



TEST STRIPS FOR POOLS AND SPAS

SPECK X



1. Dip and remove strip.



2. Wait 15 seconds.



3. Compare pads to colour chart on bottle.

Directions:

1. Dip a strip into water and remove immediately. 2. Hold the strip level for 15 seconds (do not shake excess water from the strip). 3. Compare Total hardness, Total Chlorine, Free Chlorine, pH and Total Alkalinity (in that order) to the colour chart on the label. For best results on Stabilizer (Cyanuric Acid) test (not available on this test strip), pH should be between 7.0 – 8.4 and Total Alkalinity should be at or below 240 ppm. Important: Keep the cap closed tight between uses. Store at room temperature. Use by expiration date on cap.

Instructions should be followed as stipulated and the tables are to be used as a guideline only.

Fast-Easy-Accurate

The Speck Pumps test strips are as accurate as liquid kits but faster and easier to use.

With one easy dip, test the levels of:



Total Hardness. Keeping water in the ideal ranges reduce dissolving plaster from pool walls.

Total Chlorine. Sum of Free chlorine and combined chlorine.

Free Chlorine. An ideal level of free chlorine keeps water sparkling clean.

pH. A proper pH level keeps water from causing corrosion or scaling.

Total Alkalinity. A correct level of total alkalinity prevents sudden pH changes.

The Speck Pumps test strips for Total Hardness, Total Chlorine, Free chlorine, pH and Total Alkalinity. The test pads on the strip change color to indicate the levels in your pool or spa water. Be sure to snap the lid securely closed on the bottle immediately after dispensing a strip. This will prevent the strips from spilling and keep them fresh. Store the strips in a cool dry place and leave the packet of drying agent in the bottle – it will keep the test strips at their best.

This insert provides some basic information about water chemistry. The water treatment tables will help you use your test results to adjust your water properly.

Warning: Exercise extreme caution when handling chemicals. Do not add chemicals when swimmers are in the water, never store acids and chlorine compounds next to each other. Never mix chemicals together; add chemicals to the water one at a time. Handle acid very carefully. Wear protective eyewear and keep chemicals away from children. Always follow the manufacturer's directions.

Keep your pool at its best, test at each end a minimum of twice a week and test your spa before each use. It's also a good idea to write down your results each time you test.

Total Hardness

Total Hardness is the sum of calcium hardness and magnesium hardness. The ratio of calcium to magnesium varies. As an approximation you can multiply Total Hardness by two thirds to get a rough estimate of Calcium Hardness. The most common contributor of hardness is from the source water used to fill or top up the pool or spa. Other sources include forms of chlorine, such as calcium hypochlorite, and the intentional addition of calcium chloride. Owners of plaster pools should make concerted efforts to avoid low hardness levels especially when opening a new pool. Water is naturally, a "universal solvent" and if the hardness level is too low, the plaster can be rapidly dissolved from the pool walls. In other types of pools or spas it is important to keep hardness levels within adequate ranges in order to prevent etching or dissolving other hardware components, such as heaters and plumbing.

If the hardness level is too high, the water can become cloudy and scale may form on pool surfaces and equipment. Scale will appear as small white deposits at the water level on walls, ladders, and numerous other places that the owner may not see. If left uncorrected, scale can clog pipes and filters, as well as damage heaters. Fortunately, there is a point where water is not corrosive or scale forming. By keeping the hardness, alkalinity and pH factors within their ideal ranges, the water is balanced and the pool or spa will provide many years of trouble-free use.

If hardness is too high, the best option is to dilute it with fresh water. If the hardness level is too low, add calcium chloride to the pool or spa as recommended by manufacturers. Carefully read the precautions for use since mixing calcium chloride and water in a bucket can generate a very warm solution. The ideal total hardness range for pools is 250-500 ppm and spas are 200-350 ppm.

Table with 6 columns: Increase in Hardness in ppm, Pool volume (1000 gal, 5000 gal, 10000 gal, 20000 gal, 50000 gal) and corresponding weight measurements in oz, g, lbs, and kg.

A significant amount of heat can be generated when mixing calcium chloride in water. Follow manufacturer's recommendations carefully.

Total Chlorine

Total Chlorine is the sum of Free Chlorine and Combined Chlorine. In normal operation Total Chlorine can be used as if it was Free Chlorine because Combined Chlorine is usually zero. However, when you have algae or other problems, Combined Chlorine can be significant and Total Chlorine becomes useless.

See warnings for handling chemicals
ppm = mg/L

Chlorination Chart - Pools (Amount needed to introduce 1 ppm)				
Type of Chlorine	Pool volume			
	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
Sodium Hypochlorite	5.5 oz. 163 mL	10.5 oz. 310 mL	0.5 qt. 473 mL	¾ qt. 710 mL
Dichlor	1 oz. 28.3 g	2 ¼ oz. 63.8 g	3 ¼ oz. 92.1 g	5.5 oz. 149 g
Calcium Hypochlorite	1 oz. 28.3 g	2 oz. 56.7 g	3 oz. 85 g	5 oz. 142 g
Trichlor	¾ oz. 21.2 g	1.5 oz. 42.5 g	2 ¼ oz. 63.8 g	3 ¾ oz. 106 g

Superchlorination Chart – Pools* (Amount needed to introduce 10 ppm)				
Type of Chlorine	Pool volume			
	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
Sodium Hypochlorite	1 ¾ qts. 1.7 L	3 ¾ qts. 3.0 L	1 ¼ gal. 4.7 L	2 gal. 7.6 L
Dichlor	11 oz. 311 g	1 ½ lbs. 605 g	2 lbs. 908 g	3 ¼ lbs. 1.5 kg
Calcium Hypochlorite	10 oz. 284 g	1 ¼ lbs. 568 g	2 lbs. 908 g	3 ¼ lbs. 1.5 kg

*To superchlorinate (“shock”) water that has no measurable Free Chlorine in it, bring the Free Chlorine level up to 10 ppm and hold that level for 4 hours.

pH

pH refers to the intensity of acid or alkaline materials in your water. If pH is too high, scale can form on surfaces in contact with the water. If pH is too low, metal parts will corrode. Adjust Total Alkalinity before adjusting the pH; this will help prevent sudden fluctuations in pH.* When the pH is too low, add soda ash. When it’s too high, add acid. (See tables below) For more detailed advice on the specific treatment of your pool or spa, contact your dealer.

