

SOUNDADVICE

The Art of Sound Deadening

STORY AND PHOTOS By Dan Dakin



DOOR JAM: It may look like aluminum foil, but this material will dramatically improve sound quality. (top of page)

The driver-side door of the same S2000 waiting for deadening material to be installed. (inset)

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Car audio installations are like houses; if you don't start with a good foundation, you might as well throw your money right out the window.

Unless you're driving a \$50,000 luxury car, chances are you will see major improvements in the sound quality of your system if you insulate your car with sound-deadening products. People balk at spending a few hundred dollars on damping materials, yet they'll drop twice that to add a new amp with only marginal benefits.

What they don't realize is adding a layer of material could produce a gain of three or four decibels, plus it will make the inside of their car sound like a concert hall. Music aside, it will also make driving their car more enjoyable. Adding sound deadening or damping material is a great way to silence engine, road, and exhaust noise.

The idea here is simple—keep the bad noise out and the good noise in.

Car audio installers have been using a wide variety of methods ever since custom installs first began, but in the past decade the sound deadening market has exploded into a multi-million dollar industry as the benefits have become more widely known.

Dynamat remains the industry leader, and they offer the most well-known and reliable products out there. However, Cascade, B-Quiet out of Canada, Roadkill from New Zealand, and Fatmat are a few on the growing list of viable alternatives.

So, how much of this stuff are you going to need or want? The easy answer to this is **as much as you can afford**, and as much as time will allow.

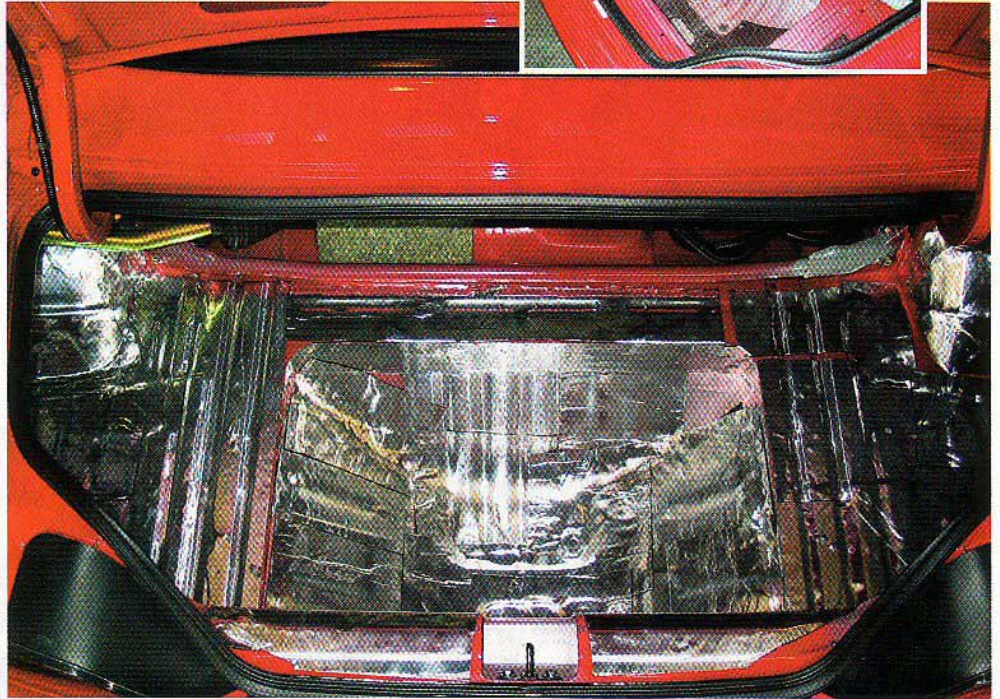
THAT'S NO JUNK IN THE TRUNK: *Pre-fabricated trunk mats are constructed of layers of aluminum foil, rubber, asphalt, and other materials.*

"[Aftermarket sound deadening] has been around for quite a while," said Wade Galloway, who started B-Quiet four years ago. "Dynamat was certainly the first to market in terms of providing it as an aftermarket solution [in the early 1990s] and a lot of that coincided with the popularization of car audio systems. Competition was starting to become quite popular."

