

Covers & Enclosures for Geothermal Distribution System



British Columbia Based Energy Company

A large Canadian developer of geo-exchange heating and cooling projects has decided to use Fibrelite's lightweight composite covers & pots for their thermal energy distribution system. The company utilizes a proprietary system for drilling boreholes that allow developers to install geo-exchange energy systems into existing buildings or, while construction of a new building is underway. For purposes of providing convenient access to the distributed piping system, the geosystem company has chosen to specify Fibrelite's FL180 18" diameter composite access covers due to their superior strength and ease of removal.

Geo-exchange heating and cooling systems are designed to "exchange" heat between a building and the soil located below or around the building. A few feet beneath the Earth's surface, the soil temperature remains fairly constant year round, ranging from 45°F or so in northern latitudes to about 70°F in the south. Geo-exchange takes advantage of these constant soil temperatures to provide extremely efficient heating and cooling.

Advanced Design – Multiple Applications

Fibrelite is the world leading manufacturer of Fiberglass Reinforced Plastic (FRP) composite manhole covers. This sophisticated and highly specialized material is fast becoming recognized as the more effective modern alternative to traditional materials such as cast iron, steel and concrete.

Though other containment systems and manhole covers had been considered, the following benefits meant Fibrelite's FRP cover and enclosure were chosen for this project:

- Lightweight covers for easy and safe manual removal
- Watertight cover design prevents water infiltration into manhole
- Chemically inert & corrosion resistant
- Will not conduct electricity or heat
- Extremely strong and durable
- Option of personalized logo
- Zero scrap resale value

For more information on Fibrelite's product range please contact us:

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Fibrelite's 20" diameter enclosures

In the winter, the geo-exchange system circulates a fluid through a network of pipes buried in the ground that absorbs heat from the earth and carries it into the building to be used as heat. In the summer, the process is reversed: heat is extracted from the air in the building and transferred into the earth through the piping. The only external energy needed for the thermal exchange is the small amount of electricity needed to operate the pump or pumps that move the fluid through the piping network.

The connections for the piping network are enclosed within Fibrelite's 20" diameter enclosures installed beneath the Fibrelite FL180 access covers.

The geo-exchange company originally approached Fibrelite with the challenge of manufacturing an 18" diameter cover with a shallow depth that would maintain the load rating capabilities of a standard H20 manhole. Due to Fibrelite's advanced engineering and manufacturing capabilities, we were able to provide the customer with a product that met all of their requirements.



Network of pipes buried in the ground