

Jeff Somers January 15, 2025



If your signal dies three feet from the router, look for these materials for clues.

Nothing can ruin your day more thoroughly than a crappy [wifi signal](#) that slows your entire life to a crawl filled with error messages, broken images, and tedious loading animations that quickly test your sense of reality.

When that's the situation in your own home, it's even worse—because it's inescapable. If your [wifi signal](#) isn't making it past the room your router sits in, there are several possible explanations—but you might want to start by considering the stuff your house is made of. Wifi is a radio signal, and when a radio signal passes through a solid material, it weakens—and certain materials have a bigger impact than others.

Metal

Metal is a good electrical conductor, which means it absorbs radio waves, degrading your wifi signal pretty significantly. Look for these culprits:

- **Chicken wire.** You might not think there are any metal barriers in your home, but do you know what's inside your walls? Plaster, cement, or stucco walls often use chicken wire or other metal mesh as a reinforcement, essentially turning your walls into wifi-eating machines. Moving your router to a more open location might improve your signal.
- **Appliances and furniture.** Appliances like refrigerators or televisions and metal furniture like filing cabinets are big lumps of metal sitting in your house, and if they come between your router and everything else, the signal will have to fight its way through them.
- **Doors.** If you have heavy metal doors in the house, those slabs may be gobbling up your wifi signals for breakfast.

Glass

Glass itself isn't a problem for wifi signals, but many of the glass stuff in your house also contains metal. [Mirrors](#), for example, typically use a thin layer of silver or

aluminum to make them reflective, and modern low-emission windows use a thin metallic coating to enhance their insulating properties, which is great for your energy bills but terrible for your wifi signal.

Water features

Water eats low-frequency radio signals for lunch, because it reacts with them—that's how a microwave can boil a cup of water so efficiently. You probably didn't put your router at the bottom of a swimming pool, but if you have a large aquarium or other water feature in the home, it will degrade your signal. Water and heating pipes in the walls can also pose a challenge, so having your router on the opposite side of a bathroom, kitchen, or utility room will complicate your coverage.

Concrete and brick

Concrete is dense and challenging for radio signals to pass through, so if your home or apartment has concrete walls and/or floors your wifi signal might go AWOL between the router and, say, your living room television. The problem will be even worse if the concrete is reinforced with metal.

Brick is less dense than concrete but it's still going to block a lot of that signal.

Ceramic tile

Ceramic tile by itself is only a moderate barrier to wifi signals—but when combined with other materials like drywall or plaster, that ceramic tile becomes a real problem for your internet speeds. If you have a tiled bathroom between your router and the stuff that it feeds, for example, you might experience a significant loss of signal as a result—possibly worsened by water pipes and other metallic materials in the walls as well.

What to do if you have these materials blocking your wifi signal

If your wifi signal sucks and you suspect some of these materials might be to blame, you might not be able (or willing) to tear your home apart to boost your wifi signal—but being aware of these materials can help you choose the best possible location for your router to remove as many barriers as possible.

If location is a challenge, look into setting up a mesh networking solution, which can blanket your home with a full-strength wifi signal despite any barriers that exist in the walls or other aspects of the structure. You could also look into running [wired internet](#) throughout your home, which is still a perfectly viable solution when it comes to getting internet to your various devices.