

Swimming pool covers – operation and safety issues

Fitting a pool cover has a number of advantages, they help to:

- conserve energy, they can save up to 20%
- reduce cost, a 1-3 year pay-back period
- protect the building structure, reducing maintenance requirements

However if your pool has been designed to recover energy in other ways for example by energy management systems using heat exchangers or if the design of the pool area is such that heating and ventilation must be maintained constantly then pool covers may neither be appropriate or desirable, so check first.

Pool covers may be either manually or electrically operated. In the case of manual operation then consideration needs to be given to the staffing level available to perform this function at the end of, and prior to the commencement of pool operation hours. Evaluation may in some circumstances show that electrically operated covers may be more economic over time than a manual cover since they often require less staff to operate them, are easier to operate and are therefore more likely to be used consistently and thus give greater savings.

Installation

Materials and standards should be at least to the minimum indicated on current British Standards or Codes of Practice or equivalent EC standards where applicable.

Materials should be of appropriate thickness for safety reasons. Tube and shaft diameters should be selected to ensure minimum deflection of the tube and safe support of the roller as the pool cover's weight increases with age.

It is also particularly important that these systems are serviced on a regular basis with particular attention paid to the various fixings.

Grade 316 stainless steel or better should be the criteria for construction materials to ensure against corrosion and this will need washing down weekly.

Alternatively duplex coated steel (coated galvanised steel) appears to withstand pool atmospheric conditions.

Electrical

The electrical installation on motorised units should be carried out by persons suitably trained, qualified and experienced with the class and type of equipment used, in accordance with IEE regulations, BS7671, the Health & Safety Executive and any local regulations that may apply.

Where the motor and operating panel are located on the pool surround they should be enclosed in a secure housing with lockable access. Ideally, however, it would be beneficial for them to be sited away from this area.

See Electrical Regulations Sixteenth Edition concerning electrical equipment in swimming pools – this may limit the position of a motorised system within the pool hall.

Design

The pool cover should fit over the maximum amount of pool surface area possible to give the greatest return, given sufficient clearance from the poolside to prevent snagging.

The pool cover should be sited in a position to maintain safe access for people passing by the apparatus on the pool surround.

The hazard of falling onto a pool cover and becoming trapped

There are a number of means of preventing this occurrence which is potentially life threatening. For example, where risk assessment shows that securing the pool area from access from all personnel other than staff trained in the use of the pool cover are present then this may be sufficient to adequately manage the risk.

In other situations where security of the area is not achievable then other precautions will be necessary. One means of preventing or minimising this hazard is by ensuring that the pool cover is capable of supporting the weight of a person walking or falling onto it. The proposed European Standard for Swimming Pool Operation requires pool covers to be able to withstand a load of 1000 Newtons over a 0.5m area in the most vulnerable position. This can be achieved by ensuring the characteristics of the cover have this load bearing potential or by securing a cover of sufficiently robust material to bear any likely loads to fixings around the pool. This principle is difficult to achieve where mobile reel covers are used in which case extra precautions to safeguard against accident, perhaps using stainless steel cables to fasten the reel in a secure position to stop the reel being pulled into the pool.

Operational

Operating instructions in relation to the equipment should be included in the Normal Operating Procedure of each facility. The Emergency Action Plan should detail the action to be taken in the event of an emergency associated with the use of the pool cover such as electrocution or someone falling onto the cover.

Operational and safety training should be given to all relevant staff. On new installations this may be provided by the manufacturer/installer but specific ongoing training should be available to train and retrain new staff as correct usage will extend the life of the pool cover. All training should be recorded. During the operation of applying and uncovering the pool it should be supervised in order that immediate corrective action may be taken in the event of a malfunction.

Automatic units should be operated by a key and should be fitted with an emergency stop button. Automatic pool covers should have the facility to be removed manually in the event of motor failure.

Well maintained, a pool cover should have a life expectancy of more than 5 years.

Storage and cleaning

Ideally a conventional pool cover should be stored off or above the pool side in a well ventilated position to help prevent it being in a continually wet condition which can encourage bacterial colonisation. If located on poolside the pool cover should be stored in such a manner so as not to present a safety hazard to staff and customers. The cover should be inspected on a weekly basis to ensure that it is clean and hygienic and not showing any signs of the growth of bacteria, for example pseudomonas or bio films. From time to time it may require cleaning with a 10% bleach solution or similar disinfectant to help ensure colonisation does not take place and pose a threat to bather health.

Placing the pool cover on the pool

The pool should be completely empty of swimmers before commencing to pull the cover onto the pool. Swimmers should never be allowed into any part of the pool whilst the cover is in operation. Allow a period of say 30 minutes to elapse before putting the cover in place for an effective surface water draw off system to remove any contaminants from the water surface which otherwise may be transferred to the underside of the cover.

When the pool cover is in position on the pool, access to the pool hall should be restricted to authorised persons only. The area should be secured to prevent access.

Energy saving practice

To obtain maximum energy savings, once the cover is in place leave the ventilation plant and heating running for 30 minutes to remove humidity from the pool hall. Heating and ventilation can then remain off or run at a reduced level throughout the closed period. 30 minutes prior to the cover being removed, the heating and ventilation system should be restored to raise the temperature of the pool hall and internal surfaces to close to that of the pool water. This can, however, only be practised where the building insulation is sufficient to prevent condensation. You may find it necessary, particularly in cold winter weather to provide some background heating and ventilation.