

DIY Project: Weatherize Your Home with Silicone Caulk

Achieve Sustainable Energy and Cost Savings

Air sealing is an easy DIY task that can save money and energy, and help the environment all at the same time. It could save a homeowner up to 14 percent on home heating and cooling costs—equaling annual savings of up to \$150.¹

The steps for weatherizing the home with silicone caulk follow.

Step 1: Select the Right Caulk: 100% Silicone, Not Acrylic, Caulk

Did you know that not all caulk provides energy savings over time? Leaks are never a good thing, but are even more dangerous when you assume they don't exist following your sealing efforts. 100 percent silicone does provide sustained benefits. It is **permanently** flexible, shrink-/crack-proof, and waterproof. In fact, 100 percent silicone remains unaffected by all weather and temperature conditions so gaps and cracks, where energy dollars can pass, will not form. Seal with a 100 percent silicone caulk like one from the **GE Silicone II*** family of products.

Why Silicone?

Unlike acrylic, **silicone** is **permanently**:

- **Waterproof:** Silicone is impervious to water, meaning water can't get through it and will never break it down. Once cured, it does not change or degrade—no shrinking, hardening, cracking, or crumbling. Even extreme temperatures, which often cause acrylic caulk to lose flexibility and degrade over time leaving gaps for water to pass, do not affect silicone.
- **Flexible:** Silicone stretches and compresses with joint movement as a house moves and settles. It remains permanently flexible and does not harden over time, which causes acrylic caulk to break—again, leaving cracks and gaps for air and water to pass.
- **Shrink-proof:** Silicone continues to fill the gap or crack as when first applied, helping prevent cracks from re-forming.
- **Crack-proof:** Silicone remains unaffected by extreme heat and the sun, which causes acrylic caulk to crack over time.

Why Does It Matter?

Prone to extreme temperature fluctuations, moisture, humidity, and the damaging effects of UV rays, areas around a home where air leakage can occur can take a real beating. An explanation of what could happen if the proper caulk isn't chosen is explained in Step 3.

Step 2: Weatherize Before “Weather” Hits

The best time to weatherize your home is late summer/early fall when your house is most accessible and before cold winter temperatures set in. By timing it this way, you'll maximize savings and the task itself will be more enjoyable.

Step 3: Search the House: Leaks Exist High and Low

From top to bottom, air can enter or exit a house through cracks and openings in many places. Following are some of the most common areas to find leaks. Then, seal with 100 percent silicone.

Attic

Leakage is likely to be greatest where walls (inner and outer) meet the attic floor, dropped soffits (dropped-ceiling areas), and behind or under attic kneewalls. If you find dirty insulation, this indicates a leak, as air is moving through it. Other areas include: around the chimney, plumbing pipes, wires, and other penetrations in the ceiling.

Basement

A common area of air leakage in the basement is along the top of the basement wall where cement or blocks come in contact with the wood frame. Use silicone caulk to seal gaps around the foundation, electrical penetrations, pipes (water and gas), and ventilation ducts in the basement.

Doors

Look around the doorframe for light. If you can see daylight that means air can get through and you should seal the gaps where the frame meets the home.

Windows

On a windy day, close all windows and doors in your home and use a lighted incense stick inside to go around each door and window and look for air leaks. Moving air will cause the smoke to waver. If you can see or feel air leaks around the window, apply silicone caulk to the gap.

Plumbing and Electrical Wiring

Holes from the original installation of pipes and wires can be quite large, allowing a significant amount of airflow in or out of a house. Major leakage sites can be found around plumbing, ducts, recessed lighting, phone/TV cables, and electrical wiring penetrations through floors, walls, and the exterior of the home. Seal with 100 percent silicone caulk.

Flexibility is key in unheated spaces. Freezing temperatures, which are common in unheated spaces like **attics** and **basements**, can cause acrylic caulk to lose flexibility and crack over time. As the seasons change and joints expand and contract, that cracked caulk leaves openings for air to seep through. Using a permanently flexible silicone caulk means your efforts will deliver sustained sealing benefits, protecting against future energy loss. 100 percent silicone maintains its flexibility so it can stretch and compress without cracking, which could leave the area vulnerable to energy loss.

Heat and the sun's UV rays can take a toll on the exterior. Exterior **doors** and **windows** are exposed to harsh outdoor elements throughout the year. Extreme heat and the sun's UV rays can cause some caulk to crack and crumble over time. 100 percent silicone is shrink-/crack-proof so it continues to fill the gap or crack just as it did when first applied, regardless of weather conditions. Weatherization efforts are intended for a sustained benefit. Go with a permanent solution.

Water can wreak havoc beyond just water damage. Rain, snow, and sleet can seep in around **plumbing** and **electrical wiring**. 100 percent silicone is permanently waterproof meaning it is impervious to water and water will never break it down. In fact, it remains unaffected by all weather and temperature conditions so gaps and cracks, where water (and energy dollars) can pass, will not form. Leaks are never a good thing but are even more dangerous when you assume they don't exist following your sealing efforts.

For tips on how to caulk and save and additional home sealing information, visit www.caulkandsave.com or email mgray@graycreate.com.

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¹ Assumes: 1) 50 percent of total energy is associated with heating/cooling; 2) 1/3 (33 percent) of heating/cooling costs is associated with all ventilation (includes needed ventilation and excess air infiltration); 3). A homeowner can reduce this ventilation reducing the ventilation energy costs by 30 percent (5 percent savings)—45 percent (8 percent savings); and 4) Average U.S. Home Energy Expenditure (2005 RECS study) for Single Family Detached and Attached Homes is \$2,091.