

ASK THE INSPECTOR

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I'm considering having a pool installed at my home. What are my options?



When it comes to pools, there are many options: the type of pool, the type of heating, pumping, and filtering systems to be used, and the type of chemicals used to keep the water clean. Other considerations include safety devices that can be used to prevent accidents and the landscaping surrounding the pool.

There are two types of pools: in-ground and above-ground. In-ground pools come in a wide variety of sizes and shapes and differ in the materials used for their structure and liners. Similarly, there are different options available for the walls of above-ground pools. The pool wall structure of in-ground pools may be made of poured concrete, gunite (A concrete mixture that is sprayed from a special gun over steel reinforcements), plastic, steel, or fiberglass.

Above-ground pool walls are typically made out of vinyl lined steel or plastic. Poured concrete pools were once very popular, however due to the labour intensive installation requirements, gunite pools have become the concrete pool of choice.

Vinyl liners come in a variety of different shapes, including rectangular, L-shaped, kidney shaped, oval, etc. The life expectancies of vinyl liners typically range from 10-20 years. These pools may be installed above ground or in-ground and are the most popular style of pools for residential use due to their relative ease of installation and low cost. Fibreglass is usually associated with hot tubs; however pools may also be constructed using a moulded fibreglass shell placed in a hole in the ground or using fibreglass panels that are assembled on-site over a concrete base.

The soil conditions in the area where the pool will be installed must be considered prior to excavation. Ideal soil conditions would be undisturbed loam (i.e. equal mixture of sand, silt and clay). Clay, sandy, or wet soils all present challenges for the excavation and installation of a pool. A soils engineer can determine the type of soil on the property by taking and analyzing core samples. If the soil is expansive clay or

sand or if wet soil conditions are present, special considerations will have to be taken into account during excavation and pool wall support installation.

With all of the energy, chemical and safety requirements, what are some suggestions to reduce potential adverse environmental and safety concerns associated with owning a pool?

Pools are not necessarily good for the environment and inherently create potential safety issues. Between the electricity used to run the pump, the energy required to heat the water, the significant amount of water used to fill the pool (and keep it full), and the chemicals used to keep the water clean, one could argue that pools are in fact environmentally unfriendly. Advising people against installing a pool would be unreasonable; however, there are some tips for limiting the environmental damage, improving the efficiency and creating a safe environment for its users:

Equipment

Pool pumps are used to circulate pool water. They use a significant amount of electricity and should be run as little as possible. Determining the amount



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of time the pump needs to run daily is an exercise in trial and error. Start by running the pump for 6-8 hours a day and see what the resulting water conditions are. If the water is clear, gradually reduce the amount of time the pump runs each day until an effective operation time is determined. If it is cloudy, slightly increase the amount of time the pump operates until the least amount of time the pump is required to produce clean water is determined. Installing a timer will make controlling the pump easier and more convenient.

To maintain a comfortable water temperature (especially in our colder climates) pool heaters are often utilized. Pool heaters can be electric, natural gas, or propane. They also range in size depending on the amount of water in the pool. Pool heater's efficiencies can be increased by maintaining the lowest possible comfortable temperature and using a solar heating blanket over the pool when it is not in use. A blanket can also reduce the amount of water that evaporates from the pool. Alternatively, many different forms of solar heaters are available to heat pool water that will eliminate the need for a pool heater altogether.

Landscaping

In addition to solar blankets, landscaping can reduce the amount of water evaporation that occurs from the pool.

Chemicals

To keep the pool water clean, chemicals, such as chlorine, are required to kill bacteria and algae. These chemicals are harmful and should be treated and stored with great care. Since chemicals have a shelf life, they should be purchased on an as-needed basis and should not be stored for long periods of time. To limit the amount of chemicals that are used, the amount of organic material in the pool should

be limited. Debris (leaves, bugs, etc) should be cleaned from the pool regularly and pool users should be clean prior to entering the water.

Safety

Safety around a pool should always come first. Most, if not all, municipalities and cities have requirements regarding fencing around pools to prevent unauthorized entry. Regardless of local requirements, a tall fence (at least 5 feet) with a self-closing and locking gate should be installed around any pool. Pool alarms sense the opening of a gate or a large object entering the pool. Children should never be left unattended; however there are sensors available for children's wrists that will sound an alarm if the child enters the water. Ground Fault Circuit Interrupters should be installed on all of the pool's electrical equipment and on any receptacles around the pool area. The interrupters sense a loss of current and turn off power to the equipment in the event of an electrical shock.

What type of maintenance is required and what are the typical life expectancies for pool equipment?

The largest aspect of pool maintenance is the water quality. Left to its own devices, the water in the pool would eventually become dirty and murky due to algae growth and organic materials from surrounding plants and the bodies of users. Chlorine is the most widely used disinfectant to kill bacteria, prevent the growth of algae in the pool, and ensure healthy water quality. Maintaining appropriate chlorine levels in the pool is important to ensure good water quality; too little chlorine may mean an elevated amount of bacteria and too much chlorine results in unpleasant odours, damage to pool equipment and may lead to eye and

skin irritation. Testing the residual chlorine levels in the pool should be performed daily. Ideal residual chlorine levels should be between 1.0 to 3.0 PPM (parts per million).

The pH level of the water must also be maintained at an appropriate or neutral level to protect the pool's equipment and ensure the users' comfort. If the pH level is too low (or acidic) the water will be corrosive to metal whereas if the pH is too high (or alkaline) a white deposit can form on the pool equipment and/or walls. The pH levels in a pool can be adjusted by adding acids or bases and should be maintained at levels of 7.2 to 7.8 to enhance comfort.

In colder climates, the pool should be closed or winterized in the fall and then re-opened in the spring. Most pool supply companies either have seminars or a service where they open and close pools for the season.

Most pool equipment, including the pump, filter, heater, and vinyl liner, have a life expectancy of about 10-20 years. Regular maintenance and care will prolong the life of the equipment.

The Standards of Practice of the Canadian Association of Home and Property Inspectors excludes pools and pool equipment; however some home inspectors may offer varying levels of pool inspection. If you are not familiar with pool equipment or maintenance, it is advisable to have a pool contractor review the equipment and demonstrate required maintenance activities upon taking possession of a home with a pool.

Contact Us: