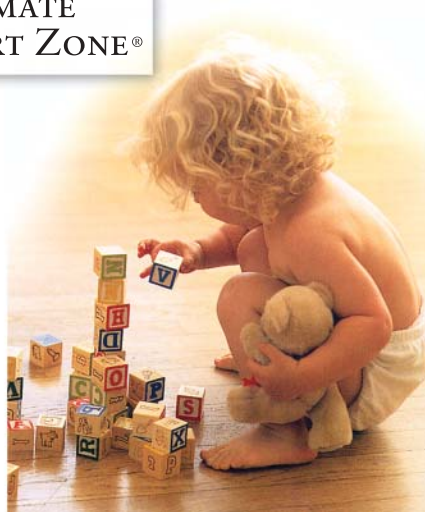




EXPERIENCE THE



ULTIMATE  
COMFORT ZONE®



HYDRONIC RADIANT HEATING SYSTEMS



ROTH HAS DEVELOPED THE MOST  
EFFICIENT HYDRONIC RADIANT  
HEATING SYSTEM IN THE WORLD.

A world leader in hydronic radiant heating systems,  
Roth Industries has developed a unique and  
incomparable concept: The Ultimate Comfort Zone®.

This hot new concept enables you to install the  
latest, most effective heating system in the world, with  
our guarantee of superior technology combined with  
innovative design and highest-quality materials.

**BE PREPARED TO ENJOY COMFORT THAT YOU'VE NEVER EXPERIENCED BEFORE!**

## WHAT MAKES THE Ultimate Comfort Zone® SO UNIQUE?

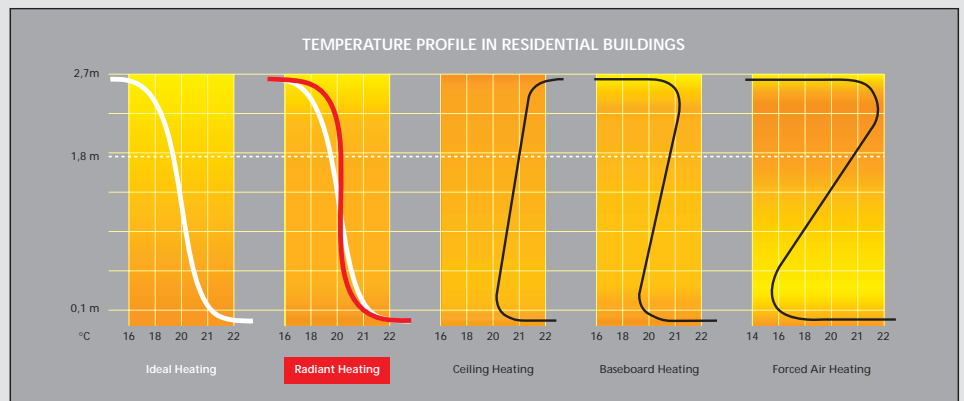
You take control  
of your own comfort!

Roth offers you the best heat distribution for comfort, energy and savings.

Roth systems optimize heating patterns for different zones, rooms or floor materials. Rooms always maintain the set temperature to eliminate chilly lower levels or overheated upper levels. Whether you have carpeting, hardwood, tile or stone, your floors will always be comfortably warm. No more cold feet.

This illustration clearly shows how closely the temperature distribution follows the ideal heating curve, according to scientists.

The ideal temperature for comfort is 23°C / 73°F at foot level and 19°C / 67°F at head level. Compared to other systems, in-floor hydronic radiant heating provides superior heat distribution (see chart), especially in rooms with high or vaulted ceilings.



### Energy savings

Room temperatures can be reduced by as much as 3°C / 5°F without sacrificing comfort. For a typical home this means you can save up to 30% on heating. When doors are closed, up to 50% of the heat will be recovered instantly. Half of the total heat is provided by radiation, which travels at the speed of light.

### Cost savings

Roth systems are easy to design, and can be installed quickly. Your certified Roth system installer has ready access to world-class technical support, heating system design data and engineering.

### Quiet operation, health and safety issues

Water is far denser than air so it carries much more heat. Additionally, the water runs slowly through noise-absorbing plastic tubing. Small residential circulators are so quiet they can't even be heard in the utility room.

Radiant heating minimizes air movement, which reduces drafts in the home. As a result, dust, germs, viruses and mold aren't spread around the home. Allergy sufferers can breathe a sigh of relief.

