



E-Conservation

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DIY: Attic Duct Sealing

Difficulty: Intermediate

Cost: <\$30

Time: 2 hours

Materials:

- aluminum tape (for metal ductwork)
- fiberglass tape (for metal ductwork)
- mastic sealant with caulk gun or brush
- damp cloth
- zip ties (for flexible ductwork)
- cable tie gun/tensioner (for flexible ductwork)

Safety Equipment:

Gloves
Knee pads
Mask

Additional Info

- Do not use duct tape in place of aluminum tape. Duct tape will degrade and lose its holding ability in a year. Aluminum tape is better suited for these applications.
- Ducts carry cool air in the summer and warm air in the winter into your house. Leaks in your ductwork waste energy by cooling your attic in the summer and warming it in the winter.
- Start at the furnace and work your way back. Ductwork closer to the HVAC unit has greater air pressure so the biggest savings will come from sealing leaks in this area. Leaks also tend to be more common here as well.
- Avoid compressing the insulation as it can lower its R-value (its ability to insulate).

Safety Precautions: Attics are dusty, cramped, and can reach very high temperatures in the summer. Be sure to dress appropriately, watch where you step, and stay properly hydrated. Attic ductwork is made of metal and has many sharp edges. Wear gloves when working with and around attic ductwork.

1. In your attic, locate your HVAC ductwork. It is commonly made of round, flexible ductwork but it can also be made of galvanized metal and surrounded by a foil insulation.

Flexible Ductwork

2. Start by disconnecting the ducts where they come together.
3. You will want to seal the duct joints as that is where air will escape. Take a damp cloth and wipe away dust from the duct joints. A clean and dry surface works best.
4. For flexible ductwork, apply a layer of mastic (the industry standard is "a nickel-thick") on the lip of the ductwork that will go on the inside.
5. Take the flexible ductwork that will go over the previous piece and pull back the outside liner and insulation to get to the inner liner. Pull the inner liner over the inside piece making sure to form a complete seal with the mastic.
6. Wrap a zip tie around the ductwork joint and tighten it with a cable tie gun to reinforce the seal.
7. Work the insulation layer forward, into place and then do the same with the outside liner. Finally, seal the ductwork joint with one more zip tie.

Metal Ductwork

8. Pull the foil insulation back to reveal the galvanized ductwork.
9. You will want to seal the duct joints as that is where air will escape. Take a damp cloth and wipe away dust from the duct joints. A clean and dry surface works best.
10. Use a brush or caulk gun to apply a small layer of mastic to the duct joints. Take a length of fiberglass tape and wrap it around the duct joints, this will give the mastic additional strength.
11. Apply a second nickel-thick layer of mastic to the duct joints. Finally apply mastic to any remaining holes, cracks, or overlaps and allow the mastic to dry.
12. Once dry, put the foil insulation back around the ductwork. Wipe down the surface of the insulation where it comes together. Apply aluminum tape across the insulation in one foot increments.
13. Now apply a piece of aluminum tape down the length of the insulation. Finally apply two more pieces of aluminum tape on either side of the previous piece to keep it secure.
14. Tape over any remaining holes in the insulation with at least 2-3 layers.

Source:

http://howtohomeinsulation.com/weatherization_flexible_ductwork.html