

CHAPTER 5

WATER QUALITY, TEST KITS, RECORD KEEPING

Section 1. Water Quality.

(a) The water quality for pools, spas and similar installations shall meet the criteria outlined in the following charts:

Sanitizing Levels	Minimum	Ideal	Maximum
Free Chlorine, ppm	1.0	2.0-3.0	8.0 ¹
Free Chlorine, ppm - spas	2.0	3.0-5.0	8.0 ¹
Combined Chlorine, ppm	None	None	0.5
Bromine, ppm	2.5	2.5-6.0	12.0 ¹
Bromine, ppm - spas	4.5	5.5-7.5	12.0 ¹
¹ Refer to product label for maximum level.			

pH Levels	Minimum	Ideal	Maximum
pH	7.0	7.4-7.6	7.8

Water Clarity	Minimum	Ideal	Maximum
Water Clarity	Bottom and main drain grate design, clearly visible from the deepest part of the pool, spa or similar installation.	N/A	N/A

Temperature	Minimum	Ideal	Maximum
Temperature, EF	N/A	78-82	98
Temperature, EF - spas	N/A	102 or less	104

Stabilizer, if used	Minimum	Ideal	Maximum
Cyanuric acid, ppm ¹	None	10.0-40.0	100.0
¹ Cyanuric acid shall not be used in indoor pools, spas or similar installations or brominated pools, spas or similar installations without approval from the regulatory authority.			

Chemical Parameters	Minimum	Ideal	Maximum
Total alkalinity, ppm as CaCO ³	60.0	80-100.0 ¹ 100.0-120.0 ²	180.0
Total dissolved solids, ppm	300.0	1000.0-2000.0	5000.0
Calcium hardness, ppm as CaCO ³	150.0	200.0-400.0	500.0-1000.0
Heavy metals	None	None	None
¹ For the following sanitizers: calcium hypochlorite, lithium hypochlorite and sodium hypochlorite.			
² For the following sanitizers: Sodium dichlor, chlorine gas and bromine compounds.			

Biological Parameters	Minimum	Ideal	Maximum
Algae	None	None	None
Bacteria	None	None	None

Oxidation Reduction Potential (ORP)	Minimum	Ideal	Maximum
Oxidation Reduction Potential (ORP), mV ¹	650	N/A	N/A
¹ When chlorine or bromine is used as the primary sanitizing agent, ORP/HRR can be used as a supplemental measurement of proper sanitizer activity. The use of ORP testing does not eliminate or supercede the need for testing the sanitizer level with standard test kits, as the ORP reading may be affected by a number of factors including pH, probe film, cyanuric acid and others.			

Section 2. Water Quality Testing, Frequency.

- (a) Operators of public swimming pools, spas and similar installations shall test

the water for sanitizing levels, pH levels, water clarity and water temperature at the following minimum frequencies when the pool, spa or similar installation is open for operation:

- (i) Once prior to opening for operation;
- (ii) Every four (4) hours during operation; and
- (iii) Once prior to closing the operation.

(b) If, at any time, testing indicates the pool, spa or similar installation water does not comply with any of the applicable parameters listed in section 2(a) above, the operator shall immediately close the pool, spa or similar installation.

(i) Once testing indicates the water has reached compliance with the applicable parameters listed in section 2(a) above, the operator may re-open the pool, spa or similar installation.

(c) The swimming pool or spa water shall be tested for total alkalinity and calcium hardness at least once each week the swimming pool or spa is open for use.

(d) If cyanuric acid or a stabilized chlorine is used at a swimming pool, the water shall be tested for cyanuric acid each month the pool is open for use.

(e) Water testing results shall be recorded as described in Chapter 1, section 10(a)(i).

(f) Due to the unique nature of mineral water, natural mineral flow through pools are exempt from the clarity parameters described in section 1(a) of this chapter.

(g) At any time the water clarity becomes a swimmer's safety factor such as bottom visibility in the professional judgement of the operator or lifeguard, the pool shall be cleared of all users.

Section 3. Spa and Flow Through Pools; Draining and Refilling.

(a) A spa pool shall be drained and refilled with fresh water at least once every two (2) weeks.

(i) The date and time the spa pool was drained and refilled shall be recorded as described in chapter 1, section 10(a)(i)(E).

(b) A flow through pool shall be drained and cleaned at least every two (2) weeks or more often as deemed necessary by the operator or the regulatory authority.

Section 4. Test Kits.

(a) Every pool, spa and similar installation shall be supplied with an accurate and reliable test kit capable of measuring the following within the ranges as specified in section 1 (a) above:

- (i) Free available chlorine (FAC), if chlorine is used;
- (ii) Total available chlorine (TAC), if chlorine is used;
- (iii) Bromine or other disinfectant residuals;
- (iv) Cyanuric acid, if used;
- (v) Total alkalinity;
- (vi) Calcium hardness;
- (vii) Copper and/or silver, if a copper and/or silver ionization unit has been installed; and
- (viii) Any other agent that is introduced into the pool, spa or similar installation water.

(b) The regulatory authority shall, upon request, be supplied a field testing kit for any agents introduced into the pool, spa or similar installation water.

(i) If a field testing kit is not available, the agent cannot be introduced into the pool, spa or similar installation water until standards for testing have been established and written approval has been obtained from the regulatory authority.

(c) The orthotolodine (OTO) test is not acceptable since it cannot distinguish between Free Available Chlorine (FAC) and Total Available Chlorine (TAC).

(d) All test kit reagents shall be properly stored and changed at frequencies recommended by the manufacturer to assure accuracy of the tests.

Section 5. Flow Through Pools, Water Temperature.

(a) Natural mineral flow through pools with incoming water temperatures exceeding 104°F shall be accepted provided:

(i) A sign or signs, visible to all entering the pool is placed in a prominent location indicating danger.

(ii) The sign or signs shall read in bold contrasting colors the following:

risk.

(A) Danger, water temperature exceeds 104°F, enter at your own

in height.

(B) The size of the lettering shall be a minimum of two (2) inches