

Article: **What to Know Before You Call**

Whether you are building a new home or you want to add the comfort of radiant heat into your existing home, installing a new radiant heat system is a new and exciting venture. Just the thought of such a warm, cozy option in your home feels wonderful. Let alone that wonderful idea of automatic snow & ice melt on your driveway!

As wonderful as radiant heat & snow melting is, a Radiant Heat System is a [Hydronic System](#). There are things you must know before you call. Calling RBA Mechanical "for more information on radiant" will be very frustrating for you, and it's very frustrating for us as well. Radiant heating is a large subject and there's lots to know, especially for anyone who has not experienced radiant heating before. There are so many questions we have to ask, so many issues we need to go over with you. And just too many different options for your home. At the same time, over-researching the subject and repeating your questions to every contractor in town will run you in circles and will become very frustrating for you.

Here is a brief list of facts you need to know before you call:

- RBA Mechanical is an Uponor Advantage Dealer and we supply and install [Uponor Radiant Materials](#). If you have any questions regarding the tubing or materials themselves or on different installation methods, please visit their [website](#). You will find product information, brochures, warranty information, details on the different installation methods, and more. Starting at the Manufacturer's website is a great place to begin, as it clears away questions related to the products and the different install methods themselves. When you've gone through the Uponor's web site, you should know what type of installation method (staple up, basement slab, snow melt), you will be going with. You will know the materials that go in, and you will know the warranty details.
- Installing radiant heat and/or snow melt is an investment in your home. A proper budget is required. If you are on a Budget, *inform your Radiant Designer of your budget*, this helps dramatically to ensure your design is completed so your installation is realistic for you.
- There are regulation requirements that must be met for every installation of a radiant heat system.
- Because radiant and snow melt systems are hydronic systems, there is hydronic equipment that is needed for your home. This includes a boiler, mechanical equipment, tubing, manifolds, zoning, controls, sensors.
- Know the areas in your home you want to heat. If budget cost is an issue, prioritize these areas.
- Know how you want your comfort heating to be controlled. Do you want basic operating controls, do you want efficient controls with outdoor sensors, do you want a network system.
- How do you want your home to be zoned? For example: 1 thermostat for the entire basement or 1 stat for the Den and 1 stat for the laundry room, etc. And yes, the tighter the zoning (the more zones), and the more efficient you want the operating controls to be, the higher your initial installation investment cost. Note, that you can also opt to have the Radiant Designer select these options for you based on your comfort needs and your available budget.

A radiant heat or snow melt system cannot be quoted until you know your budget and a Radiant Design is completed.

Determining a Budget

Here is guideline for determining a realistic budget for your home. The cost per sq ft includes the radiant system as well as the boiler and hydronic equipment, as well as installation.

- a 3000-4000 sq ft home can run around \$8 - \$12 per sq ft
- a 700 sq foot area can be \$18-\$22 per sq ft,
- where a 1500 sq ft home can run around \$15-20 per sq ft.

There are many things in a radiant heat system that determines the cost range per sq ft. Such things include the size of your boiler, how many zones you want, the control method used, etc. And, no, by today's Safety Code Standards, water heaters cannot be used for a Radiant Heat System, irregardless of how small the the sq footage.

But costs per square foot can also be deceiving. Radiant systems are installed as Custom with a Customized Radiant Design. *Using a cost per sq ft provides a guideline only to help determine a realistic budget.*

RBA Mechanical does not provide “budget quotes” or “quick estimates” for radiant heat system installations. Budget Quotes have had a tendency of coming out 10-20% under that of an actual Designed Quote, simply because it is not “designed”.

Once you have determined your realistic budget, and you know the installation methods you are going with (staple up, basement slab, garage slab, snow melt, etc), you ready for your actual Designed Quote.

Why Designed Quotes:

A Radiant Design is customized to the structure of your home, and as such there are parameters that are used to calculate the total heat loss of your home. These include wall and ceiling insulation values, construction values (old 1950s house, or today's high quality construction materials). Other considerations include your outside walls, your windows, etc. Each room is dimensioned on each floor, and is drawn out on Cad to get the most accurate sizing information possible. Once your home is drawn out and the heat loss is completed, the size and quantity of the radiant tubing is calculated for the areas you want radiant. This includes the manifold stations, and the method of Control. After this step is done, the Mechanical Equipment is calculated.

A snow & ice melt system must also be designed so your sidewalk and / or driveway can actually melt and evaporate the snow / ice when it's required.

Now at this point, you know about the radiant materials that are going in, you know the installation methods you are doing, and you've worked out a realistic budget for your installation.

Before you call, get all your paperwork and facts in order. The more detailed your information, the more accurate and efficient your radiant heat system will be.

- *Know all the areas you want heated.* This includes areas you want done now AND includes areas you want to do later on. The heat loss is completed based on your entire home. However, the boiler and hydronic equipment must be sized properly to heat all the areas you want done. For example, if you choose only your basement, the boiler size will be smaller. If you change your mind later on and decide to add radiant to a garage and/or other areas, your boiler may be too small and you will have to either install a 2nd boiler or replace your boiler with a new one that will handle the load.
- For new construction homes, the CAD Drawings of your home should be ready for emailing.
- For existing homes, the original blueprints or a clear drawing detailing each room with dimensional drawings, windows & doors for each floor. These must be ready for mailing or dropping off at our office.
- Know the areas you want heated.
- Know how you want your comfort controlled. If you don't, that's ok, the Radiant Designer can assist with this.
- Know all the insulation r-values of your home for windows, floors, doors, skylights, and ceilings.
- Know all the floor coverings in your home, especially where radiant will be placed.
- Know your budget.

Be prepared:

There are fees associated with getting you the quote information you need to proceed with your radiant heating project. If you just want to know if you have the right budget for your project, you can use the Cost per Sq Feet on the previous page.

Radiant Designs range from \$75 - \$550 and are 100% refundable when your installation is completed by RBA Mechanical. All radiant design packages include the Heat Loss, Radiant Design and Tube Layout Drawings. The Premium Radiant Design package is completed by Uponor themselves and also provides you with their 25 Year Design Warranty and full scale 24" x 36" tube layout drawings. When you call or email us, you should be ready to begin processing your design, ask your last few detailed questions about your comfort needs, and be prepared to pay your design fee. You can either make an appointment, usually for within 1 to 2 weeks, or you can opt to work by email, in which case your design can begin processing right away. Then be ready to wait a few weeks for your completed package. Once your package is completed, we can provide you with your full installation quote.

Print off our Radiant Checklist ([click here to download the pdf](#)). Go through the checklist one step at a time, working your way from the Research phase through the Design phase. Then call RBA Mechanical to get started on your design package.

Please note that the checklist is copyright material. It can be viewed and printed, but cannot be copied or duplicated.