Subject: Foam versus fiberglass
Posted by drake on Sat, 03 Jun 2017 04:07:56 GMT
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I think we all agree that fiberglass, has for a long time, been the preferred insulating material. Having said this, why do people prefer fiberglass over foam considering that foam has a higher R-value of 7 compared to fiberglass' 3?

The higher the R-value the higher the insulating power, right?

Subject: Re: Foam versus fiberglass
Posted by minora on Tue, 01 Aug 2017 13:07:25 GMT
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I've been reading about this topic and the definition of the terms can get pretty confusing. I've forgotten most of physics lesson, but I assume you want to prevent the noise reaching out when you say 'insulate'. Hard materials will work better for that purpose because of its density and weight.

Subject: Re: Foam versus fiberglass
Posted by Wayne Parham on Tue, 01 Aug 2017 16:46:42 GMT
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What we're looking for in acoustic damping isn't the same thing as what is desirable as a thermal insulator.

The movement of fibers in the fiberglass is what damps the sound, and it isn't the same in a foam. Some (open cell) foam products damp high-frequency sounds pretty well but other foam products don't, particularly closed cell foams. They are pretty good at thermal insulation though.

Anyway, as I said, the characteristics that provide thermal insulation aren't necessarily the same characteristics we want for sound damping.

Subject: Re: Foam versus fiberglass
Posted by Zohanna on Mon, 21 Aug 2017 21:58:55 GMT
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I can sure see why fiberglass is a better medium for insulating a room, however, do you think that it creates better acoustic sound? I'd be interested to hear your response.

Subject: Re: Foam versus fiberglass
Posted by Wayne Parham on Tue, 22 Aug 2017 01:24:20 GMT
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There are a lot of things that go into making a great sounding room. Some are more important than others. Some are huge, other smaller "Nth degree" things. And sometimes, two different approaches solve similar acoustic problems to varying degrees.

For example, speakers with uniform directivity are able to mitigate many of the problems of room acoustics. So some speakers will sound better in a bad room than other speakers will in a good room. Of course, the best thing is to have great main speakers with uniform directivity and multiple subwoofers in a well damped room. But that's not always possible. So sometimes, you have to work with what you've got.

Anyway, foams and fibrous damping materials work pretty well at damping higher frequencies. They can't solve room modes, but they can help with things like ceiling slap.

Subject: Re: Foam versus fiberglass
Posted by drake on Fri, 25 Aug 2017 07:42:22 GMT
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Wayne Parham wrote on Mon, 21 August 2017 20:24
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I agree that there are speakers that sound much better than others in the same room. It is interesting to read all aspects regarding insulation and I think it is one of those topics that's non-exhaustive.

Subject: Re: Foam versus fiberglass
Posted by gofar99 on Fri, 25 Aug 2017 23:33:54 GMT

Fiber fill is an alternative I find useful. Fiberglass makes me itch just looking at it.

Subject: Re: Foam versus fiberglass
Posted by johnnycamp5 on Mon, 28 Aug 2017 20:04:01 GMT

gofar99 wrote on Fri, 25 August 2017 19:33Fiber fill is an alternative I find useful. Fiberglass makes me itch just looking at it.

Lol.

Ultra Touch is a good (but exspensive) alternative.
This is the cotton/denim type insulation that you sometimes find in some furniture, instead of foam, like in an armrest or foot rest.

I have seen test results, where it measured with slightly better performance than fiberglass insulation, in a thick bass trap orientation.