### Decorating freedom

The entire system is hidden, and there are no obstructions to interfere with the use of the room. There will be consistent heating

throughout the entire house without any design restrictions.

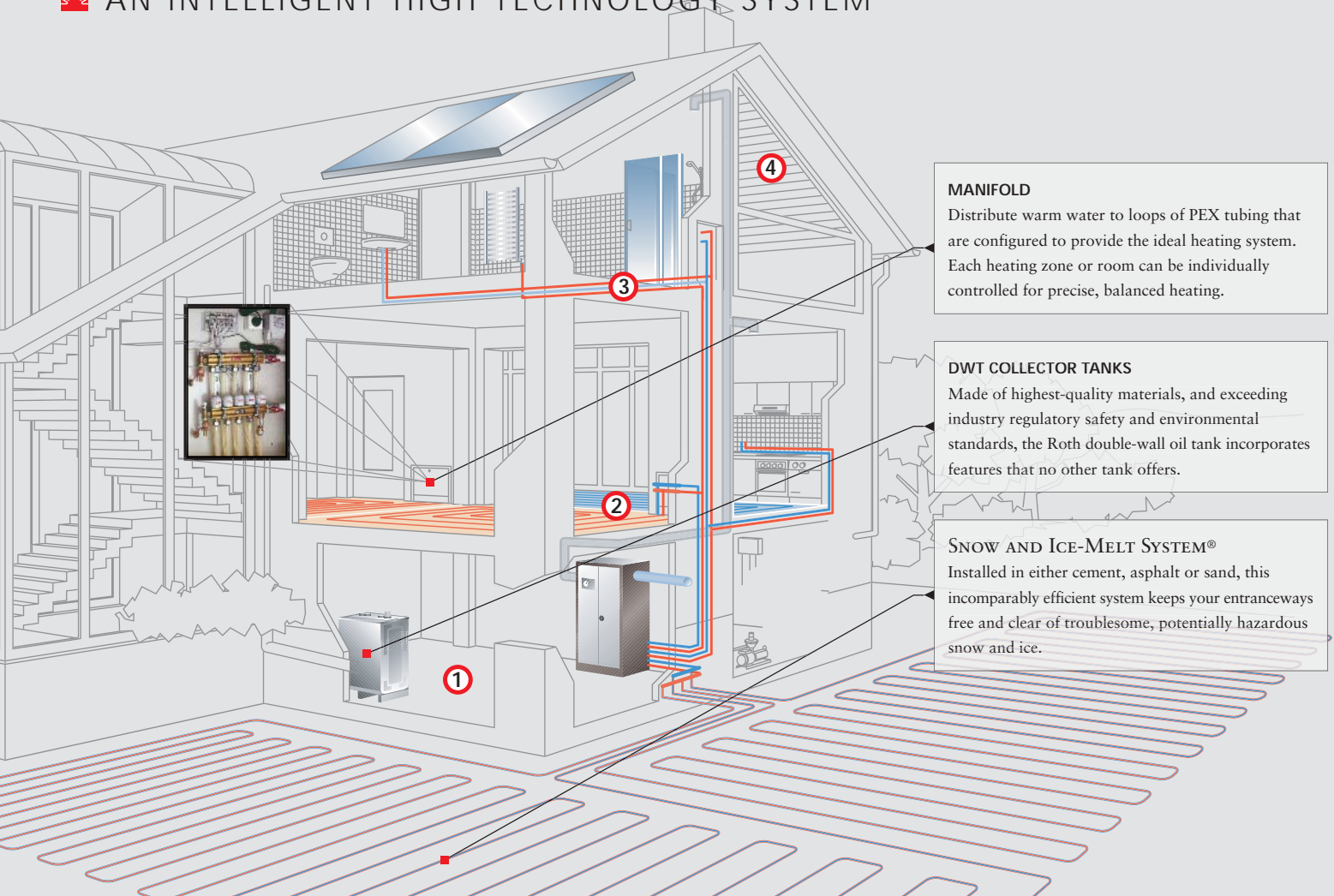
### Comfortable basements

What was once a damp, often chilly room can quickly be turned into a comfortable prime living area. Warm floors keep rooms dry and basement floors are now as comfortable as the floors on any other level.

### Warm floors never stay wet

Water on the bathroom floor? No problem. Snow and ice in the garage? Don't worry. Roth radiant heating ensures that, if wet, your floors — and shoes, towels and clothes — will dry faster, and stay dry longer; which helps to eliminate mold, mildew and pesky, unwanted odors.