That said, there are a handful of application options when it comes to choosing sound-deadening materials. There are mats, which simply stick on after you peel off an adhesive backing. Nowadays, there are even pre-fab kits like headliners and door- and trunk-liners available for many models of cars. Both the do-it-yourself and pre-fabricated mats are constructed of layers of aluminum foil, rubber, asphalt, and sometimes foam and other materials. For hard-to-reach areas, various spray-on materials are now available. You'll have the best results if you use a combination of everything to give complete coverage throughout the car.

So, how much of this stuff are you going to need or want? The easy answer to this is as much as you can afford, and as much as time will allow. In a perfect world, you would completely dismantle every single bit of your interior from your firewall to your trunk and coat every single bit of metal you see with some sort of damping material. This would give you the ultimate in all-around sound deadening since it would block out noise from your engine, wheels, exhaust, wind, and the road.

If eliminating vibrations is your primary goal, 100 percent coverage isn't necessary; you can use pads strategically throughout the car to help alleviate the noise. But if you're looking to eliminate serious outside noise and really improve your interior sound, the floor pan, roof, door panels, and trunk should all get attention. Most of the materials are sold by square feet, so it's fairly easy to measure out the area you're going to need, and your average car shouldn't need more than 80 to 100 square feet for the whole job.



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SOUND OFF: With Brown Bread now covering as much of the S2000 as possible, the carpet and underpad can now be put back in place.

Once you've got your interior stripped, you'll make life easier on yourself if you first clean everything well. Get rid of any pieces of old material or insulation that might still be stuck to the metal, and clean the whole area to get rid of dust and grime.

Start from the front and work your way back, laying the material down like a carpet. You can use smaller pieces to fill in small areas, but try to use large single pieces to do big areas like the headliner or floor pan. One layer should be all you need.

"When you start getting into the thousands of watts of power, additional layers are added as needed," says Galloway. "Generally a single layer throughout is all we recommend."

Depending on the type of material being used, a hot air gun can make the job easier because the deadening material usually forms better to the contours of the car when it's heated. For the spray-on material, give it lots of drying time before starting to put any interior pieces back together.

As you rebuild your interior and start to add in your audio components, it's a good idea to use aftermarket speaker baffles in areas like the door pods, dash, and rear deck. This will enhance the quality of the sound and eliminate even more vibrations.

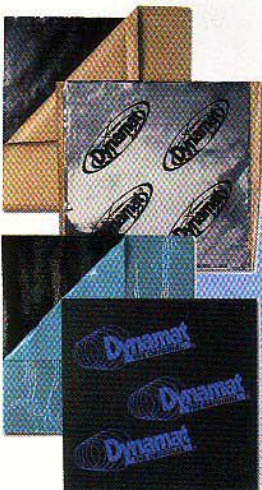
The only downside to using a lot of the material is added weight, but if the focus of your car is to get bigger and better sound, weight may not be that big an issue.

The price tag on complete coverage of an average sport compact like an RSX or Civic can range from \$150 to \$500 depending on the brand and type of damping used. The costs can skyrocket if you have an installer do the work. Galloway recommends giving it a shot yourself.

"A significant portion of our customers are do-it-yourselfers," Galloway says. "While it is fairly labor intensive, it doesn't take special skills like building a sub box or finishing fiberglass. It's pretty straightforward to put the material in." Looking to the future, Galloway doesn't see too many major changes in the way sound deadening is achieved.

"It's a fairly basic principle in terms of what needs to be done in order to control sound," says Galloway.

"Sound proofing for the automotive environment has only been around for maybe two decades, but the same technology was used in commercial and industrial applications for many decades before that, so a lot of the refinements have already been made. It isn't exactly rocket science."



DYN-A-MAT!
Original Dynamat pad shown from the front and rear.

The latest offering from Dynamat is Xtreme Dynamat; it offers better sound deadening for higher-end installs.