References

Archetype Sustainable House



Uponor involvement

Project Highlights

- Sustainable home chooses Uponor PEX radiant floor heating system
- Wirsbo hePEX™ tubing for the radiant heating system
- Installing contractor: Canadian In-floor Radiant Solutions Inc.
- Project management: Habitat for Humanity

Products Used

- Wirsbo hePEX™ Tubing

Archetype Sustainable House in Ontario uses radiant heating to improve quality of life

The Archetype Sustainable House at The Living City Campus in Ontario chooses an Uponor radiant heating system...
The Archetype Sustainable House in the outskirts of Toronto was constructed through a partnership with Building Industry and Land Development Association (BILD) as a part of a Canadian design competition with the goal of showing how a single-family home could demonstrate an environmentally sustainable design for other homes to emulate.

As homebuilders and homeowners continue to demand high-performance structures, system designers are looking for sustainable solutions to reduce energy usage, while maintaining function and comfort.

Project Facts:

Location	Completion
Vaughan, Ontario, Canada	2010

Building Type

Single family home

Project Type

New building

Sustainable housing competition winner chooses an Uponor radiant heating system to help reduce ecological footprint

Located at the Toronto and Region Conservation Authority's (TRCA) Living City Campus at Kortright, the Archetype Sustainable House has been involved in various research projects focusing on innovative products and technologies that influence current building practices in sustainable housing. To keep with the home's sustainable design, the team chose an Uponor radiant floor heating system to help reduce the home's ecological footprint.

In an Uponor radiant floor heating system, warm water flows through crosslinked polyethylene (PEX) tubing that is either embedded in the concrete, fastened to the subfloor surface or suspended under the floors. The warmth radiates up from the floor to warm objects and people in a room. The designers chose an Uponor hydronic system because water has the capacity to transport energy 3,500 times greater than air to use less energy than a traditional forced-air system.

In conjunction with the radiant heating solution, the team installed a heat-recovery ventilator that uses fans to maintain a low-velocity flow of fresh outdoor air into the house (incoming air stream) while removing an equal amount of stale indoor air (exhaust air stream).

Staying true to the sustainable design, the LEED®-certified home also incorporated features such as ENERGY STAR® appliances, solar panels, double-paned windows, and a water collection and filtration system.

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