



Insulating Your Home Office for Sound Control



Sound Off! Reducing Noise in Your Home Office

Experts predict that 20-30 percent of the U.S. workforce could be working from home multiple days per week by the end of 2021.¹

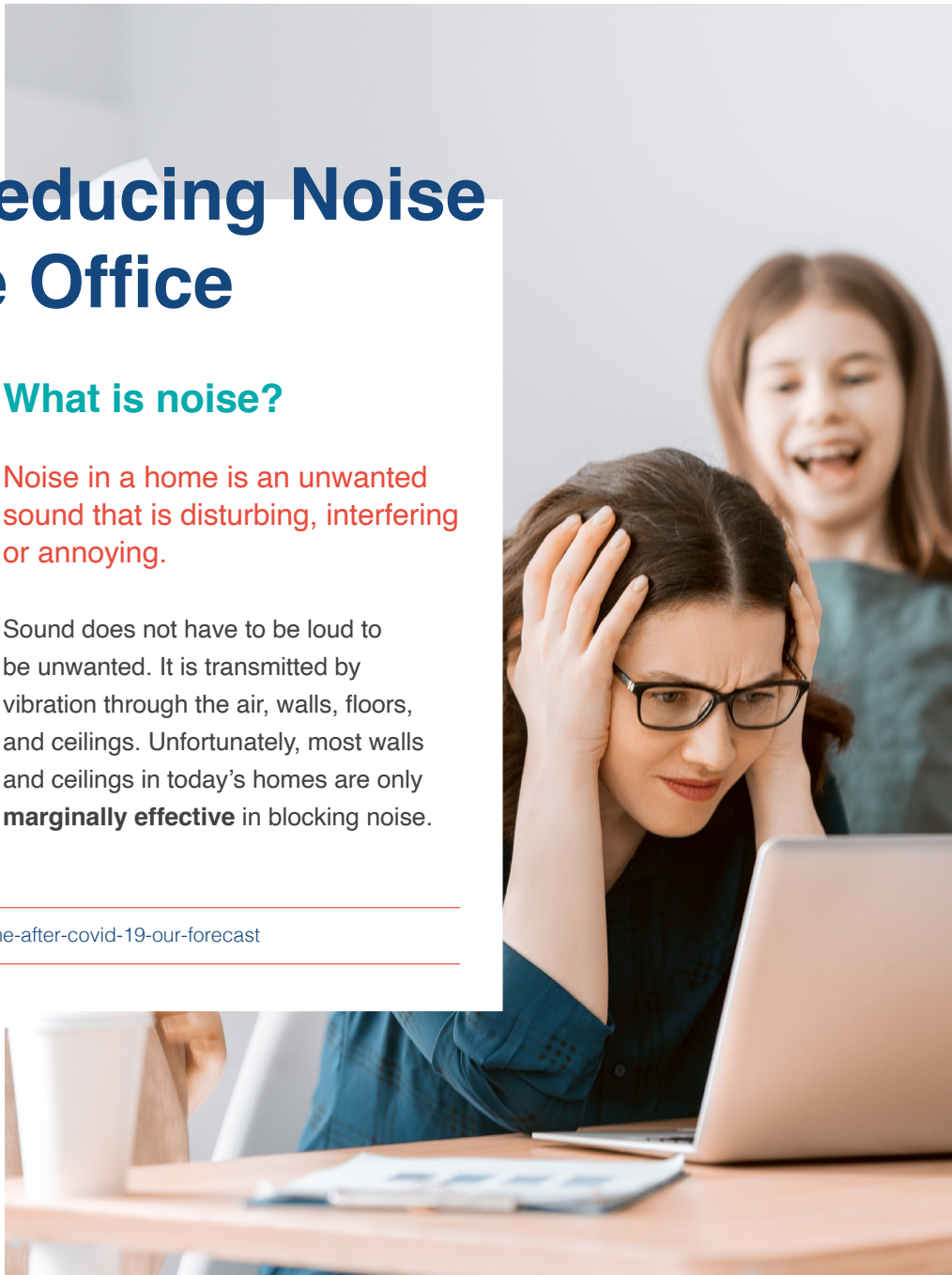
With this shift to remote work, a dedicated home office becomes essential. After you have identified the space in your home, **optimizing functionality and comfort is critical**, including designing for noise control.

What is noise?

Noise in a home is an unwanted sound that is disturbing, interfering or annoying.

Sound does not have to be loud to be unwanted. It is transmitted by vibration through the air, walls, floors, and ceilings. Unfortunately, most walls and ceilings in today's homes are only **marginally effective** in blocking noise.

¹ <https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast>





Insulating Your Home Office for Noise Control

Noise can generate added stress that may negatively impact your home office.