## AN INTELLIGENT HIGH TECHNOLOGY SYSTEM



## PROFESSIONAL SUPPORT FROM PLANNING THROUGH DESIGN AND INSTALLATION

Roth will provide you with assistance, including heat-loss calculations, for your ultra comfort zone hydronic radiant heating system. Using leading-edge software programs, Roth's design and technical support team will guide you through every aspect of the project. Roth-trained installers will receive ongoing support throughout the installation, including easy-to-follow installation manuals.

## A SYSTEM DESIGNED FOR SIMPLICITY AND EFFECTIVENESS.

State-of-the-art technology — in both design and materials — gives complete system flexibility and allows for trouble-free applications in any home environment, and with any type of flooring, floor coverings, and ceilings. The Ultra Comfort Zone® effectively surrounds you with radiant warmth when and where you need it!

### 1 Basement slab options

- A) Roth PEX tubing is tied to reinforced mesh before concrete slab is poured.
- B) Roth Radiant Panel System is installed directly on concrete slab and Roth PEX tubing is snapped in.

### 4 Ceiling Option

- PEX tubing and heat transfer plates attach easily to ceiling joints.

### 2 Suspended wood sub floor options

- A) Roth PEX tubing is positioned under a suspended wood sub floor in aluminium heat transfer plates or C-fin plates.
- B) Roth Radiant Panel System is installed directly above the suspended wood sub floor and Roth PEX tubing is snapped in.

### 3 Ceramic flooring on suspended wood sub floor

- A) Roth PEX tubing is stapled onto wood sub floor before gypsum based or lightweight concrete is poured.
- B) The Roth Radiant Panel System is screwed to the wood sub floor and the Roth PEX tubing is snapped in. A concrete board is secured and the seams are filled in preparation for the ceramic tiles or stone.



1A. PEX tubing in slab



1B. Roth Radiant Panel System on slab



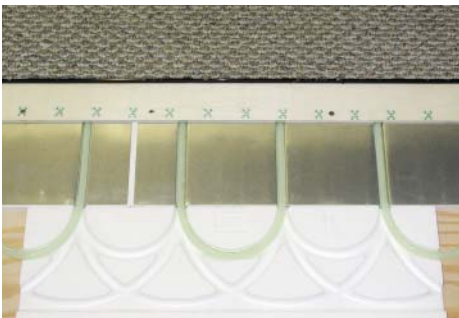
2A. Suspended wood sub floor and aluminum panel or C-fin plates

## SUPERIOR PEX TUBING



Roth manufactures the highest quality PEX tubing, made of crosslinked polyethylene, to guarantee unparalleled long-term performance.

Two major components of the ROTH hydronic radiant heating system are the proven PEX C distribution tubing, and superior one-piece supply and return manifolds. Both help ensure economical, trouble-free installation of a system that will provide you with peak efficiency, ultimate comfort and long-term service.



2B. Roth Radiant Panel System on suspended wood sub floor

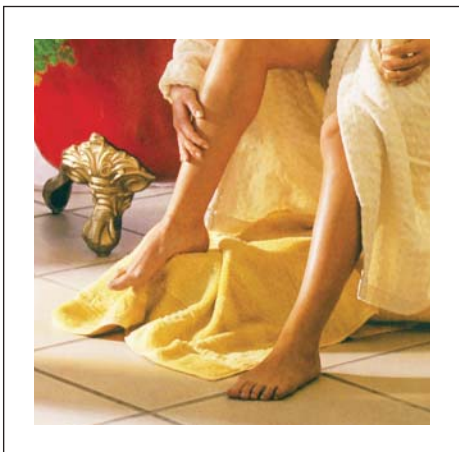


3A. Light concrete is poured onto suspended wood sub floor



3B. Roth Radiant Panel System with cement board on suspended wood sub floor

## HYDRONIC RADIANT HEATING SYSTEMS: HEAT THAT'S ALWAYS "IN THE ZONE"



### Comfort control

Roth systems are designed to ensure easy control of heating in each room or zone. Thermostats for each separate heating zone give you effortless touch control to accommodate warmer bathrooms or cooler bedrooms for example. Direct sunlight, a burning fireplace, a large number of active guests... many such factors can disrupt the heat distribution of a traditional system, resulting in both higher costs and temperature-related inconveniences. Roth puts an end to these and other problems with a system that provides the ultimate in control, efficiency and savings. Nothing compares to a Roth Hydronic Radiant Heating System.

