

Sound Dampening Part II

Introduction:

Several months ago I wrote an article on case sound dampening. This article seemed to strike a nerve in the hardware community, and I received a near-record level of feedback on the sound level issue. To this day, the case sound dampening article is one of the most popular articles on this site.

If you read the first article you will recall I was not entirely satisfied with the results of my SOSDM (spray-on sound-dampening material). While it did quiet the noise coming out of the case it was difficult to apply, it went on unevenly, it wasn't paintable, and it had an awful smell until it dried. (think Bog of Stench from Labyrinth bad) So, when one of our readers, David Brown, who used to work for an automotive parts wholesaler, generously offered to send me a sample of some commercial quality automotive sound deadening material (both SOSDM as well as SSDM--sheet sound deadening material), I was all-too-happy to take advantage of his offer.

Box Contents:

When the box arrived what I received was: 3 sheets of SSDM, one can of SOSDM spray. Almost immediately the difference in quality of the Würth commercial grade products were apparent in comparison to the generic consumer-grade product I had purchased at Wal-Mart. For instance, the Würth SOSDM was fully paintable. It also didn't have the dire cancer warnings of the other product. Finally, the can was much larger.

The SSDM was also different from the other types of sheet sound deadening material I had seen. Mainly there was no cork or foil backing. In its place instead was a thin, gray, tightly woven cloth. The whole thing, in fact resembled a large sheet of 1/8-inch black rubber. The back of the sheets were coated with an adhesive, during applications you simply peel of the clear plastic backing. Since at the time this article was written, I only had one case at my disposal, I decided to focus most of my attention on the SSDM. Since the three sheets of SDM pieces arrived rolled up much like a poster, the first order of business was to flatten them out. Ironically enough, this was the only difficult part of their installation

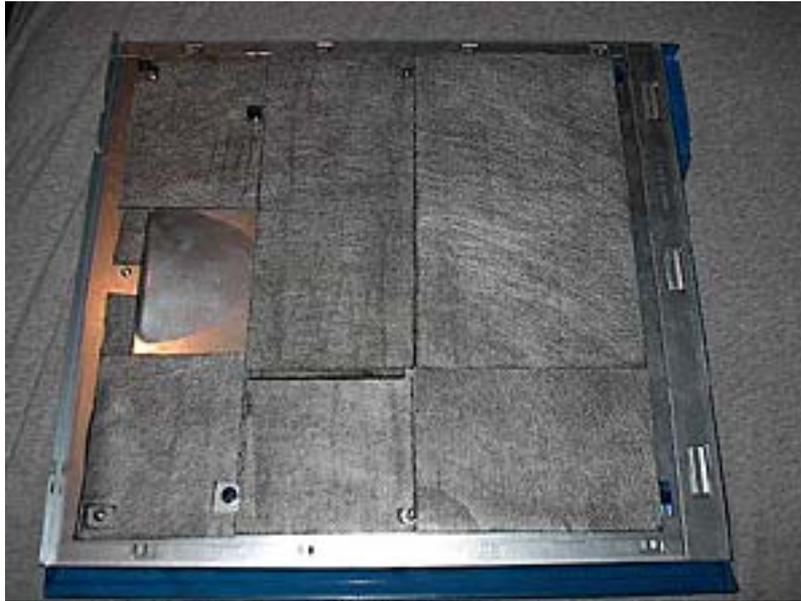
Each sheet is remarkably similar in thickness, feel and pliability, to a standard household kitchen tile. The size of each sheet is approximately that of two kitchen tiles placed side by side. I laid the three sheets on my workshop table and slowly--and carefully--began to unroll and straighten them out. Fifteen minutes later I had them nearly flat; although, some slight cracking and creasing of the material was now evident. I let them sit overnight in this manner. In the morning the sheets were nearly paper-flat. Later it was brought to my attention that if I would have put the rolled sheets on a cookie tray in the oven on low heat for a few minutes, most of the problems I had unrolling and flattening the sheets could have been prevented, as well as the cracking. I should have thought of that procedure myself, but I hadn't. It's good information for the future, though.

