

# **AEROSEAL**®

Duct Sealing Services



AIRAH

Queensland Division Meeting

18<sup>th</sup> March 2014

*Presented by Owen Ryan  
Business Development Manager*

**“Light commercial duct leakage is typically 30% or more”**

Florida Solar Energy Centre, California Energy Committee Studies

**“On average, 10-20% of air provided by supply fans does not reach the occupied space”**

Lawrence Berkeley National Laboratories Studies

**“In summary the standard (AS4254.2 2012) requires that each duct system of 3000 L/s or more be tested to at least 1.25 times its operating pressure, and not leak more than 5% of the design air quantity”**

Duct Leakage and leakage testing Ecolibrium May 2013 Ian Wills

**“A significant proportion of duct systems leak-tested in the near future will fail, at least on first test. This will affect construction programs and result in significant changes to duct sealing methods”**

SPECnotes Autumn 2013



*“Seals from the inside”*

- 1994 - Patent awarded to Berkeley National Laboratory
- 1997 - AeroSeal Founded
- 1999 - First AeroSeal sealing process patent issued
- 2004 - First Commercial Project

Metro Health Bldg  
Cleveland Ohio



**Over 300,000m<sup>2</sup> of  
Commercial space has been  
sealed in the USA**

**Over 85,000 homes sealed in  
the USA**

*“Seals from the inside”*



# Aeroseal Duct Sealing Aust

Aeroseal Duct Sealing (Aust) is a Queensland based company providing patented Aeroseal duct sealing throughout Australia.

Our Management Team and Staff have many years of experience in Air Conditioning and Ventilation Cleaning and Refurbishment.

We discovered Aeroseal through our association with NADCA (National Air Duct Cleaners Association USA).



*“Seals from the inside”*

# AeroSeal Technology

AeroSeal Duct Sealing tackles leaks from the inside out.

The AeroSeal process puts escaping air under pressure and causes polymer particles to stick first to the edges of a leak, then to each other until the leak is closed.

By isolating the ducts and using computer based software, our technicians are able to accurately measure the original duct leakage and improvement achieved with the AeroSeal process in your system.

The technology was developed within the Indoor Environment Program at Lawrence Berkeley National Laboratory, whose IAQ scientists tested it.

*“Seals from the inside”*

## 6 Step Process

1. Block natural openings - Ceiling, Wall & Floor registers
2. Connect Aeroseal Equipment
3. Measure initial leakage
4. Inject sealant – approx. 1 hour
5. Measure final leakage
6. Present Certificate of Completion



AeroSeal  
USA  
phone 555-555-5555

### Certificate of Completion

Duct Sealing Performed for:  
**Golden Hts**  
Lot A  
Metropolis, NY 12345  
(555) 123-4567

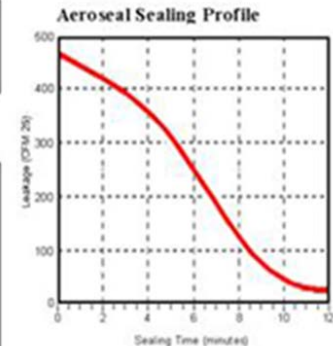
#### Overall Sealing Results

When we arrived,  
**YOUR DUCTS HAD:**  
**471 CFM** of Leakage, equivalent to a  
**89.5 Square Inch Hole**

After we finished,  
**YOUR DUCTS HAVE:**  
**36 CFM** of Leakage, equivalent to a  
**4.0 Square Inch Hole**

This corresponds to a **92%**  
**Reduction** in Duct Leakage

Note: Duct leakage results are calculated in cubic feet per minute (CFM) measured at a standard reference pressure of 25 ps (0.10 in. water)



Your Heating and Cooling Capacity  
Improvement for Duct Sealing is  
**25%**  
based upon measured leakage  
reduction and original register flow

