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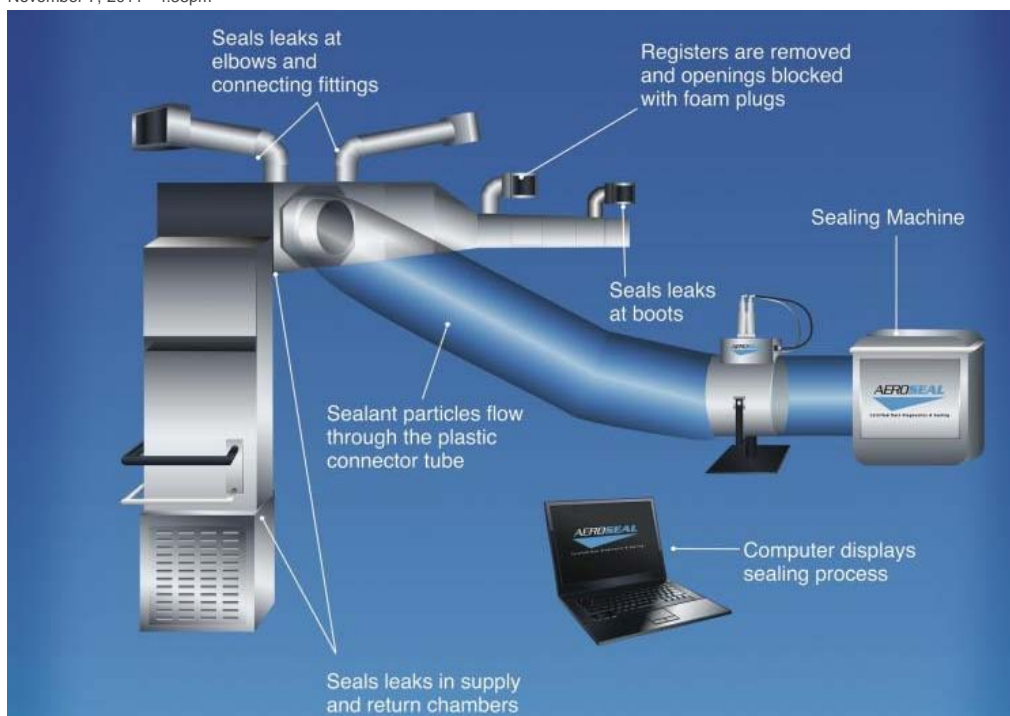
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Breakthrough Berkeley Mist Sealant Technology: Potential to Save Americans \$5 Billion Per Year



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A diagram of the AeroSeal sealant technology. | Image courtesy of AeroSeal LLC

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Liisa O'Neill

Who knew leaks could be costing Americans \$5 billion every year? And that's not water leaks -- it's leaks you can't even see. Typical air duct systems, both residential and commercial, typically lose 25-40 percent of heating and cooling energy, accounting for billions added to utility bills.

But what if there was a simple mist that could seal thousands of leaks in 4 to 8 hours, saving a home owner on average \$600 to \$850 a year on his or her heating and cooling costs? Thanks to

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a [breakthrough technology](#) developed at the Energy Department's [Lawrence Berkeley National Lab](#), such technology exists. Aeroseal LLC, a start-up that licensed the technology, has now made the technology available to thousands of home owners and business owners concerned with high utility bills and sustainable living.

WHAT DOES THIS MEAN FOR ME?

- Air duct system leaks cost Americans \$5 billion every year.
- A simple mist now on the market -- developed by Berkeley Lab -- can seal thousands of leaks in 4 to 8 hours, saving a home owner on average \$600 to \$850 per year.

Aeroseal's airborne adhesive particles are injected by [Aeroseal technicians](#) into a HVAC (heating, ventilation and air conditioning) duct system at low cost, low labor requirement and minimal disruption to building occupants. The revolutionary energy efficient technology recently won in the Home Technology category in This Old House magazine's top 100 Best New Home Products.

"Leaky air ducts are responsible for a huge energy loss problem in America and having the aeroseal solution made available for the first time to many home owners is very exciting to see," said Thomas Baker, building technology editor for the magazine. Space heating and cooling drive residential energy demand and utility costs -- it accounts for [54 percent of a home's energy consumption](#).

Before the Aeroseal technology is injected, technicians block furnaces, fans and grilles so that the adhesive particles will be directed towards cracks, leaks, and holes. The technicians then inject the aerosolized vinyl polymer particles, of two to 20 micrometers, into a pressurized duct system. The particles stay suspended in the air stream until they reach the leaks, where they are deposited and build up at the leak edges until the leaks are sealed. Specialized software allows both the technician and customer to view the process in real time.

The real-time software also helps educate customers about the leaks. Aeroseal dealer and business owner Pat Rush, whose Clark & Rush Mechanical employs 80 people in the Sacramento area, [praised](#) both the new technology for building his customer base, in addition to the software. He said, "It makes it easier to communicate with the customer when it's not something you're grabbing out of thin air."

Besides sealing ducts in thousands of residences, Aeroseal has been used successfully in [commercial buildings across the country](#). Most notably, it has reduced energy use in HVAC-intensive buildings such as the Cleveland MetroHealth Hospital, university residential buildings in Buffalo, New York and Boston, and casinos and a city center complex in Las Vegas.

Aeroseal technology has won a number of other prestigious awards including the Energy 100 award from the Energy Department and The Best of What's New award from Popular Science Magazine.

Learn more about the commercialization of Berkeley Lab technologies at the National Laboratory's [Tech Transfer site](#).



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