
 GOVERNMENT OF DUBAI	<b>Organization Unit</b> <b>Public Health &amp; Safety Department</b> الوحدة التنظيمية:
	<b>Form sheet title:</b> <b>Guidelines for Swimming Pool Safety</b> اسم النموذج:
	<b>Doc Ref.</b> <b>DM-PH&amp;SD-P7-TG01</b> رقم النموذج:
 بلدية دبي DUBAI MUNICIPALITY	

# Swimming Pool Safety

**Background:** Local Order No. 11/2003 covers Regulations for the planning, construction, maintenance/operation and safety of swimming pools.

In compliance with the Local Order, all applications for the construction of a Swimming Pool shall be submitted to the Public Health and Safety Department in the prescribed manner together with all relevant information and detailed plans of the Swimming Pool

The Public Health and Safety Department, upon verification that all safety aspects have been incorporated, approves the construction/operation of the swimming pool. This guideline further explains for the planning, construction, maintenance and safety of swimming pools.

## **Guidelines:**



### **General**

The design of the swimming pool shall incorporate the safety and hygiene aspects in accordance with Local Order 11/2003 and its executive regulations. The design shall cover:

1. Filtration system and re-circulation of pool water
2. Disinfection of pool water
3. Other control measures for safety and hygiene to be taken at design stage and operational time.

### **Safety Equipment and Life Guards**

1. Adequate number of safety Equipment for persons using the swimming pool shall be provided.
2. Resuscitation equipment using ordinary air shall be provided at all commercial and public pools. Any person using resuscitation equipment shall be trained and qualified for its use.
3. First aid box with medicines and equipment shall be provided at swimming pool.
4. A qualified lifeguard is necessary at a public swimming pool. Such a person must be on duty when people are swimming.



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5. Life guard must be trained in cardio-pulmonary resuscitation and in approved techniques for life saving.
6. Life ring and lift shall be provided.
7. Safety precautions against the potential hazards of chlorine gas leak shall be taken.
8. A gas mask used for the chlorine atmosphere shall be kept in an unlocked cabinet outside the chlorine cylinder room.
9. There should be a responsible person for carrying out maintenance of the swimming pool and the filtration & disinfectant system.
10. There should be daily supervision for water quality and taking samples for checking chlorine, pH, and temperature levels. These readings should be registered in a logbook. Samples should be taken once in 15 days for calcium hardness, alkalinity and cyanuric acid and these readings should also be entered in the logbook.

There should also be compliance for different standards as shown in the schedule below.

#### POOL WATER STANDARD QUALITY REQUIREMENTS

TEST	PERMITTED RANGE
Free Chlorine	1 – 2 mg/ liter
Bromine	2 – 4 mg/ liter
PH	7.4 – 7.6
Total alkalinity	70 – 100 PPM
Calcium Hardness	100 – 500 PPM
Saturation Index	-0.5 to 0.5
Cyanuric Acid	20 – 60 mg/ liter



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11. The Swimming pool water should be tested for microbiological parameters every two month.

The Maximum allowable limits are shown in the table below:

Parameters	Limits
Total Coliforms	0 MPN/100ml
Fecal Coliforms	0 MPN/100ml
Heterotrophic Plate Count	1,000 CFU/ml
Ps. Aeruginosa	0 CFU/100ml
Fecal Streptococci	0 CFU/100ml

12. The pool deck should not be used for any purpose other than what it is meant for unless it is sure about the safety of the public.
13. The swimming pool should be secured when it is not in use.
14. Avoid putting slides in the pool. In case they are available they should be supervised by a responsible person.
15. In case there are children pools attached to the main pool that are used by adults, there should be in place some barricades or obstruction to avoid children from entering the main pool.
16. Swimming pool should be clear from any obstacles or objects that may affect the swimmer or could be harmful to them like additional pipelines for fountains or any sharp edges.
17. There should be one water entrance inside the pool for each 45 Cu. Meters of the swimming pool volume.
18. Steps in swimming pools are allowed only if the water level is shallow and does not exceed 1 m.
19. Signboards should be located in a clear, unobstructed area very close to the swimming pool and easy to be read by the swimming pool user and should be in both Arabic and English.



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20. Avoid changing swimming pool design or adding diving board or changing their position unless returned back to Public Health and Safety Department for approval.
21. In case if the swimming pool is in a closed area, it should be ventilated properly.
22. Swimming pool flooring should be light in color and easy for cleanliness.
23. The Swimming pool shall be free from any algae. Black, Yellow (Mustard), Brown, Blue-Green algae can indicate unsanitary conditions.
24. The swimming pool water shall be clear. Poor water clarity is a hazardous condition that can indicate unsanitary conditions, filter/pump not functioning properly, low/excessive sanitizer levels, improper PH, inadequate filter size and/or inadequate turnover time.
25. The Swimming pool shall be vacuumed and cleaned on regular basis. It should be free from any floating debris, sediments and/or undesirable materials.
26. All swimming pool accessories should be made from anticorrosive material.
27. The retention time for swimming pool water should not exceed 4 hours.
28. There shall be an emergency switch next to each Jacuzzi in an accessible point to be used in case of any emergency.

