Bass passes right through, but midrange is attenuated.
