

Southbridge Tire Company, Inc.

Geothermal Heating and Cooling

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*Climate Smart
Solutions*

GEOHERMAL FAQ

Q: I already have duct work. Will I save on installation?

A: Yes, provided that the duct work is properly sized to support the air flow required *and* it is insulated. Uninsulated duct work will sweat heavily when in air conditioning mode.

Q: I already have baseboard heat. Can I use geothermal to power it?

A: Not usually. Baseboard requires a water temperature of at least 180 degrees Fahrenheit to heat your home using the usual ratio of baseboard length to BTU's required. Geothermal can only heat the water to about 125 degrees, so you would need to add many feet of baseboard to make the plan work.

Q: I want to heat with radiant

A: Geothermal heat pumps are readily adaptable for radiant heating. They can even use chilled water in the duct coil instead of Freon when in the cooling mode. Be aware, though that adding radiant heat adds to installation costs as compared to doing the heating and the cooling both through the duct work.

Q How can you heat my house to 72 degrees with water that is only 45 degrees?

A: We don't. We use Freon compressed into a duct coil in the heating mode, or de-pressurized into the same coil in the cooling mode. The ground temperature is used to pre-heat the Freon for the heating mode or to cool it down in the cooling mode. This enables the equipment to operate as efficiently as if it were in a constant 40 to 50 degree environment.

Q: We have a lot of ledge. Does that make a difference?

A. Ledge is a very good conductor of heat .When we wish to transfer heat from the ground to the home or from the home to the ground, ledge is helpful, and the drilling rig is made to readily drill through it anyway. Where it can make things difficult is if it is in the way of the trench from the house to the well.

Q: Will the well be sticking out of the ground?

A: No the wells end about five feet below ground and the pipes turn and run horizontally through the foundation.

Q: How deep do you drill?

A: The heat load of the house determines the depth needed. Actually it determines the length of the underground heat exchanger needed. We then translate that length into one or more wells. We like to limit the depth of a single well to 450 feet, so if the heat load called for 900 feet of vertical heat exchanger, we would use two wells linked together. In general, the bigger the house the more vertical heat exchanger(well) is required.

Q: I heard you could use trenches instead.

A: Yes you can. This method may turn out to be cheaper, but only if the digging goes well or if you have exceptional resources for getting it done. The resulting system works just as well for either method.

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