## Functional Equipment

### 1 Ladders, Recessed Steps, Stairs and steps

- Steps and ladders shall be provided if depth exceeds 0.6 m.
- At least one ladder shall be provided for each 30 m of the pool perimeter.
- The pool ladders shall be corrosion resistant and equipped with non-slip treads. There shall be clearance of 90 mm from the wall.
- If recessed steps are provided they shall be of non-slip surface, self-draining, minimum tread of 150 mm and minimum rise of 350 mm to be provided.

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- Side handrails extending above and returning to the horizontal surface of the pool deck shall be provided at each side of each ladder or recessed steps.
- Pools with steps may only be permitted in shallow pools not exceeding 1m.

## 2. *Showers and Foot Baths*

Showers and footbaths should be provided at 25 m intervals around the perimeter of the pool. Signs must be posted asking bathers to shower before using the pool.


## 3. *Toilets and Changing Room Facilities*

All swimming pools shall be provided with toilet and changing room facilities as shown below:

SIZE OF POOL	FEMALE				MALE				
	WC	WB	BR	BH	WC	WB	UR	BR	BH
Less than 150 sq. meters	2	1	2	2	1	1	1	2	2
151 sq. meters to 300 sq. meters	2	2	3	3	2	2	2	3	3
301 sr. meters to 900 sq. meters	3	3	4	4	3	4	4	5	5
901 sq. meters and above	3	4	5	6	4	5	5	8	10

## 4. *Diving Towers, Platforms and Boards*

1. At least 5 m of unobstructed headroom above the diving boards or towers shall be provided.
2. Diving boards or platforms shall be entirely covered with non-slip materials.

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- The minimum depth of water for any diving board placed 1m or less above the water shall be 2.5. m. The diving depth for boards above 1 m. shall be increased 0.3 for each meter or fraction thereof above 1 m.

Horizontal separation of 3 m shall be provided between adjacent diving boards and between any diving board and the sidewall.

#### 5. *Lighting*

Pools, designed for use at night shall be illuminated either by underwater or overhead lighting or both to ensure that all areas of the bottom of the pool as well as the entire volume of the pool are well illuminated without creating any reflections, glares, burns, electrical shock or mechanical injury to both the swimmers and life guards.

Electrical circuits shall have earth leakage circuit breaker and be shown in the drawing.

#### 6. *Depth Marking*

Depth of water shall be plainly marked on the edge of the deck and pool wall at maximum points, at points of break in slope.

#### 7. *Deck*

A deck equal to or more than the pool area shall be provided. The deck should have a non-slip surface, sloped so that surface water cannot enter and contaminate pool.

The decks shall be sloped 1 in 40 minimum away from the poolside. Sufficient deck drains shall be provided to prevent puddles.

#### *Pool Filtration*

**PURPOSE: TO REMOVE DIRT & DEBRIS FROM POOL SURFACE, WALLS & FLOOR**



##### 1. **Outlet Drain**

Outlet drain is to be located at the bottom base of the pool to drain of accumulated dirt. It also facilities to completely drain the pool for maintenance purpose.

##### 2. **Skimmers:**

Purpose: To remove floating dust, debris, leaves and oil films.

##### 3. **Hair and Lint Strainers**

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**Purpose:** They catch hair and large particles which could otherwise accumulate inside the system to clog pump, piping or filter.

Hair and lint strainers shall be cleaned daily to make efficient operation of re-circulation system.

#### 4. Filter

The filter removes insoluble, suspended matter from the recirculated water.

After the repeated re-circulation of swimming pool water through filter, its media voids get filled up with dirt resulting in increased resistance to flow. The filter then requires backwash operation. Three principle types of filters for swimming pool are:

1. Diatomaceous earth filter
2. Rapid sand filter
3. High rate sand filter.

Complete filter details showing position of different valves, access opening, air release valve, pressure gauges, sight glass, sampling taps at inlet, outlet pipes of filter, chemical tank details shall be available.

#### 5. Disinfecting Equipment

The pool shall be equipped with suitable equipment capable of feeding disinfectants, coagulants and chemicals. Chlorine/Bromine tablets, due to its high acidity value, as well as any other chemicals shall not be placed in a skimmer.

**FURTHER INFORMATION IS AVAILABLE FROM  
PUBLIC HEALTH AND SAFETY DEPARTMENT**

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