**AEROSEAL**  
Certified Duct Diagnostics & Sealing

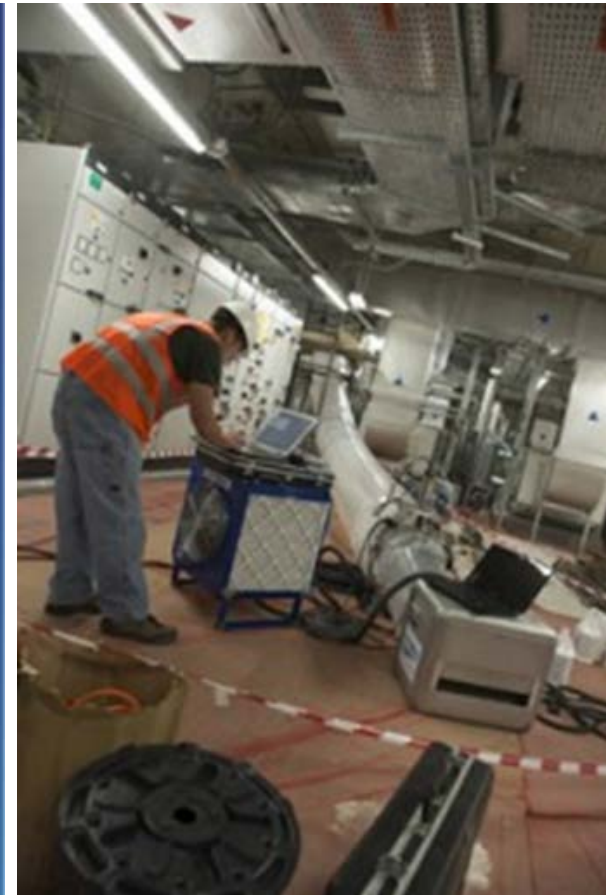
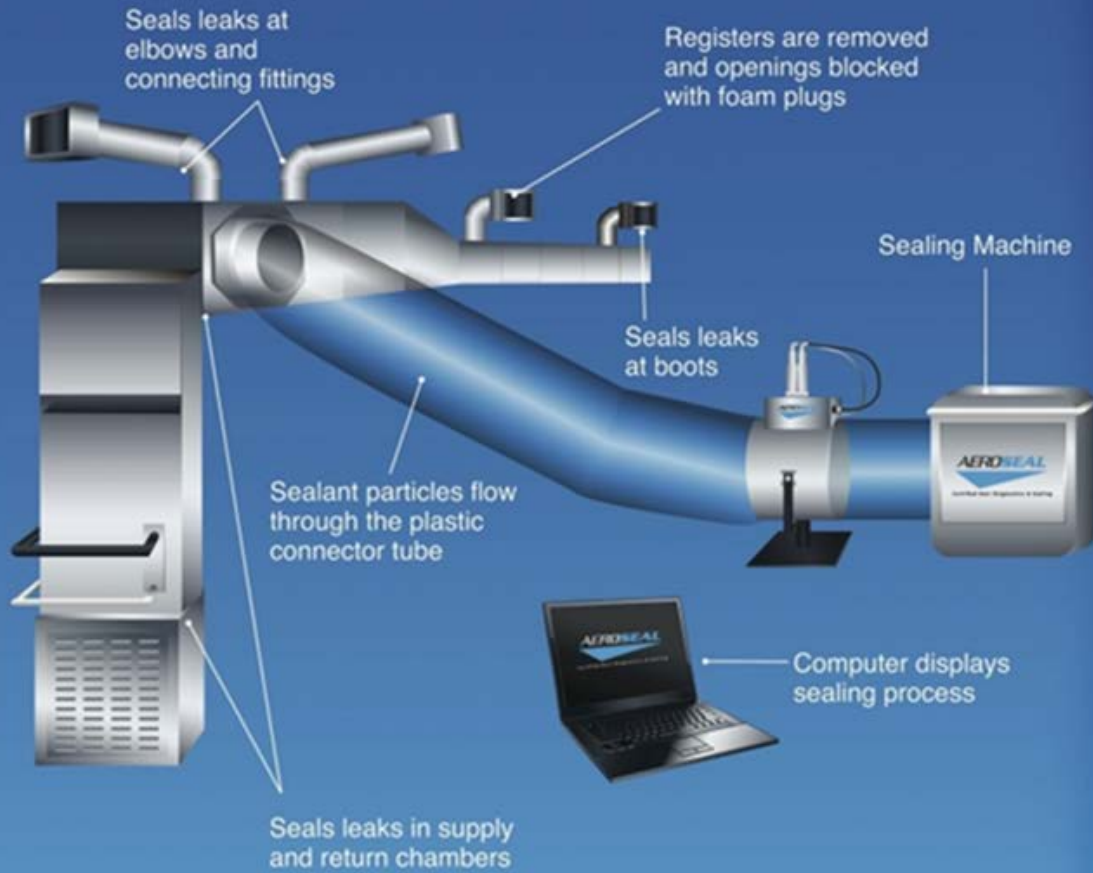
AeroSeal Equipment Serial # 999



