

Swimming pools in the '90s

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Abstract:

Well-maintained swimming pools included with multiple-family properties enhance occupancy rates. However, the pools present managers with challenging maintenance and repair duties. The duties include maintaining and renovating the pool finish, pumps and filters, and other necessities such as pool covers, float lines, and handrails and ladders. Devices for making maintenance easier include automatic chlorinators, cleaners, and water level valves. The daily maintenance tasks that managers should perform include cleaning strainers and skimmers, checking filter gauges, and testing the chemical balance of the water.

Today many multiple family properties encompass inground, commercial swimming pools. This presents the manager with the challenge of maintaining a vital seasonal facility.

Many changes in swimming pool technology have occurred over the last few years. It has, therefore, become imperative that the manager perform a survey of the aquatic facility each year before opening. You may wish to perform the inspection with the pool manager and pool service company, if you utilize these services.

Fencing

It is important the pool area be surrounded by an adequate, four-sided fence. It is preferable to have fencing that children are not prone to climb. Fencing should be set back far enough from the pool area so that, if climbed, it does not act as an elevated surface for children and teenagers that want to dive.

Aluminum fencing is probably the most desirable type of fencing since it is durable and relatively maintenance free. However, individual conditions and circumstances should be taken into account in selecting fencing.

The Consumer Product Safety Commission has reported that the drowning deaths of children under five years of age is the largest cause of fatalities after automobiles. Good pool fencing with self-latching gates will certainly slow active toddlers. During your inspection, verify that the fence is in good repair and the gates operate properly. The self-latching mechanism should be four feet above ground.

Signs and markers

Since the pool will be used by your members as well as their guests, it is important to have up-to-date, adequate signs and markers. There is a debate regarding what constitutes adequate" and what types of signs and markers will help prevent serious accidents.

Each property manager must survey the market and determine which signs and markers are state of the art and will conform with their particular pool usage patterns. It must be remembered that no sign will stop an impulsive youth acting irrationally and bent on self destruction. Standards covering commercial pools, which address marker size and placement, are available from the National Spa & Pool Institute (NSPI).

The pool rules must be posted at each entrance to the pool area and should include prohibited and permitted activities, hours of use, when lifeguards are on duty, and so forth.

In recent years, a lot of attention has been devoted to studying diving boards and pool slides. The current standards require slides to be placed in water of moderate depth (about 5 feet) and diving boards rated for specific depth/size configurations. This may require relocation of your pool slide or replacement of the diving board.

It should be verified that diving boards and their fulcrum spacing conforms to the profile of the diving area of your pool. A sign instructing proper use of the diving board and the "steer up" concept should be mounted in the diving board area. Pool areas other than diving board locations should be marked "No Diving-Shallow Water."

Pool finish

Most commercial pools are concrete with a cement-type plaster. In time, this surface will become stained and discolored, and will need renovation. There are a number of paints and finishes available for pools. These include chlorinated rubber, water-based paint, epoxy, fiberglass, and polyester resin.

Uncoated plaster finishes are falling from popularity, as plaster reacts with chemicals and causes the pH to fluctuate. The epoxy finishes have grown in popularity due to their smooth, non-porous surface which does not stain. However, the epoxy finishes and chlorinated rubber require a long curing period and must be applied to an absolutely dry surface.

The water-based paints are not as difficult to use and have gained in popularity due to their forgiving nature. No solvent vapors escape during curing and water-based paints are easy to clean. Also, these finishes can be expected to last two to three years.

The fiberglass and polyester resin finishes are more difficult to apply but adhere to any surface including gunite, plaster, wood, and metal. These finishes have a much longer lifespan and usually appear new after five years. Being non-porous, there is virtually nothing that can happen that can not be treated. This is a very hard surface that resists chipping and cracking.

As with any finish, the surface preparation is very important. The pool is usually acid washed and carefully scraped to remove all loose material. Any repairs to the surface should be done at this time. If repainting is needed, any repaired areas should be primed to achieve a proper bond.

One very important area of the pool that is often overlooked is the expansion joints in the pool shell. Bigger pools often have expansion joints that are filled with an elastic sealant to provide flexibility and a watertight seal. But over the years, these areas often become brittle, crack, and leak. If the joint is hard, brittle, or cracked, it is a candidate for replacement.

Some of the paint and finish manufacturers have how-to books and videos outlining surface preparation and finishing. This is ideal for your own maintenance people.

Pump and filter

The pump and filter equipment must also be checked thoroughly. The pump and piping are easier to check when operating. Any leakage from flanges or valves should be repaired. The motor should be inspected for noise, vibration, and leakage.

An amperage reading to verify the pump is operating within the motor plate electrical specifications is also recommended as this can signal oncoming problems. Very often noise and vibration can be traced to the bearings which are easily rectified by a motor overhaul at a local rebuilder.

The filter tanks should be checked for leaks, operating guards, and valves. Refer to the instructions supplied with the equipment for maintenance procedures. It is a wise idea to have all valves that operate the filter system marked with permanent tags as to their function. This may prevent equipment damage if a wrong valve is operated.

