



# RADON MANAGEMENT

## INNOVATIVE SOLUTION TO MANAGE RADON GAS

The most common and efficient radon mitigation method is soil depressurization. A soil depressurization system requires interstitial space to move soil gases between the ground and the air barrier system. Our HydraNet™ composite gas permeable layer, in combination with a synthetic vapor barrier can serve as an **efficient and cost-effective** solution for radon mitigation.

HydraNet™ and VaporFlex® Standard connect to a radon vent pipe that extends to the exterior of the building terminating in a safe location. In areas where a higher concentration of radon is expected, a fan is typically installed to create a negative pressure in the space between the air barrier system and the ground. This active depressurization system can effectively **exhaust soil gases outside** the building. (Please see Radon Management Geosynthetic System Detail 1.)



### A SUSTAINABLE SOLUTION

HydraNet™ uses up to 15% recycled content and using geosynthetics over granular fill can lower your CO<sup>2</sup> emissions.



### ECONOMICAL OPTION

HydraNet™ composite combined with a synthetic vapor barrier is an efficient and cost-effective solution for radon mitigation.



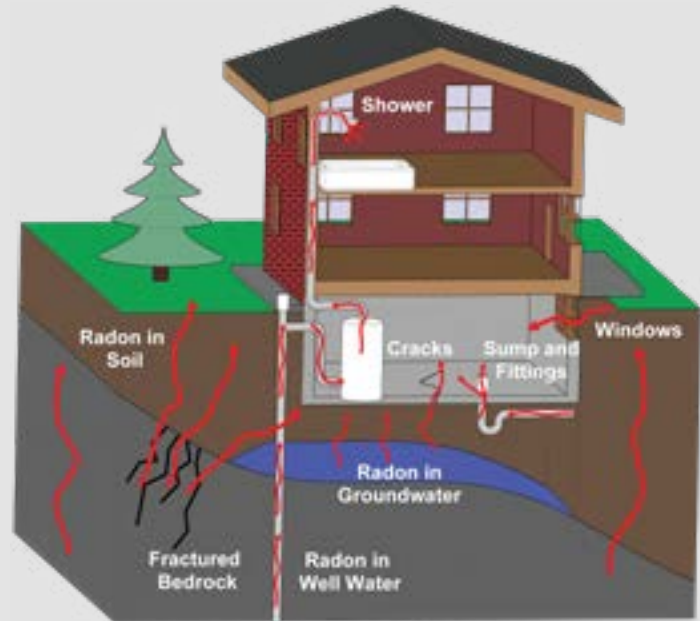
### EXHAUST SOIL GASES

In areas with higher radon concentration a fan is installed to create negative pressure in the space between the air barrier system and the ground.

# HYDRANET GEOCOMPOSITE AND VAPORFLEX SOLUTIONS

## HOW DOES RADON ENTER A HOUSE?

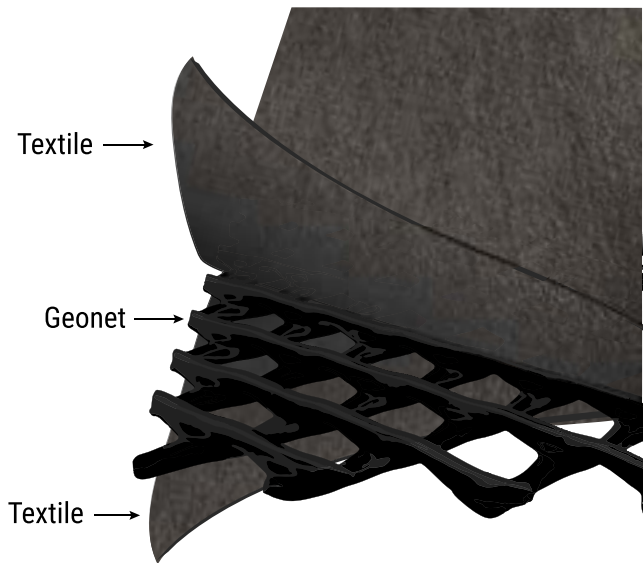
Radon gas can occur naturally in soil, originating from decomposing uranium in the ground. It has been detected across North America; some locations have a higher concentration of radon gas than others. It is important to consider a radon gas mitigation system that will restrict movement of radon gas into a building.



## HYDRANET™ GEOCOMPOSITE

HydraNet™ Geocomposites allow gases to flow much faster than in a granular drainage alternative. In terms of waterflow, a 5mm thick drainage geocomposite can manage an equivalent flow to a 150 mm thick granular drainage layer (GDL). The specified permeability of a GDL typically varies from 10-1m/s to 10-4m/s, and the underslab application can have hydraulic gradients of 0.01 to 1.0. The flow rate comparison is provided in table to the right.

HydraNet™ Geocomposite is manufactured in our Canadian ISO 9001-certified facility and effectively transmits fluid and gas. HydraNet™ Geocomposite has a geotextile is bonded to one or both sides of a geonet, creating a drainage structure that can be used between layers of geomembranes, soil layers, and in many other situations.



