

GEO THERMAL DOS & DON'TS

Geothermal Dos & Don'ts

For the Home Owner

Not many people have multiple experiences installing a geothermal heating and cooling system in their own homes. It isn't because its a bad experience, it is because the majority of people install geothermal in a home they plan on living in for a long time. Plus, geothermal loopfields, when installed properly, have an expected lifespan of 50+ years.

In other words, it can be hard to find someone that can really give solid advice about what to do and not do when purchasing a geo system and how to maintain the system properly once its installed. As a company we have had a lot of experience with geothermal installations for residences so we thought we would pass on what we have learned so far.

Before Purchasing or Installing Geo

Do

- ✓ Prioritize the reasons for considering a GSHP system, including costs, energy use, comfort levels and environmental impact (CO2 emissions). Cost considerations should include capital costs, operating costs, maintenance costs, and life-cycle costs.
- ✓ Ask about the installing contractor's credentials including IGSHPA Installer Accreditation status, years of experience, and customer testimonials.
- ✓ Enlist the services of a reputable design engineer and/or installation contractor.
- ✓ Ask about the method that was used to determine the peak heating and cooling loads. This will give some insight as to whether rules of thumb were used or if calculations were performed using an approved method. For residential/light commercial applications, ACCA Manual J load calculation procedures are recommended.
- ✓ Ask that a complete system warranty period or performance guarantee be provided by the installing contractor.
- ✓ Investigate methods to minimize space heating and cooling demand by incorporating energy efficiency measures in the home such as upgrading the insulation levels or by using heat absorbing, low-e windows. Check out the green home guide from the USGBC for ideas.

Don't

- ⊘ Expect initial capital cost to be lower than that for a conventional heating & cooling system.
- ⊘ Assume that the most expensive system will be the best option. Conversely, don't assume that the least expensive system will be the worst. If help is needed, find a company that will provide an independent, in-depth quote/design review to assist in choosing the option that will provide the best performance for the least cost.

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After Purchasing A GSHP System

Like any mechanical system there are some basic tips for maintaining and efficiently operating a geothermal heat pump system.

Do

- ✓ Check the air filter on a regular basis and change or clean it when necessary.
- ✓ Consider setting the fan to the "ON" position on the thermostat rather than the "AUTO" position. Doing so will allow the GSHP system to constantly circulate and mix the air in the home, keeping the entire space at a more uniform temperature.
- ✓ Request that the contractor provide an "As-Built" drawing for permanent record of what was actually installed. Ask that as much detail be provided as possible including pipe size, dimensions, exact loop locations, grout thermal conductivity value (if a vertically-bored or horizontally-bored system is used), and loop installation depth and configuration.
- ✓ Contact your contractor if you think a problem exists with your system. GSHP systems are the most reliable, environmentally-friendly, and efficient heating and cooling systems available so long as they are designed, installed, and controlled properly.

Don't

- ⊘ Don't use excessive thermostat setback controls during unoccupied periods in the home. It is best to keep the thermostat at a single temperature set point throughout the entire day.