



What is a Blower Door Test ?

A blower door test is a diagnostic test procedure conducted by certified technicians to measure the airtightness of a building envelope.

How It Works

- **The Setup:** A specialized, calibrated variable-speed fan is mounted into a temporary flexible frame that seals off an exterior doorway of the home.
- **Depressurization:** The fan pulls air out of the building, lowering the air pressure inside.
- **Air Infiltration:** Because the internal pressure drops, higher-pressure outside air is drawn inside through any unsealed cracks, gaps, and structural holes.
- **Measurement:** Technicians use a digital pressure gauge, called a manometer, to determine the exact rate of air leakage. The standardized test measures airflow at a pressure difference of 50 Pascals, which simulates the impact of a 20-mph wind blowing against the house from all sides.

What the Metrics Mean

The data gathered from the digital manometer is usually translated into two common units:

- **CFM50 (Cubic Feet per Minute at 50 Pascals):** This measures the total volume of air moving through the fan. Well-sealed, modern homes typically register under 1,500 CFM.
- **ACH50 (Air Changes per Hour at 50 Pascals):** This indicates how many times the entire volume of air inside the house is replaced by outside air within one hour under test conditions. Older homes may register a leaky 10–20 ACH, while code-compliant new builds usually require a tight 3–5 ACH or less.

Why the Test is Performed ?

Mainly for code compliance and determining air-tightness;

- **Code Compliance:** Most states have now implemented adherence to IECC energy codes that require a blower door test for new residential construction and major additions to verify standard building envelope sealing.
- **Moisture and Air Quality:** Determining structural airtightness helps ensure healthy ventilation rates, preventing indoor allergen buildup and hidden condensation problems that cause structural mold.

But also for diagnostics;

- **Locating Hidden Leaks:** While the house is depressurized, technicians can pinpoint drafts by feeling for air entry, using smoke pencils, or using thermal imaging cameras to see temperature variances where air escapes. *(there is usually additional costs for this service)*
- **Energy and Cost Efficiency:** Finding and sealing air leaks lowers heating and cooling energy consumption, significantly reducing utility bills.