## TAKE CONTROL OF YOUR COMFORT.

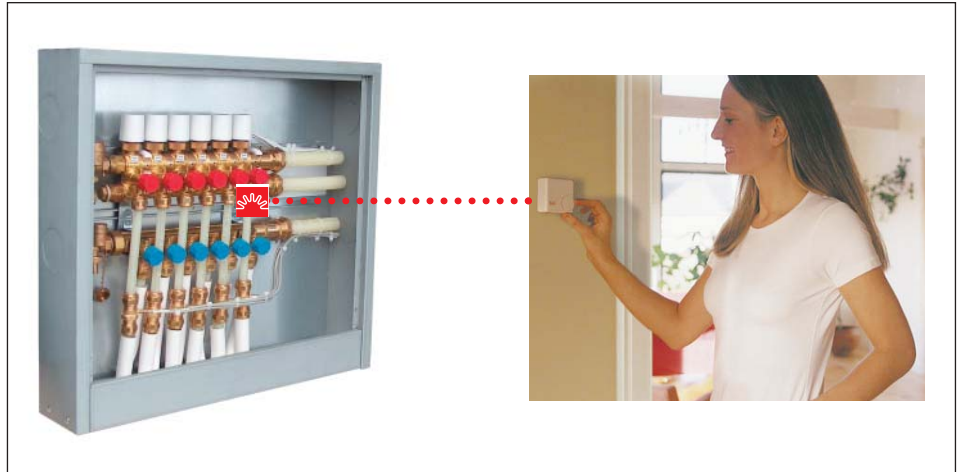
### The MultiTherm system

The new MultiTherm system takes a unique approach to enhanced control by maintaining constant flow through the loops and changing the water temperature for each individual loop based on actual demand. The result: a level of performance, control and comfort never before possible.

Here's how it works: Each MultiTherm system is supplied with an automatic mixing valve for each loop inside its manifold, which ensures that the water supply and temperature for each loop always match the actual heat requirement of each room/zone.



4. Aluminum plates on Ceiling



- Allows for individual water temperatures for each tubing loop on the same manifold.
- Maintains the ultimate comfort of any room/zone with real-time feedback, intelligent control and constant circulation.
- Allows for loops in different floor construction methods to share the same manifold.
- Automatically compensates for design flaws or changes in floor covering.
- Accommodates the dynamics of the building to provide faster and better response.
- Can control radiant floors, low temperature radiators or low water temperature of air handlers mixed on the same manifold.

## OTHER ACCESSORIES TO ADD TO YOUR COMFORT

### Accessories

Roth radiant heating systems come with all the accessories you need for easy installation, whatever the size of your project. Accessories include four-way valves, pressure testers, compression couplings to join PEX tubing to the manifold, pressure balancing valves, etc. Roth also provides all the control mechanisms you'll need to keep your system running perfectly.

### Roth Manifold Shunt

Developed to easily add radiant floor heating capability to existing high temperature hydronic radiant heating systems. Roth shunts connect directly to the manifold assemblies. They can be used singly or in multiples with any boiler system, and when coupled with an outdoor reset control, the shunts efficiently provide weather-responsive system temperatures to the radiant heat manifolds. Two model sizes are available.



### Mini-Shunt

Roth mini-shunts were developed to ensure easy installation and delivery of radiant floor heating to small areas such as bathrooms, kitchens and entrances with an existing, high-temperature, water source. The pre-assembled kit comprises a circulation pump, a 3-way thermostat and a non-electric temperature gauge. This system is available in three PEX sizes.

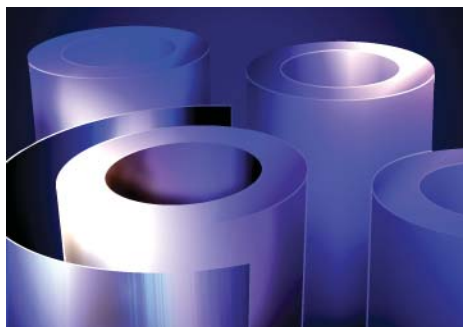




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• Buchenau, GERMANY

Roth's success is the result of product flexibility, targeted investments and theme-oriented solutions. Our growth stems from continuous research and the development of new and innovative products. The keys to our success in manufacturing include know-how, modern production sites and equipment, the very latest production technologies, and highly motivated personnel.



## ULTIMATE COMFORT ZONE®



We Know What Comfort Means To You



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Roth reserves the right to change model specifications and descriptions used in this document at any time, without notice.



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