



Ducts

One of the most important systems in your home, though it's hidden beneath your feet and over your head, may be wasting a lot of your energy dollars. Your home's duct system, a branching network of tubes in the walls, floors, and ceilings, carries the air from your home's furnace and central air conditioner to each room. Ducts are made of sheet metal, fiberglass, or other materials.

Unfortunately, many duct systems are poorly insulated or not insulated properly. Ducts that leak heated air into unheated spaces can add hundreds of dollars a year to your heating and cooling bills. Insulating ducts that are in unconditioned spaces is usually very cost effective. If you are buying a new duct system, consider one that comes with insulation already installed.

Sealing your ducts to prevent leaks is even more important if the ducts are located in an unconditioned area such as an attic or vented crawl space. If the supply ducts are leaking, heated or cooled air can be forced out unsealed joints and lost. In addition, unconditioned air can be drawn into return ducts through unsealed joints. In the summer, hot attic air can be drawn in, increasing the load on the air conditioner. In the winter, your furnace will have to work longer to keep your house comfortable. Either way, your energy losses cost you money.

Although minor duct repairs are easy to do, ducts in unconditioned spaces should be sealed and insulated by qualified professionals using the appropriate sealing materials. Here are a few simple tips to help with minor duct repairs.

Duct Tips

- Check your ducts for air leaks. First, look for sections that should be joined but have separated and then look for obvious holes.
- If you use tape to seal your ducts, avoid cloth-backed, rubber

adhesive duct tape, which tends to fail quickly. Researchers recommend other products to seal ducts: mastic, butyl tape, foil tape, or other heat approved tapes. Look for tape with the Underwriters Laboratories logo.

- Remember that insulating ducts in the basement will make the basement colder. If both the ducts and the basement walls are un-insulated, consider insulating both.*
- If your basement has been converted to a living area, hire a professional to install both supply and return registers in the basement rooms.
- Be sure a well-sealed vapor barrier exists on the outside of the insulation on cooling ducts to prevent moisture buildup.
- When doing ductwork, be sure to get professional help. Changes and repairs to a duct system should always be performed by a qualified professional.
- Ducts that don't work properly can create serious, life-threatening carbon monoxide (CO) problems in the home. Install a CO monitor to alert you to harmful CO levels if you have a fuel-burning furnace, stove or other appliance, or an attached garage.
- For new construction, consider placing ducts in conditioned space—space that is heated and cooled—instead of running ducts through unconditioned areas like the crawlspace or attic, which is less efficient.
- **\$ Long-Term Savings Tip:** You can lose up to 60% of your heated air before it reaches the register if your ducts aren't insulated and they travel through unheated spaces such as the attic or crawlspace. Get a qualified professional to help you insulate and repair ducts.

* Note: Water pipes and drains in unconditioned spaces could freeze and burst in the space if the heat ducts are fully insulated, because there would be no heat source to prevent the space from freezing in cold weather. However, using an electric heating tape wrap on the pipes can prevent this.