



Uponor

RADIANT HEATING, PLUMBING
AND FIRE PROTECTION SYSTEMS
RESIDENTIAL INSTALLATION

CASE STUDY

Beggs' Residence Demonstrates Total Home Comfort and Safety

When Di and Thomas Beggs purchased a 1700-square-foot bungalow in Headingley, Manitoba, they soon had some concerns. Over the course of the winter, they experienced three consecutive months of \$300 heating bills with a traditional forced-air heating system.

"We decided to move directly across the street into a new, custom-built home by Morrison Homes, Inc.," says Tom Beggs. "That way we could have a home custom built with all the amenities we wanted."

To increase comfort and economy, the Beggs installed Uponor radiant floor heating in their new home. They also went with an Uponor plumbing system for all the benefits of crosslinked polyethylene (PEX) tubing over copper pipe. Also, because Headingley is in a remote area and the Beggs rely on a volunteer fire department, they decided to install an Uponor residential fire protection system as well.

The Beggs decided to go with Uponor because Tom's firm, Tom Beggs Agencies, handles over 17 different plumbing and heating product lines, and he wanted the most reliable and maintenance-free systems for his home.

The radiant floor heating system was designed and installed by Uponor-authorized dealer, A & B Mechanical. The Uponor plumbing and fire protection systems were both designed and installed by Uponor Alliance member, Furnasman Heating Ltd.

Radiant Floor Heating

Radiant floor heating generates heat by circulating warm water through durable PEX tubing embedded in the floor, transforming it into a warm, mild radiator. Radiant heating evenly distributes heat, virtually eliminating drafts and cold spots.

"This is a lot more energy-efficient than a forced-air system," says Beggs. "Furthermore, radiant floor heating does not use blowers so it reduces the amount of contaminants and dust in the air."

Plumbing System

Uponor's plumbing system, which uses Wirsbo AQUAPEX® tubing, has been used around the world for over 30 years. Flexible and durable, the Uponor plumbing system offers many advantages over traditional copper plumbing systems. PEX tubing is corrosion resistant and able to withstand extreme temperatures and pressures. Additionally, the tubing is virtually silent with no

water hammer or singing pipes commonly heard with metal plumbing systems.

Fire Protection System

Integrated within the Uponor plumbing system is the Uponor residential fire protection system.

"Most builders and homeowners spend money on hardwood floors, triple pane windows and stone work on the front of the house," comments Beggs. "But they don't ever spend money on saving lives."

Although smoke detectors are responsible for a sizeable drop in destruction from home fires, they can only warn of a fire when they work, not stop it like sprinklers. The Uponor residential fire protection system meets the National Fire Protection Association (NFPA) requirements for residential fire sprinklers. This ensures every system operates properly.

The sprinklers in the Uponor fire protection system are heat-activated by temperatures of 68°C (155°F) and higher and are unaffected by smoke. If a fire does occur, only the sprinklers in the affected area activate. Over 90% of the time, a fire is contained with the activation of a single sprinkler.

The Beggs chose Uponor for the most reliable and dependable systems for their home.

Summary of Benefits

Radiant Floor Heating

Sanitary

Radiant floor heating does not disperse allergens and other pollutants into the air, drastically reducing dust levels. This system is perfect for people with asthma or respiratory problems.

Valuable

Radiant floor heating potentially reduces heating costs up to 40% and significantly increases the resale value of a home.

Plumbing System

Clean and Quiet

Wirsbo AQUAPEX tubing will not leach toxins into the water or corrode like copper piping. Virtually silent, Wirsbo AQUAPEX dampens the sound of rushing water and water hammer noise.

Proven

Uponor plumbing systems have enjoyed more than 30 years of trouble-free installations. In fact, over 12 billion feet of Uponor's PEX tubing is installed in plumbing, fire protection and radiant floor heating systems worldwide.

Fire Protection System

Custom-designed

Every Uponor fire protection system is designed specifically for a home and its unique characteristics.

Eliminates Stagnant Water

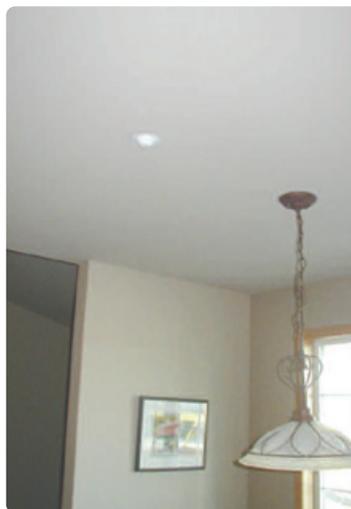
Unlike stand-alone fire protection systems, the Uponor system allows water to move freely through the sprinkler system each time an occupant uses a cold-water plumbing fixture. This feature eliminates the need for backflow prevention and protects against the possibility of stagnant water entering the potable water supply.



Uponor's radiant floor heating system ensures comfortable, even heat regardless of the floor covering.

Project Data

Size of Structure:	1,744 square feet
Type of Construction:	Residential bungalow
Tubing Type:	½" Wirsbo AQUAPEX and Wirsbo hePEX™ plus
Feet of Tubing:	2,610 feet of Wirsbo AQUAPEX, 4,136 feet of Wirsbo hePEX plus
Number of Plumbing Manifolds:	4 (for plumbing and fire protection systems)
Number of Sprinkler Heads:	29
Number of Heating Manifolds:	2
Number of Loops:	19
Number of Heating Zones:	16



The concealed sprinklers in the Uponor fire protection system are practically invisible, providing peace of mind in an ingenious way.



The design information in this case study is provided for illustrative purposes only. The actual requirements of similar projects will depend on regional climatic conditions, project-specific heat loss, owner expectations, applicable building codes, etc. Please contact your Uponor representative for assistance in designing your specific projects.