



CASCADE RADON, INC.

Testing, Mitigation,
Systems Design
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About Your Radon System

Your radon system may incorporate some, or all of, the following features:

Sub-Soil Depressurization

1. Vent piping is sealed into a sump ("suction point) in the soil beneath a building.
2. Vent piping is routed from the suction point to above the roofline.
3. A continuously running electric exhaust fan is attached to the vent system to create both a negative pressure in the soil under the building (suppressing the radon) as well as a forced path of least resistance for the radon gas to follow.

Sub-Film Depressurization

1. Vent piping is routed from under a crawl space vapor barrier to above the roof line.
2. A continuously running electric exhaust fan is attached to the system to create both a negative pressure under the vapor barrier, and a forced path of least resistance for the radon gas to follow.
3. Make sure to patch any punctures in the vapor barrier. Care should also be taken not to pull the plastic loose from perimeter edges, seams, and penetrations such as posts and plumbing.

Crawl Space Depressurization

1. Vent piping is connected to a continuously running electric exhaust fan to create either increased fresh-air dilution and/or low air pressure in a crawl area under the house, thus keeping elevated radon levels from entering adjacent living areas. Vent piping is then routed to above the roof line.

Exhaust Fan

1. Exhaust fan units are continuously running, in-line duct fans, designed for exterior applications.
2. Each fan unit will typically cause an increase in the owner's electric bill approximately equivalent to the current draw of a continuously running 100-watt light bulb (usually around \$5 - \$6 per month).
3. Typical fan specs: 72-150 W, 60 hz, 115 V, 0.8 amps, 60 cycle.
4. Fan units come with a 5-year manufacturer's warranty (unless otherwise stated in contract).

Condensation

Air drawn up into the system from soil under the building will contain moisture. If that air makes contact with colder outside air, condensation can build up within the system and trickle down to the fan and/or the suction point. These water droplets can be tossed around inside the fan, resulting in splattering or popping sounds, and should not be cause for concern. However, if you ever hear the sound of water sloshing or gurgling within any part of the vent system you should turn the fan off and call us.

Manometer

1. The manometer is a pressure gauge connected to the vent piping on the suction, or low-pressure side, of the fan unit. The manometer is a visual reference that the vent system is continuing to maintain the negative pressure needed to reduce radon levels.
2. Please note that the manometer is NOT showing radon levels.
3. If the small tube connecting the manometer to the vent pipe ever pulls loose, simply re-attach it.
4. The gauge may fluctuate during windy conditions or from season to season – this is normal.
5. Call us if the fluid level varies more than several points for more than a few days.
6. Note of the manometer reading each time you do a post-mitigation follow-up test.

Noise

Unless otherwise specified in contract, no additional sound reduction measures are included.

Maintenance

1. The radon mitigation system is virtually maintenance free.
2. As long as components are not damaged, the fan is running, and the manometer is at the level which the system initially tested effective at, and long-term post-mitigation radon levels are below the "Action Level" noted in contract – all is working as it should.
3. Sump pumps and flooding: Turn off the radon mitigation fan if flooding occurs in the basement or a crawl area, or if any sump pump is running for extended lengths of time in any area connected to the radon system suction point(s). Excessive water in and around the radon mitigation system can reduce system efficiency, cause system failure, or create problems with connected or adjacent systems.
4. Use of carbon monoxide monitor is recommended as a backup for monitoring potential back-drafting.

Guarantee/Warranty/Service Agreement:

1. Contractor guarantees that this installation will maintain average radon levels, based upon a 12-month long-term Alpha-Track testing, at below Action Level for a period of 10 years, subject to the terms of contract.
2. Assumes long-term Alpha-Track testing shall be performed, per EPA protocols, by others.
3. If, at any time during this Warranty period, the results of an approved, 12-month long-term Alpha-Track radon test are above Action Level, the Contractor shall take appropriate and necessary steps, as determined by the Contractor, and at no cost to the Client, to lower average, long-term radon levels to below Action Level.
4. With the exception of the exhaust fan unit(s), the Contractor will repair or replace any defective mechanical or electrical components in the system, at no cost to the Client, for a period of 10 years, beginning at the time of initial system activation.
5. Includes a 5-year, replacement warranty on exhaust fan units, beginning at the time of initial activation. Such replacement to be provided at no cost to the Client.
6. All warranties and guaranties are extended to future owners of same property.
7. All Warranties and Guarantees may be consider null and void should any of the following occur:
 - a. Component(s) tampered with, damaged, changed, or not periodically checked and maintained.
 - b. Component(s) installed, replaced, or altered in any way, by others.
 - c. The building undergoes any changes such as, but limited to, remodeling, additions, changes to HVAC systems, and the like.

Post-Mitigation Radon Testing

1. We recommend you do a year-long (12 month) test every 1- 2 years thereafter. This is an excellent way to make sure the system is continuing to do its job.
2. An Alpha-Track test gives a much more realistic view of radon levels over several seasons (radon levels can vary from season to season).
3. You need to notify us of average radon levels recorded above the "action level" noted in your contract.
4. Retesting is recommended if the building undergoes significant alteration.
5. Alpha-Track monitors are available here in our office for \$30 (you can order over the phone or go onto our website www.cascaderadon.com, or stop by our office), Air-Chek 1-800-AIR-CHEK, or online at Radon.com
6. Contact us if you have any questions regarding the system. For more information contact:
Oregon Dept. of Human Resources / Radiation Protection Services: 971-673-0490
www.ohd.hr.state.or.us/rps/radon/index.cfm