Type of drainage material	Thickness	Flow rates, i=1.0
HydraNet™ Geocomposite 220-2-6	5mm	25 l/min.m
Granular material (compacted) K value = $1 \times 10^{-3} \text{m/s}$	150 mm	9 l/min.m

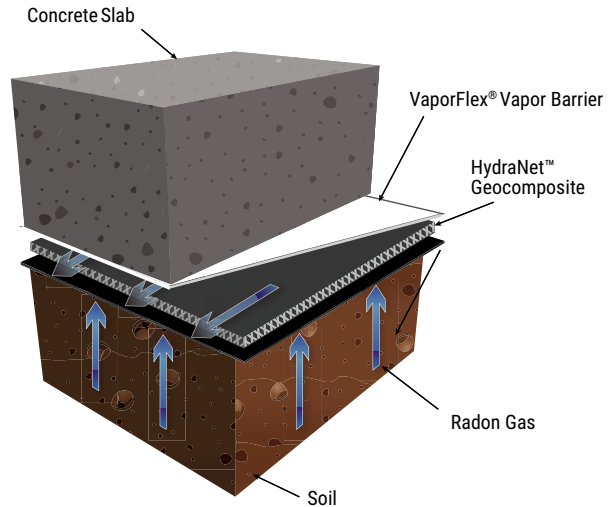


**MAUFACTURED IN CANADA**

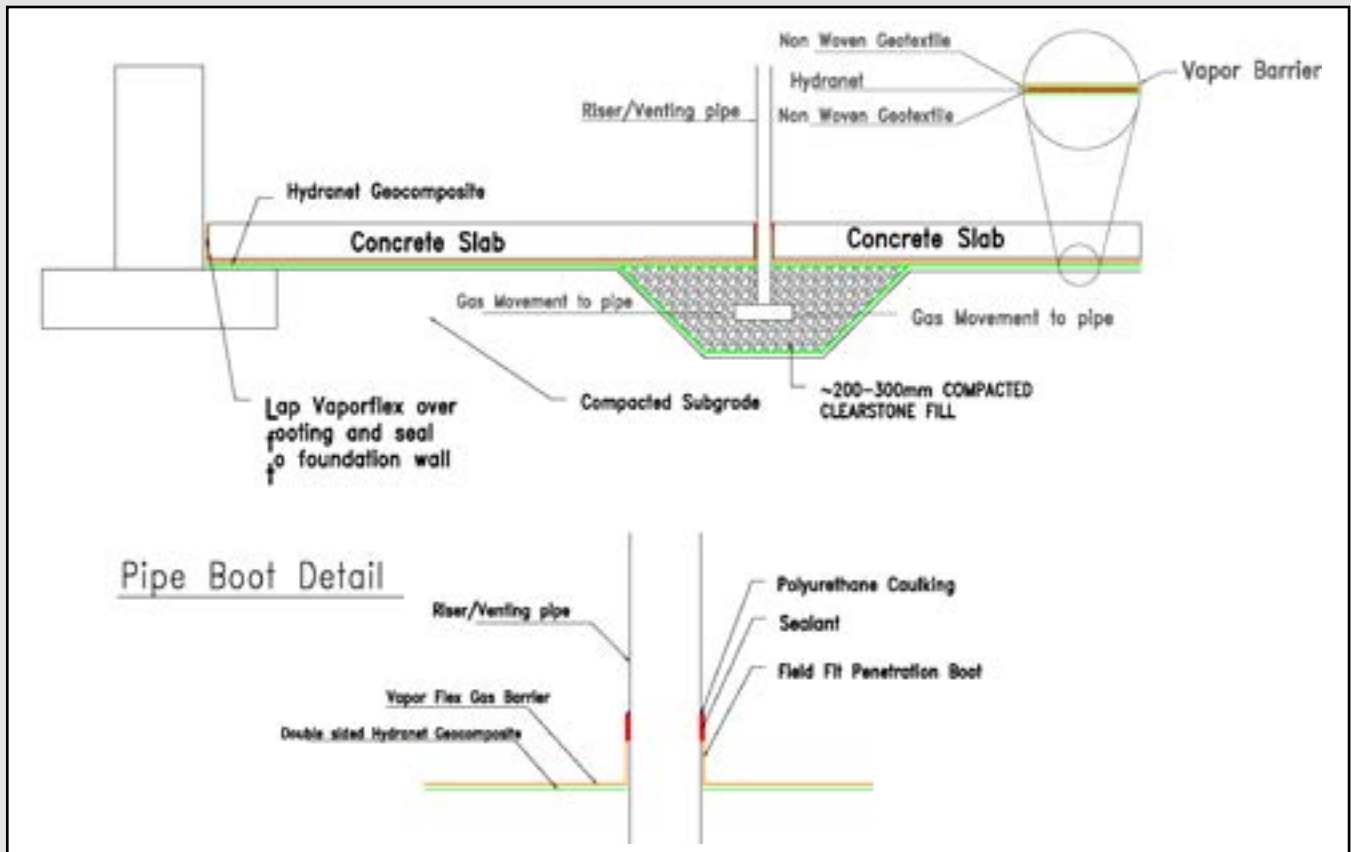
# VAPORFLEX® STANDARD (10/15 MIL)

VaporFlex® has been tested and determined to help reduce radon gas permeance when used as part of a properly designed radon gas mitigation system. Our Vaporflex® product has been tested in accordance with K124/02/95 method C of ISO/TS 11665/13 and was found to have the following radon diffusion coefficients:

Product	Radon Diffusion Coefficient
VaporFlex, 10 mil	$2.2 \times 10^{-11} \text{ m}^2/\text{sec}$
VaporFlex, 15 mil	$2.4 \times 10^{-11} \text{ m}^2/\text{sec}$



## RADON MANAGEMENT GEOSYNTHETIC SYSTEM



Detail 1. conceptual drawing