

Right-Radiant

Radiant Heating Loop Worksheet

Loop name	Manifold	Panel area (ft²)	Tubing area (ft²)	Tube type/size	Tube spacing (in)	Panel tubing (ft)	Tail tubing (ft)	Total tubing (ft)	Cover R-value (ft²·F/Btu)	Max surface (°F)	Surface temp (°F)
Dining	Manifold-2	126	124	3/8" BPEX	8.0	196	20	206	0.80	85.0	81.6
Living Room-A	Manifold-1	147	146	3/8" BPEX	8.0	218	20	238	0.80	85.0	77.0
Living Room-B	Manifold-1	147	146	3/8" BPEX	8.0	218	20	238	0.80	85.0	77.0

Radiant Heating Manifold Tree

- Manifold-1 Supply = 115.2 °F Return = 100.2 °F
 - Living Room-A Mean = 107.7 °F Delta = 15.0 °F
 - Living Room-B Mean = 107.7 °F Delta = 15.0 °F
- Manifold-2 Supply = 139.9 °F Return = 122.2 °F
 - Dining Mean = 131.1 °F Delta = 17.7 °F

Buttons: Delete, Add Manifold, Rename, Close, Help

Right-Radiant is an easy-to-use and complete radiant panel design program for radiant floors, ceilings, and snow melt applications. Developed in partnership with a consortium of radiant panel component manufacturers, Right-Radiant uses industry standard ASHRAE calculation methods and field-proven design techniques to provide a comprehensive design tool.

Right-Radiant is a multizone, multiloop application that combines design flexibility with a high level of automatic design, which speeds radiant design projects. Designers can preset a wide range of design preferences, such as maximum surface and supply temperatures, loop temperature differences, loop lengths, and surface coverings. By saving these presets as templates, designers can build a library of different design approaches that will make short work of big jobs.

Radiant Heating Preferences

Preferred delta-T: 15 °F
 Maximum delta-T: 25 °F
 Floor cover R-value: 0.80 ft²·F/Btu
 Fluid: Water

Manifold limits
 Supply temp: 140 °F
 Head: 5.00 ftH2O
 Loops/manifold: 10

Tubing Default	Spacing (in)			Panel	
	3/8" BPEX	1/2" BPEX	5/8" BPEX	Floor	Ceiling
Embedded floor	6.0	9.0	12.0	6	6 in
Other floor	8.0	8.0	8.0	85	100 °F
Ceiling	8.0	8.0	8.0		
Loop length (ft)				20	30 ft
Recommended	200	250	325		
Maximum	250	325	500		

Components
 Manifolds: Plastic Brass w/ valves Brass, no valves
 Tubing fasteners: Staple Wire ties Plastic ties
 Thermostats: Heat/cool Heat only

To use the radiant design module in Right-Suite, designers diagram a home using Right-Draw which automatically calculates heating and cooling loads using Right-J8 (the software version of ACCA's Manual J Eighth Edition loads calculation method). Heating and cooling loads are then instantly transmitted to the radiant calculations, where loop length and spacing are determined automatically. In addition to loop design, Right-Radiant also assigns loops to manifolds and balances manifold loads and temperatures. Designers can always fine tune the design by modifying key parameters, such as flow, directly onscreen. Since all calculations are done as the input is modified, you can play "What If?" with any aspect of the entire design.

Right-Radiant provides calculations for a complete range of tubing types, floor construction types, floor coverings, and loop configurations. Manifold / loop assignments can be modified via a drag and drop manifold design window.