

## PE-RT Tubing Unveiled: The Evolution of Tubing

September 13, 2024 | By Andrew Snook

When selling hydronic systems for residential, commercial and institutional applications, it is vital that contractors offer a complete radiant solution. This includes having knowledge of the latest product advancements for hydronic applications. One of the key advancements that contractors need to be aware of when building a hydronics system is the evolution of radiant tubing.

Technological advancements in radiant tubing have been well documented with the transition from copper to PEX. However, another evolution in tubing options is underway with many PEX users transitioning to PE-RT for a wide variety of hydronics and potable water applications due to its superior mechanical attributes and installation advantages when compared to PEX.

One of the products leading the charge in the evolution is VIPERT™ Potable and Radiant – Oxygen Barrier PE-RT tubing, manufactured and distributed in Canada by CB Supplies, with distribution facilities in British Columbia, Alberta, Ontario and Quebec, serving customers nationwide.

A key advantage of VIPERT Radiant – Oxygen Barrier PE-RT tubing offers contractors is superior flexibility when compared to PEX Oxygen Barrier tubing.

We purposely incorporated this attribute into the physical properties of the materials.

“Where VIPERT Radiant – Oxygen Barrier PE-RT tubing performance is appreciated for its advantage is by the contractor, when installing PE-RT tubing in radiant infloor hydronic systems, with PE-RT’s increased flexibility, for tighter spaced on centre loops (6”), physically easier to lay, with the U

bends you tend to not have them pop up like PEX does due to its memory to return to its original shape. It contributes to making installations quicker and reduces the chances of kinking the tubing. After a contractor tries PE-RT, our team usually gets a call back, saying this is a game changer.”

“This makes PE-RT tubing ideal for use in areas where tight turns or bends are required, in both hydronic and potable applications” says Mike Boudreau, Vice-President of Sales and Marketing for CB Supplies.



### Key Differences between PEX and PE-RT

Both PE-RT and PEX tubing are made from polyethylene (PE) resin; the key difference lies in their manufacturing processes:

- **PEX** – PE resin undergoes extrusion followed by post-extrusion treatment to produce cross-linking that provides the required strength in the PEX tubing.
- **PE-RT (POLYETHYLENE OF RAISED TEMPERATURE)** – The Bimodal method is used in producing the resin, it is run through a dual PE reactor system that produces resins that meet and exceed the same standards set by PEX without the need for a secondary process, cross-linking is not required.

***This difference in the manufactured process with PE-RT is the evolution in its performance vs PEX:***

- ***Superior pressure and temperature ratings, strong durability characteristics***
- ***Top oxidative resistance to chlorinated water, ideal for recirculation lines in potable water system***
- ***Increased flexibility in tubing, especially for Radiant – Oxygen Barrier tubing***
- ***Lower Environmental impact***
  - ***100% Recyclable – Unique to PE-RT***
  - ***Reduced GHG contributions vs PEX***
- ***Flexibility on connection preferences: Crimp, Expand, or Push style fittings***

#### **VIPERT in Action**

CB Supplies recently partnered with one of its contractors in the province of Québec providing design services, loopCAD designs and all necessary materials to install radiant infloor systems for a large-scale commercial refrigeration storage facility.



To avoid ground frost heaves due to cold penetration below the refrigeration systems, a common technique is to run radiant infloor underneath them. CB Supplies provided these essential products and design services, including CB Supplies / IVAR hydronic manifolds for this system as well as snow melt systems for all of the loading bays at the facilities for year-round shipping and receiving at the facility.

In addition to the frost heave protection system at 6,827 sq.m. (73,487 sq.ft.), the project included a 1,115 sq.m. (12,000 sq.ft.) office space with a radiant heating system and a 223 sq.m (2,400 sq.ft.) exterior loading area featuring an advanced snow and ice melt system.

To meet the requirements of the project, CB Supplies' VIPERT Radiant – Oxygen Barrier PE-RT tubing played an important role. A total of 25 kilometers (15.5 miles) of VIPERT tubing was distributed through 21 CB Supplies / IVAR hydronic manifolds, providing complete and effective coverage for the frost heave protection system, radiant heating, and snow and ice melt systems.

For a complete hydronic solution, VIPERT Radiant – Oxygen Barrier PE-RT tubing is installed with IVAR hydronic Manifolds, which arrive on site complete in one box, streamlining installation. The manifolds feature precise loop balancing, complete with manual or electrostatic control valves that are paired to your zone thermostat controller, providing optimum thermal comfort.

### **Certifications and Listings**

Both VIPERT Potable and Radiant – Oxygen Barrier tubing have undergone all the required North American third party testing and are approved to all published standards and are ideal for potable, hydronic radiant heating, cooling and snow melting systems.

### **Distribution and Warranty**

VIPERT Potable and Radiant – Oxygen Barrier tubing is available throughout Canada through CB Supplies wholesale partners that service the contractor communities, product offers a no nonsense 25-year warranty regardless of fitting systems installed.

### **Available Sizes**

#### **VIPERT (PE-RT) Potable Tubing:**

- ¼” to 2”, tubing lengths 12ft and 20ft, Coils: 100ft to 1,000ft,
- Colours: White, Red and Blue

#### **VIPERT (PE-RT) Radiant – Oxygen Barrier Tubing:**

- 3/8” to 2”, tubing lengths 12ft and 20ft, Coils: 100ft to 1,000ft,
- Colour: VIPERT Green

### **Finding the Right Partner**

To ensure a system meets all of a customer’s needs requires having manufacturing and distributor partners that are as reliable as you are. As both a Canadian manufacturer and master distributor of potable and hydronic products and services, CB Supplies offers a unique advantage for meeting the needs of installers. By manufacturing and distributing across Canada, border and shipping delays become a thing of the past, ensuring contractors always have the stock they need close at hand.

CB Supplies offers its customers in-house hydronic expertise, including: LoopCAD design and layouts customized for residential and commercial projects, with associated materials required.

**For more information on VIPERT Potable & Radiant – Oxygen Barrier PE-RT tubing for potable and hydronic applications, visit: [cbsupplies.ca](http://cbsupplies.ca)**

