



THE CUPOLEX® SOLUTION

RADON
PROTECTION



www.cupolex.ca

PONTAROLO®
ENGINEERING 



CUPOLEX® IS MORE EFFECTIVE AND MORE RELIABLE THAN TRADITIONAL RADON SYSTEMS

Traditional radon systems have been around for decades and haven't changed much in that time. Electric fans need to run continuously to pull enough air through soil below a slab to maintain negative pressures. Because of the resistance of the soil below the slab to air flow, negative pressures decrease rapidly with distance and even modest vacuums are difficult to achieve across the entire slab.

CUPOLEX® Aerated floors are the modern systems that use open space rather than soil to vent the slab, resulting in highly efficient transmission of vacuum and air flow. As a result, home owners or regulators can be sure that vacuum is present everywhere below the building and that radon concentration below the slab will be far lower than with traditional systems. Field tests have shown that vacuums can be almost 100% of the static vacuum at the riser point across the entire CUPOLEX® aerated floor, with vacuum levels between suction points that are over an order of magnitude higher than that which traditional systems can accomplish. Modeling studies show that cracks have much less effect on aerated floors than traditional slab-on-grade systems and liners.

APPLICATIONS

- Single and multi-residential dwellings
- Commercial buildings
- Institutions and hospitals
- Light and heavy Industrial buildings



BENEFITS

- provides a highly efficient under-slab void network than less efficient sand or gravel venting layers
- More Efficient Venting
- Passive Venting Potential
- CUPOLEX® floors do not require membranes
- low capital cost,
- fast assembly and can be installed by any concrete slab contractor or forming contractor
- the ability to cut the slab at any location and easily repair,
- the ability to easily test, monitor and enhance performance,

FACT:

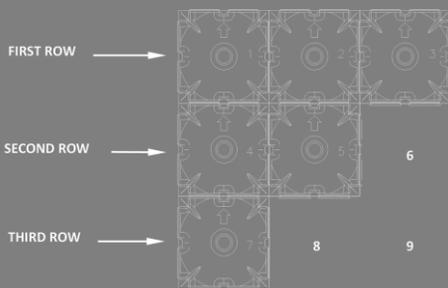
Concrete Slabs are Known Culprits for Indoor Air Quality Problems.

ASSEMBLY

CUPOLEX® provides Excellent Flexibility in Working with new construction or remodeled building layouts. The main characteristics of the forming system are speed and simplicity, with maximum benefits being realized when the CUPOLEX® system is engineered during the early design stages in assessing site and soil conditions, considering elevations of various sections of the slab area that may have to be raised or for example if strip footings, walls or other typically formed sections can be incorporated within the system, cost savings and environmental benefits can be realized.

On average two laborers set 140 m²/hr (1500 sf/hr)

- Layout complies with a grid system
- Each CUPOLEX® Form has an installation arrow
- Forms are Installed by starting from left to right and top to bottom
- Ensure that the feet connection pins are correctly inserted into their holes
- Pouring and finishing of the concrete slab in the conventional manner



FEATURES

- Provides an excellent moisture barrier under slab with a void that can be vented in soil with high water content
- Water cannot leach up through the bottom of the concrete slab significantly protecting the structure from water damage,
- Moisture cannot wick through the concrete by maintaining the top and bottom of the concrete floor slab dry which therefore cannot contribute to the growth of mold or mildew under flooring overlays and damage expensive architectural flooring finishes, floor tiles or carpets,
- Ventilating the CUPOLEX® under slab void space will effectively help control Radon, humidity levels, and temperature ranges, that standard slabs cannot control,
- Replaces fill or gravel that typically is required to bring the slab to the finished grade level and eliminates the costs associated with importing, compacting, certifying engineered fill and reduces any risk with post construction settlement of the underlying subbase,
- Eliminates costly, time consuming Radon Testing with uncertain results, pre-emptive mitigation can save even more money and ensure that any Radon problems will be addressed, an important liability issue for home owners and responsible parties.
- Maximum control of concrete curing resulting in a reduction of slab curling, shrinkage cracks while providing a higher quality surface,
- Can provide special CUPOLEX® slab designs on soils with very low bearing capacity, high compressibility, or soil that is highly expansive.
- manufactured to ISO 9000:2002 high quality standards



PREEMPTIVE RADON PROTECTION SYSTEM

With CUPOLEX®, Home Owners, Designers, Builders and Developers can provide cost effective preemptive mitigation control measures in new buildings and homes while saving concrete usage, reducing building cycle time and minimizing engineered fill requirements and in most cases provide a Radon building control in new homes with minimal or at no added cost.



SOLUTIONS FOR MOISTURE AND MOULD REDUCTION AND IMPROVING INDOOR AIR QUALITY

Standard concrete slabs are in contact with the ground. As a result, moisture wicks through the concrete and contributes to the growth of mold and mildew under flooring overlays and damages expensive architectural flooring finishes, floor tiles or carpets. Keeping the top and bottom of the concrete floor slab dry reduces these problems and reduces excessive moisture in a building, which has been associated with adverse health effects, particularly asthma and respiratory diseases.

CUPOLEX® provides an under slab void and results in minimal concrete contact with the soil. The unique advantage over any other slab foundation system is the integrated void spaces under the concrete slab. There are three major aspects. First, since the void forming components are water-tight polypropylene, they provide an excellent moisture barrier and the under slab void can be vented in soil with high water content. Secondly, water cannot leach up through the bottom of the concrete slab. This is significant for protecting the structure from water damage, concrete wicking and mold. Finally, ventilating the CUPOLEX® under slab void space will effectively help control to reduce air pollutants, humidity levels, and temperature ranges, all factors that have been linked to human health, learning, and productivity levels.



DESIGN & ENGINEERING

We provide PE stamped shop drawings through our engineering partners globally, construction training, and installation observation and we work closely with the design team, the contractor, and the owner to ensure the success of the project. Each site is different, and working with project partners to find installation solutions that address specific site needs is a part of the service we provide.

To begin using the CUPOLEX® for your Project, visit our Solutions page at www.cupolex.ca for a step-by-step road map on using this product.

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ENGINEERING

PATENTED