Reducing noise transmission in your office space can help you **be more focused and productive.**

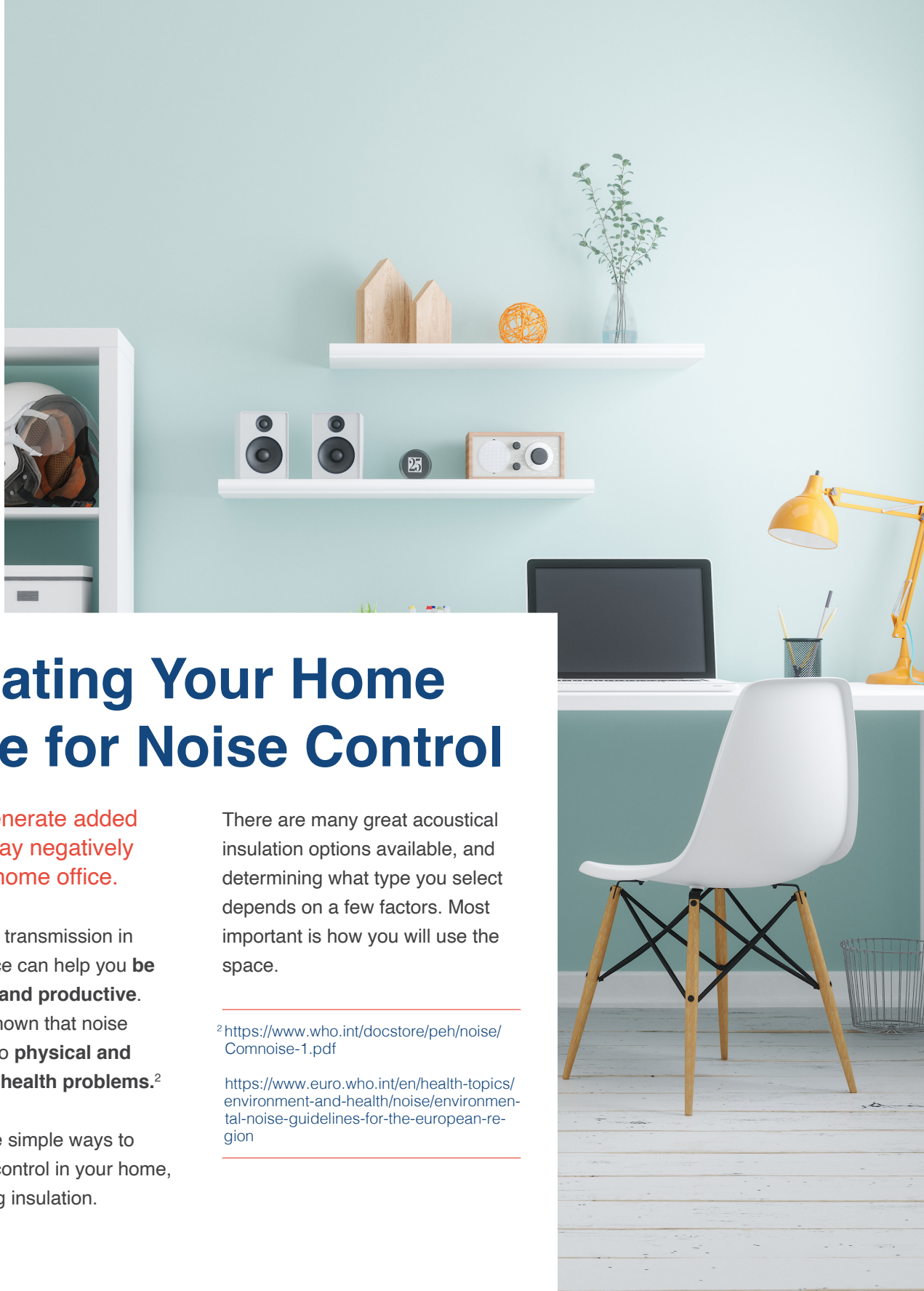
Studies have shown that noise can contribute to **physical and psychological health problems.**²

There are some simple ways to improve noise control in your home, including adding insulation.

There are many great acoustical insulation options available, and determining what type you select depends on a few factors. Most important is how you will use the space.

² <https://www.who.int/docstore/peh/noise/Comnoise-1.pdf>

<https://www.euro.who.int/en/health-topics/environment-and-health/noise/environmental-noise-guidelines-for-the-european-region>





Simple Solutions First

Before you get started on any home renovation project, it is essential to survey what already exists and determine what changes you would like to make.

There's one crucial question to answer: is the unwanted noise coming from inside or outside your home? In other words, is your kid playing loud music upstairs, or is traffic on the street keeping you from concentrating? It is best to start sound control by sealing up

gaps and openings in your walls, often referred to as flanking paths.