The proper procedure for filter operation and backwashing or cleaning should be posted adjacent to the filter equipment.

Other necessities

* Pool covers. Many pools now have covers to keep the pool clean and retain the heat. It is especially important that the cover be completely removed and stored when the pool is open. If a person swims under a cover they may become trapped without air and could drown. The cover should also have instructions on its use and safety precautions.

* Float lines. Pools with deep areas should have a rope and float line across the pool, where the shallow area starts to drop off toward the deeper water. This rope should be checked to be sure it is in good condition and the ends are securely fastened.

* Rail goods. All rail goods (ladders and handrails) should be securely mounted into their sockets and the sockets covered with an escutcheon. Any unused sockets should be covered to prevent a tripping hazard. Pool stairs should have one or two handrails to assist people, prevent slipping, and provide a visual reference for underwater stairs.

* Deck tile and coping. While walking around the pool, make a note of any loose or damaged tiles or coping pieces that need to be reset or replaced. This is easily done by using some of the new epoxy-based adhesives available. Notice also the condition of the decks, and look for cracks and settling which can cause tripping or ponding of water. These should be repaired.

There are presently a number of two-component epoxy deck coating systems and high-solid deck paints available in earth tones and pastels. These can vastly improve the appearance of old discolored or patched decks. The coatings are fairly easy to apply and can have a surface life of four to six years.

* Lids and grates. Check all the skimmer lids and overflow grates to be certain they are not cracked and are fastened in place. Also inspect the pool return lines to verify the directional fittings are in position.

Special care must be given to the floor drains at the bottom of the pool. Be certain that they are in good condition and securely fastened. Check with your pool service company to see if an anti-vortex grate or lid is available for your pool. This will minimize the possibility of an entrapment occurring on floor drains.

* Lighting. Your pool area should be illuminated during the night to help prevent tripping accidents. Check the operation of all fixtures and the timers or photocells that operate the lights. It may be necessary to prune plantings if the lights have become overgrown.

New technology

Many devices have come onto the market recently to make pool maintenance easier. A few of the more popular ones are described below:

* Automatic chlorinators. These devices have a cylinder in which you place slow dissolving chlorine tablets. When the pump is operating, the tablets are being slowly dissolved, and the chlorine is introduced back into the pool. These are also available for bromine and lithium,

* Automatic pool cleaners. There are a multitude of pool cleaners that travel around the pool floor and walls and vacuum up the dirt into a cartridge or to the pool filter through a hose. These can be placed in the pool, in the evening, and the pool will be completely vacuumed by morning. This is a real labor-saving device.

* Automatic water level valves. These float-type valves are usually located in a skimmer to add make-up water automatically, keeping the pool at an optimum level to ensure good filtration.

* Ozone generators. These electrical devices generate ozone (O₃) which is a gas. This is extremely effective at purifying water by killing viruses, bacteria, and so forth. Ozone is recommended to be used in conjunction with chlorine to improve water quality.

* Heat exchangers. Since almost all of your buildings are air conditioned, your air conditioner or cooling tower discharge water is an ideal "free" heat source to use in conjunction with a heat exchanger to heat your pool water. The efficiency of these has improved substantially and can save money from a fuel-fired pool heater.

Maintenance

Each day it will be necessary to clean the strainers in the skimmers and the pump. Check the filter gauges to determine when filter cleaning is necessary and test the chemical balance of the pool water.

The test kit must test for alkalinity, which should be maintained between 80 and 100 ppm (parts per million). Each one-and-a-half pounds of baking soda will raise 10,000 gallons of water 10 ppm. If the alkalinity goes unchecked, it can cause scaling, corrosion, and staining of the pool finish.

Also test for pH balance, which is the acid/alkaline balance of the pool. The pH should be kept between 7.2 and 7.6. The acid level can be raised by adding muratic acid in small quantities. Always wait four hours before retesting so the chemicals have time to disperse into the pool water.

Chlorine is the most widely used disinfectant. It is available as a powder, tablets, liquid, and a gas. The gaseous form is supplied in cylinders and usually found only on large pools. The chlorine level should be maintained between 0.6 and 1.0 ppm to provide an adequate disinfection level. A heavy bather load will require higher than normal doses of chlorine.

Approximately every 10 days, the pool should be shocked (superchlorinated) to retard growth of algae and oxide. Shocking 's doubling the normal daily dose of chlorine for one day. A quick-dissolving chlorine (powder or liquid) is generally used for shocking.

Conclusion

There are many safety procedures and regulations that must be followed. This short article certainly does not adequately address them all. Therefore, it is necessary to follow the directions on the chemical containers and use a pool operators' handbook containing information on chemicals, safety, maintenance, supervision, and first aid. This handbook should be reviewed by the operator and readily available.

A well-maintained facility with sparkling blue water is an irresistible temptation in hot summer weather. It may make the difference in the occupancy rate of your building.

Spring Checklist

* Fencing and gates

* Signs and markers

- * Pool covers
- * Rope and float lines
- * Ladders and handrails
- * Deck, tile, and coping
- * Lids, covers, and grates
- * Lighting
- * Pool finish and expansion joints
- * Pump and filter