Installation:

The next step was to remove the top and side panels to the case I was going to be working on, and thoroughly clean them. I started with a damp rag and finished with some alcohol. After letting the panels dry thoroughly, I was ready to proceed. I laid the side panels down and proceeded to draw myself a pattern which I then cut into the sheets with an Exacto knife (a carpet knife would also work). I then removed the adhesive backing on the sheet to the case panel. After initial application I then used a putty knife to make sure all the air bubbles were out and the whole sheet was completely making contact with the inside of the case panel.

I would like to stop here for a moment to note that in comparison to the SOSDM I used in the first article, this

sheet application was absurdly easy. No complications, no mess, no smell, no drying time. I even applied it indoors. In fact, it took me less time to cut, fit, and apply the sheets to the insides of both case panels than it did for me to write this description. The one drawback here would be price since this is sold in a pack. For it to be cost effective you would need to find a buddy or two to go on the initial purchase with you.



Reassembly:

When I tried to put the side panels back on the case they wouldn't fit. It seems I had applied the sheet to the edge of the panel. This meant that when I tried to replace the panels the sheet was pressed against the back edge of the case. No way it was going to mount in that manner. After trimming off a half-inch from each side the panels fit fine; albeit, somewhat more snugly than before.

Sound Testing:

This is the one part of the old sound deadening article where I took a beating. I am afraid to report not much has changed this go around. You see, I don't own or have access to a db meter. At 300 bucks locally, for a good one they are just too much for me to afford, for the limited amount of use it would receive. So, like the first time, all sound level measurements will be subjective. That being said, though, it doesn't take a db meter to hear the difference in volume between say, a whisper and a shout. Like in my previous article, I am not going to sit here and tell you this case mod will make your pc silent, but you will be able to hear a noticeable reduction in the sound coming out of your case. Once again, I regret not having a db meter, so I can give you a definitive number regarding how much reduction in sound has actually occurred.

SOSDM:

I figured that even though I didn't have an extra un-modded computer case with which to test the SOSDM, I could at least use it to paint something and give you some general observations regarding its application. Essentially, this product applies identically to ordinary high-grade spray paint. It doesn't run, clump, clog up the nozzle, it isn't terribly stinky, and it dries to the touch in about fifteen minutes. It's even paintable, like I mentioned earlier, even though to my eyes, it looks just as good as a spray-on enamel paint by itself. If it deadens sound (which I was unable to test) as well as doing these other things, then it's truly one remarkable product.



Unified Sound Management Theory:

No single system modifications you perform of any kind, that I am aware of, including the one I have just written about is likely to give you the sound-deadening results you desire. Successful sound management requires, rather, a unified approach (Nice term I just coined huh?, wonder if others will use it?). For instance, it wasn't long after I completed my first sound-deadening article, that I realized I was still not entirely satisfied with the level of noise my PC was producing. True, the seven fans housed inside no longer sounded like I was standing next to a top fuel dragster as it performed a full throttle burn-out, but it still wasn't quiet enough for extended everyday use.

So, I started looking around for other things I could do to quiet my box down even more. So, I pulled out the 8 K Delta 60mm knuckle buster and replaced it with a Sanyo Denki 80 mm fan, which at 53 cfm puts out more cfm, is quieter, and since it only spins at 4500 RPM, the noise it does produce is of a much more pleasing low-pitched hum instead of that tortuous high-pitched Delta squeal.

Conclusion:

The purpose of this article was to get the DIY enthusiasts and modders out there a look at some creative off-label uses to solve some ongoing computer noise problems. Retail availability of the particular Würth products I have used in this article may be somewhat limited as these are wholesale items. A good place to start if you are interested in the Würth SOSDM would be [carcareonline](http://carcareonline.com), scroll down and choose Würth. Würth SSDM may be harder to find since it is sold by the bundle. If there is enough interest I can see if I can lay my hands on a big bundle. I would probably need half a dozen upfront orders, first, though.

[Jim Adkins](#)

This page comes from

Monster-Hardware:

<http://www.monster-hardware.com>

The URL for this page is:

<http://www.monster-hardware.com/modules.php?name=Content&pa=showpage&pid=4>