Beyond Homeownership

CONSUMER EDUCATION

October 2025

Home Construction Regulatory Authority

What Every Homeowner Should Know About Radon

INTRODUCTION

The Home Construction Regulatory Authority (HCRA) licenses and regulates the people and companies who build and sell new homes in Ontario. By holding licensed builders to professional standards for competence and conduct, the HCRA gives homebuyers confidence when making one of the biggest purchases of their lives – a new home.

In addition to licensing, the HCRA protects new home buyers by providing educational resources to support informed decision-making. As part of its mandate to support consumer protection and builder competency, the HCRA launched its Research & Education Program in 2024. The program identifies emerging issues and delivers practical tools and insights that reflect current and upcoming technical trends and best practices in residential construction.

While supporting builders in preparing for the 2024 Ontario Building Code updates, the HCRA is also ensuring that homeowners have access to up-to-date, relevant information—helping them understand how these changes may affect the homes they purchase and what they mean for their safety.

WHAT IS RADON?

Radon is a naturally occurring radioactive gas formed by the breakdown of uranium in soil, rock, and groundwater. It is colourless, odourless, and tasteless, making it undetectable without specialized testing. With increased public awareness of radon risks in the built environment, the 2024 Ontario Building Code has been updated to improve health and safety measures for homeowners. These updates came into full effect April 2025.

Radon exposure is the second leading cause of lung cancer after smoking. According to Health Canada, long-term exposure to high levels of radon can be linked to approximately 16% of lung cancer cases in Canada.

In enclosed spaces, like a sealed home, radon can accumulate to high levels. Radon can be detected using readily available test kits or by hiring a radon mitigation professional. If a home is found to have high radon, simple retrofits can be implemented. Learn more by visiting the Take Action on Radon website, a national initiative funded by Health Canada.

Radon concentrations vary widely across Ontario, with some regions experiencing higher levels due to geological formations. Living in a high-risk area does not guarantee the presence of radon in a home, as levels depend on several factors. It's also possible to have elevated radon in a low-risk area. You can find a map of Canada and radon risk areas on the Health Canada website.

TESTING FOR RADON

To test for radon in your home, you can buy a one-time use radon test kit, purchase or rent a long-term testing device, or hire a radon professional. The Canadian – National Radon Proficiency Program (C-NRPP) has a database to find local radon professionals, as well as a list of approved testing devices.

It is always best to test your home in the winter. Since radon is a gas, it is more likely to escape in the summer when windows may be open. In the winter, the house is more likely to be sealed tightly and accumulate these types of soil gases. Testing should be conducted in the lowest level of the home, since radon enters through the ground below.

While instantaneous results can be helpful, you will likely need a 91-day test for warranty purposes, or for your own awareness as radon levels can fluctuate day to day. Be aware of what timeframes the testing solutions offer. If the average radon levels exceed 200 becquerels per cubic meter (Bq/m^3), action should be taken.

HOME BUILDER REQUIREMENTS

While soil testing can detect the presence of radon in an area, it is not required by the Ontario Building Code for builders to conduct such testing — and the results cannot predict whether radon will accumulate in a home at a future time, since that depends on how the house is built, sealed, and ventilated, as well as the geological conditions beneath it.

The 2024 Ontario Building Code requires all new homes to include a radon rough-in pipe, which allows for a mitigation system to be easily installed. Installing this pipe during initial construction — particularly when pouring the foundation — is straightforward and cost-effective. In contrast, adding it after the home is built can be much more difficult, time-consuming, and expensive, since radon mitigation systems must draw air from beneath the house to function properly.

It is up to the homeowner to test their home for radon. If a 91-day test show results with average radon levels above 200 Bq/m^3, contact your builder. Radon remediation is covered as part of Ontario's statutory new home warranty plan, which is backed by Tarion. To learn more about warranty coverage visit Tarion.com.

HOMES OLDER THAN 7 YEARS

Ontario's new home warranty plan, backed by Tarion, covers homes up to 7 years old. If your home is older, and you would like to add a radon mitigation system, you can contact a radon mitigation professional to find out what your options are. If your home does not have a rough-in pipe, the contractors will likely have to make a hole in your basement concrete slab. Alternatively, if you have a sump pit, they may be able to install a solution there.

MAINTAINING A RADON MITIGATION SYSTEM

Firstly, you should be aware what type of system is in your home.

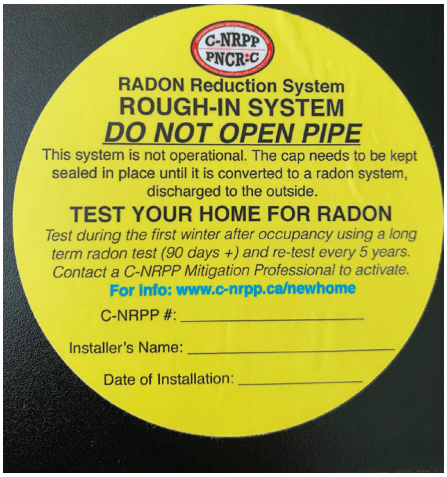
Rough-in pipe: Minimum requirement of the new 2024 Ontario Building Code. A pipe that is capped, sealed, and labelled so it cannot be mistaken for any other plumbing or ventilation pipe.

Rough-in extended to outside: Some builders may extend the rough-in pipe to the outside of the house. It might go through the roof or through the side wall just above ground level. This will make it easy to add a fan and create an active depressurization system if ever needed.

Active depressurization system: An active depressurization system consists of a fan added to piping that draws air from below your basement and vents it to the outside of your home. If you have one of these systems, it is important to understand how your specific system works. Some systems might have sensors that turn the fan on and off or the fan may run 24/7. It is important to check the radon levels every so often (most systems would have a manometer – a performance indicator device) to make sure the system is working, as a change in the levels may mean the system needs maintenance. The fans are often quiet and therefore need to be checked to ensure they're running.

Passive depressurization system: These systems have piping to the outside of the house, and are not capped or sealed. There is also no fan to "force" air out of the house - the pipe simply provides a path for the gas to escape instead of building up in your home. It is important to ensure the end of the pipe is free of any debris (ie. leaves, bird nests, etc.).

Ask your builder for more information about which system is in place in your home and ensure you know how to maintain it.



Example of radon system label that you might find in your home.

Example of (uncapped) radon pipe through the roof.

Radon mitigation systems may use black, grey, or white pipe. It is important that you or contractors/ renovators you work with are aware of the specific purpose of the radon pipes and that they are not altered or tampered with in any way.

Homeowners should be aware that the installation of radon mitigation systems, while improving health and safety in the home, may mean that your builder has had to install additional bulkheads or exposed piping in some cases.

Examples of what an active depressurization system may look like in your home.

RENOVATIONS AND RADON

It is important to be aware of the risks involved in making changes to your home, in terms of radon.

If you have a rough-in pipe, it should be clearly labelled. It is important that the basement air barrier must remain well-sealed throughout any alterations that you make to your home. Any changes to the building envelope could cause a change to the amount of radon in your home.

Renovations in the basement could allow soil gasses, including radon, to enter where they previously couldn't (through cracks or gaps in the building envelope seal). For renovations above ground, for example, increasing air tightness to improve energy efficiency, you can accidentally increase radon build-up as it may previously have been escaping through gaps where air leaks out of your home.

Therefore, it is best to re-test for radon after any renovations, and ensure that before you hire your renovator, that they are well-versed on the impacts of renovations on radon levels.

For more homeowner resources visit:
www.hcraontario.ca/resources/consumer

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