If you need more acoustical soundproofing, **consider insulating your walls.** Building codes require a minimum amount of insulation to be installed in a home's exterior walls and ceiling for thermal control. It is less common to have insulation installed in interior walls between rooms because building codes do not require it. Adding insulation to interior walls is a great way to help control noise within a home.

Here are some additional steps to take to achieve a basic level of soundproofing:



Seal cracks around doors, windows, HVAC vents, and electrical outlets



Install a solid core door and add weather stripping



Add soft, sound-absorbing materials like rugs or upholstered furniture



Install decorative sound-absorbing fiberglass board insulation products



“You may want to consider adding insulation in your interior walls to improve noise control.”



The Insulation Check

If you are unsure if your home's interior walls are insulated, an excellent way to check without knocking big holes in the wall is to use a standard zip tool (a basic tool for unclogging drains).³

You need to find an easy access point, and the easiest is around an electrical junction box. **Be careful to turn the power off first**, then remove the faceplate from the electrical junction box. Insert the plumbing zip tool between the electrical box and the drywall and pull it out. If it snags, there's insulation in the wall. If it does not, **you may want to consider adding insulation in your interior walls to improve noise control.**

³ <https://www.energyvanguard.com/blog/59782/A-Great-Tool-for-Checking-Insulation-in-Walls>



The Insulation Fix

Experts at Acoustical Solutions, a Richmond, Virginia-based acoustical company, note that one cost-effective way for a homeowner to achieve better acoustic performance in the office and throughout the home is insulating interior walls with R-11 or R-13 batt or blow-in fiberglass or mineral wool insulation.

This project can be achieved by drilling holes into the wall and filling the cavity with blown-in insulation. When insulating framed wall cavities, laboratory acoustical testing shows that all types of insulation will improve acoustical performance and there is not a measurable difference in the results among various insulation types.⁴ Adding blown-in fiberglass insulation is a relatively easy do-it-yourself project using material and equipment available at your local home improvement store. Alternately, you can always hire a pro to do the job.

Another option for insulating an interior wall is to **remove the drywall and insulate the cavity**

with fiberglass batts, installing a resilient channel to decouple the wall from the wood studs, making the insulation more effective.⁵ If this method is preferred, fiberglass and mineral wool insulation manufacturers also produce acoustical insulation products that provide sound control but do not include an R-value, as thermal insulation products do.

Each help provide soundproofing to the wall assembly. However, **fiberglass is the most common type of insulation** used in home construction. It is also a **cost-**

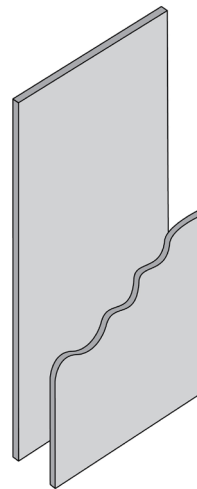
effective product. Adding insulation behind the drywall in a typical interior wall can absorb sound vibrations between rooms. In most homes, uninsulated walls between rooms are only marginally effective at blocking noise. The added benefit of adding insulation to interior walls is that it may help **reduce home energy use and create a more comfortable office space.**

⁴https://insulationinstitute.org/wp-content/uploads/2021/03/NAIMA-AcousticsBrochure-FINAL_03242021.pdf

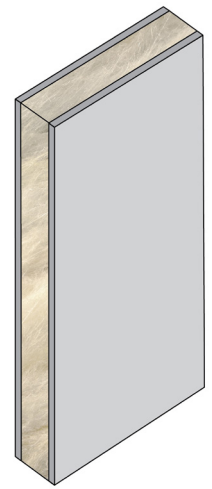
⁵<https://www.tmsoundproofing.com/decoupling-explained.html>



Two layers of drywall as a single panel



Decoupled drywall



Decoupled and insulated wall



Another Option for Controlling Sound

Sound absorbing ceiling or wall tiles can muffle noise in a space for less.

These tiles come in various sizes, thicknesses, and colors, and are available from many retailers, including big box stores and online retailers.

While noise in a room cannot be eliminated, simple sound-absorbing

materials can go a long way toward controlling unwanted noise in your home office or throughout your home.

With a little know-how and minimal investment, you can get a quieter home office.

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NAIMA is the association for North American manufacturers of fiber glass, rock wool, and slag wool insulation products. Its role is to promote energy efficiency and environmental preservation through the use of fiber glass, rock wool, and slag wool insulation, and to encourage the safe production and use of these materials. Through the Insulation Institute™, we leverage the collective insulation expertise of our organization and our members to empower homeowners and professionals to make informed insulation choices. Our mission is to enable a more comfortable, energy- efficient and sustainable future through insulation — and we are constantly working with building professionals, homeowners, government agencies, and public interest, energy and environmental groups to realize that vision.

NAIMA
P.O. BOX 1906 | ALEXANDRIA, VA 22315 | P: 703-684-0084

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