

CONSTRUCTION AND AMENITIES

Pool Layout And Size

A well designed pool shape and water distribution system will reduce the occurrence of dead spots and enhance the action of disinfection. Pool water should be supplied through protected inlets at a pressure that will not "throw" incoming water into the face of a bather. Scum gutters or overflow weirs are extremely important to remove contamination and should be provided at least along two opposite sides. Pool depth should be marked at regular intervals.

Pool Construction

The pool should be constructed using smooth, impervious materials capable of easy cleansing, and be light in color. There should be no projections into the pool and ladders and lane divider hooks should be recessed. The pool surrounds should extend at least 1m from the pool and should be graded away from the pool and drained to waste. The surrounds of indoor pools should also be drained to waste to prevent extraneous chemicals from entering and placing excessive demands on the pool circulation system. Care should be taken to ensure that the pool surround is not slippery when wet and that all butt joints are flush to prevent injury. Footbaths are not recommended.

Water Temperature

Where spa pools are heated the temperature must never exceed 100° F and signs should be displayed restricting bathing to 20 minutes at this temperature. Warmer temperatures favor bacterial growth, such as *Legionella* in filter media, which may be transmitted by aerosols in spa pools. *Pseudomonas aeruginosa* survival and growth is enhanced at pool temperatures exceeding 80° F and this fact is reflected in the chemical criteria.

Pool Plant And Turnover Rates

Pool plant should be designed to meet the following maximum pool volume turnover periods (exclusive of balance tanks):

Maximum Pool Turnover Periods

Spa and bubble pools

Pools < 1.5 feet deep ½ hour

Pools > 1.5 feet but < 3 feet deep 1 hour

Pools > 3 feet but < 5 feet deep 1½ hour

Pools > 5 feet but < 6 feet deep 2 hour
Pools > 6 feet but < 6.5 feet deep 2½ hour
Pools > 6.5 feet but < 10 feet deep 3½ hour
Pools > 10 feet deep 5 hour

The above maximum turnover periods should be applied to all pools on a zoned basis such that the water distribution system serving a varying depth pool is designed to produce different turnover rates as required.

Filtration systems should run 24 hours per day except when backwashing. The pool plant for public pools must provide continuous dosing of disinfectant and continuous filtration while the plant is in operation. A balance tank should be considered in the design of pools where the depth exceeds 3.5 feet.

Due to recent outbreaks of *Cryptosporidium*, which is introduced through accidental fecal contamination, it has been recommended that pools patronized by non-toilet trained toddlers should have a separate circulation system. The cysts of *Cryptosporidium* are not totally removed by filtration, as the cyst size is about 4 – 6 microns where most filters remove particles greater than 10 - 15 microns. Flocculation and coagulation agents assist in cyst removal only from the water passing through the filter and not the remaining body of water in the pool. Successive filtration turnovers eventually reduce the numbers of cysts. Fortunately, the cysts do not multiply in swimming pool water, as they need a host animal.

Dressing Rooms

Floors should be coved at corners, graded and drained. Matting made from natural or woven materials should not be used. Adequate artificial and natural lighting and ventilation should be provided. Benches should be constructed of smooth impervious material and if wood is used it should be maintained by a lacquer or tough paint in a light color. All floors, walls and ceilings should be light in color. Lockers should be inspected and cleaned weekly.

Toilets

Toilets should be located within the dressing room close to the pool entry. It is extremely important to encourage toileting prior to bathing, as urine is the most polluting material to enter a pool or spa. Toilet numbers should be designed for intended loads. Additional toilets may be necessary for spectator areas in larger pool and complexes. Toilets should be cleaned twice daily and toilet paper provided. Provision should be made for separate disposal of sanitary pads, napkins and tampons.

Showers

An adequate number of showers should be located in the dressing room in positions where patrons have to pass by them before entry to the pool area to encourage pre-showering. Soap should also be provided when possible. Signs should be erected to encourage showering before swimming. Cleaning should be performed daily with disinfection of shower floors and weekly scrubbing to remove soap accumulation.

Handbasins

Handbasins should be located adjacent to toilets and ideally soap should be provided.

Garbage

Adequate garbage bins should be provided particularly in the spectator and lawn areas, and adjacent to any food service area. Bins should be emptied as necessary and the garbage bagged or bin liners used. Bulk garbage should be stored in a secure area and should preferably be located in the shade. The storage area should be maintained in a clean condition and free from vermin.

Food Service

Any food service shall comply with the provisions of the current food safety code(s), and local authority food premises codes. No products including food products should be sold in glass.

First Aid

First aid equipment and a sick bay should be provided as appropriate.

Ventilation

Adequate fresh make up air for indoor pools is necessary to dilute volatile air contaminants.

Towel Service

Towel hire is not recommended but where provided separate storage facilities should be provided for clean and used towels. Used towels should be laundered as soon as possible, using commercial laundry facilities.

Springboards

Springboards should not be covered with matting.