*“Seals from the inside”*



# Aeroseal in action



*“Seals from the inside”*

# Before & After

BEFORE



AFTER



- Seals up to 15mm Holes – no additional sealant is left in the ducts
- Sealant is a safe effective Vinyl Acetate Polymer, Low VOC & remains rubbery
- UL723 listed for Flame & Smoke, UL181 listed for Mould growth
- Sealant has withstood rigorous testing – expected life over 10 years
- 3 year Commercial Warranty

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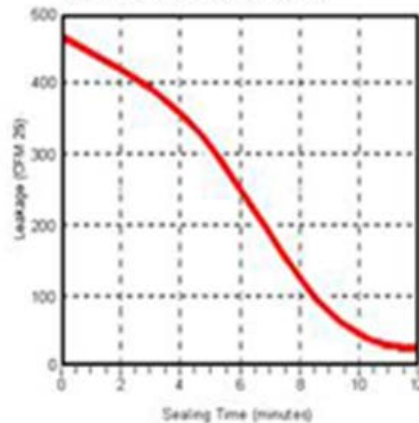
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### AeroSeal Sealing Profile



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based upon measured leakage  
reduction and original register flow

AeroSeal Equipment Serial #: 999

# Verified Results

Computer based program records original leakage and final results

Shows reduction in Leakage

Certificate supplied upon completion

*“Seals from the inside”*

## 2012 Ebie Award – US Green Building Council

For a building renovation project that combined AeroSeal duct sealing technology together with self balancing Constant Airflow Regulators to dramatically reduce energy usage.

**“The most effective affordable & viable method of sealing the central heating & cooling ductwork in your home”**

Popular Science Magazine

**“One of the 23 most beneficial technologies available to American consumers”**

US Department of Energy



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## Airtight Savings    Airtight Comfort

- Reduces Energy Waste
- Saves Energy and Money
- 90% Reduction in Leaks
- Improves Comfort & Indoor Air Quality
- Enhanced Building Pressurisation
- Safe Effective Sealant Solution

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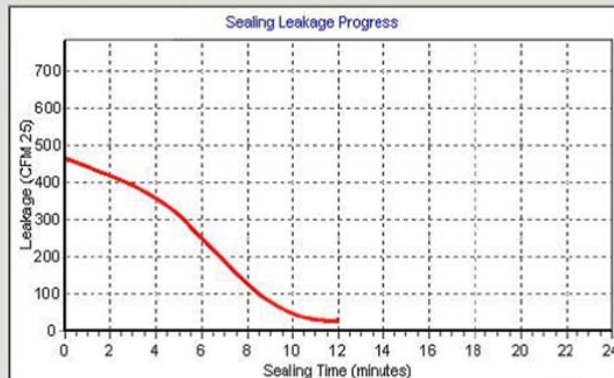
# Would you like to Learn more?

We will be conducting Lunch'n'Learn sessions

We are looking for Sample and Case Study projects

We wish to provide you and your clients with a cost-effective, state-of-the-art solution to your duct air leakage issues

## Sealing Process



Match Fan Inlet Gate on machine and this screen and hit F3 to re-start sealing, or hit F9 for Post-Sealing Leakage Test.

4 Duct Leakage (sq in)	76 Inlet Temp (°F)
40 Duct Leakage (CFM25)	234 Compressed Air Temp (°F)
3.3 Duct Leakage (%)	82 Cylinder Temp (°F)
101 Duct Flow (CFM)	22 Inlet Humidity (%)
450 Duct Pressure (Pa)	

Heaters: C 12, 1.97 V

Fan: Inlet Gate [2], Change Air Flow [↑ ↓], % Output [0]

Stop (F5) | Pause (F7)  
(Use the [Esc] key to Escape)

Sealing Elapsed: 12:05 Minutes

Sealant/Water Pump: Fluid Left: 137:55 Minutes, Fluid Level: 97%

Setting: 1 CCM 25, Best Setting: 1 V 2.36

Emergency Stop: Fan, Heat, Inj

AeroSeal technical support.  
1-800-772-6459

Please speak to the AeroSeal Representatives in the room for any further information

*“Seals from the inside”*

# **AEROSEAL**®

Duct Sealing Services



Any Questions ???

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