

DIY: Sealing Air Leaks

Priority: High

Difficulty Level: Medium

Time Commitment: Differs depending on area and location

Physical Requirements: Involves bending, kneeling, and standing on ladders, depending on location of leaks.

Purpose

Sealing air leaks is a critical, cost-effective, and simple DIY task that significantly enhances a home's energy efficiency, comfort, and durability. Sealing gaps in walls, windows and doors can reduce energy bills by up to 20%. Air Sealing also:

- Eliminates drafts: Creates a consistent, comfortable temperature.
- Blocks pests and pollen: Keeps bugs, dust, and outdoor allergens from entering.
- Protects structure: Prevents humid air from causing hidden mold inside walls.

Areas to air seal include:

- Heating/cooling vents
- Plumbing
- Windows/doors
- Floors
- Ceiling
- Walls

Indicators that this Action is worth doing in your home

Use observations from energy assessment to determine areas of home that can be air sealed. Look for:

- Any particular areas of the house that feel drafty?
- Visible light peeking around edges of doors/windows?
- Any old or peeling caulk in the house?
- Any dirty insulation in the attic? (Indicated air is moving through insulation)
- Any excessive dust in the home?

Videos

[Seal Air Leaks using Caulk or Foam](#) and [Seal air Leaks using Caulk or Foam](#) and [How to insulate and air seal your home](#)

Materials Needed

- Several cartridges of “All-purpose” Siliconized Acrylic Latex Caulk (when deciding how much caulking to purchase, consider that you’ll probably need a half-cartridge per window or door and four cartridges for the foundation sill)
- Caulk gun
- Putty knife

Directions

- If you haven’t already, first detect air leaks and assess your ventilation needs for indoor air quality.
- Before applying new sealing, remove old caulk or paint residue remaining around a window using a putty knife, stiff brush, or special solvent.
- Apply caulk to joints in a window frame and the joint between the frame and wall.
- Hold the gun at a consistent angle. Forty-five degrees is best for getting deep into the crack. You know you’ve got the right angle when the caulk is immediately forced into the crack as it comes out of the tube. Caulk in one straight continuous stream, if possible. Avoid stops and starts.
- Send caulk to the bottom of an opening, filling from the bottom up, to avoid bubbles.
- Make sure the caulk sticks to both sides of a crack or seam.
- Release the trigger before pulling the gun away to avoid applying too much caulking compound. A caulking gun with an automatic release makes this so much easier.
 - If caulk oozes out of a crack, use a putty knife to push it back in.
 - Don’t skim. If the caulk shrinks, reapply it to form a smooth bead that will seal the crack completely.

Tips

- Smooth the caulk line: Use a wet finger or a caulk-smoothing tool right after applying to create a clean, tight seal.
- Choose the right spray foam: Use "Window & Door" low-expansion foam around windows so it does not warp the frames as it grows.
- Check the temperature: Apply caulk on days when it is between 40°F and 90°F so it cures correctly without cracking.
- Don't over-seal: Leave mechanical ventilation vents (like dryer or bathroom exhausts) clear so your home can safely breathe.