Raising pH using Soda Ash (Sodium Carbonate) (When pH is under 7.2, add the amount of soda ash indicated below, then retest)					
pH level	Pool volume				
	1 000 gal. 3.8 kL	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
7.0 – 7.2	¾ oz. 21.3 g	4 oz. 113 g	8 oz. 227 g	12 oz. 340 g	1 ¼ lbs. 568 g
	1 ¼ oz. 35.4 g	6 oz. 170 g	12 oz. 340 g	1 lbs. 454 g	2 lbs. 908 g
Under 6.7	1.5 oz. 42.5 g	8 oz. 227 g	1 lb. 454 g	1.5 lbs. 681 g	2.5 lbs. 1.1 kg

Lowering pH using Dry Acid (Sodium Bisulfate) (When pH is over 7.8, add the amount of acid indicated below, then retest)					
pH level	Pool volume				
	1 000 gal. 3.8 kL	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
7.8 – 8.0	0.1 lbs. 45 g	0.3 lbs. 136 g	0.6 lbs. 272 g	0.9 lbs. 408 g	1.5 lbs. 681 g
	0.2 lbs. 91 g	0.5 lbs. 227 g	1.0 lbs. 454 g	1.5 lbs. 681 g	2.5 lbs. 1.1 kg
Over 8.4	0.3 lbs. 136 g	0.8 lbs. 363 g	1.5 lbs. 681 g	2.3 lbs. 1.0 kg	3.8 lbs. 1.7 kg

Total Alkalinity

Total Alkalinity measures the amount of alkaline substances (carbonates and bicarbonates) in your water. Alkaline substances buffer your water against sudden changes in the pH of the water. It is important to prevent pH changes that can cause corrosion or scaling of metal fixtures. Total Alkalinity should be adjusted before adding chemicals to balance pH or Free chlorine.* If Total Alkalinity is too low, add sodium bicarbonate. If Total Alkalinity is too high, add an acid. (See tables below) For more detailed advice on

the specific treatment of your pool or spa, contact your dealer.

***Note:** Low pH readings may result when Total Alkalinity is less than 80 ppm (parts per million). If the Total Alkalinity pad turns blue (very high) or yellow (very low), adjust the Total Alkalinity. Re-test until the test shows the alkalinity to be within the ideal range of 80-120 ppm.

Raising Alkalinity using Sodium Bicarbonate					
Increase in Total Alkalinity in ppm	Pool volume				
	1 000 gal. 3.8 kL	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
10	2.5 oz. 62 g	12 oz. 340 g	1.5 lbs. 681 g	2 ¼ lbs. 1 kg	3 ¾ lbs. 1.7 kg
	4 ¾ oz. 135 g	1.5 lbs. 681 g	3 lbs. 1.4 kg	4.5 lbs. 2 kg	7.5 lbs. 3.4 kg
50	12 oz. 340 g	3 ¾ lbs. 1.7 kg	7.5 lbs. 3.4 kg	11 ¼ lbs. 5 kg	18 ¾ lbs. 8.5 kg

Lowering Alkalinity using Dry Acid (Sodium Bisulfate)					
Decrease in Total Alkalinity in ppm	Pool volume				
	1 000 gal. 3.8 kL	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
10	2.5 oz. 70.8 g	12 ¾ oz. 361 g	1.5 lbs. 681 g	2.5 lbs. 1.1 kg	4 lbs. 1.8 kg
	5 oz. 142 g	1.5 lbs. 681 g	3 ¼ lbs. 1.5 kg	4 ¾ lbs. 2.2 kg	8 lbs. 3.6 kg
50	12 ¾ oz. 361 g	4 lbs. 1.8 kg	8 lbs. 3.6 kg	12 lbs. 5.4 kg	20 ¾ lbs. 9.4 kg

Cyanuric Acid

“Stabilizer” or “Conditioner”
(Not available on this test strip)

Cyanuric Acid, also called Stabilizer or Conditioner, makes chlorine more stable when exposed to the sun’s ultraviolet rays. A low Cyanuric acid reading indicates that chlorine will dissipate very quickly when exposed to sunlight. Two types of chlorine compounds, Dichlor and Trichlor, already contain some Cyanuric acid. Cyanuric acid may build up with continued use of one of these sanitizers. If you are using a liquid sanitizer, you will want to add Cyanuric acid to the water. (See table). Too much Cyanuric acid in the pool can reduce chlorine efficiency and contribute to scale, stains and cloudy water. For more detailed advice on the specific chemical treatment for your pool or spa, contact your dealer.

The most common way to decrease the amount of Cyanuric acid is to drain and refill your pool. For example, if you drain and refill half of the pool water, you will decrease the Cyanuric acid level by 50%.

Free Chlorine

Free Chlorine is “good” chlorine that is still able to keep your pool fresh and clean. Combined Chlorine is chlorine that has used up its ability to sanitize. Too much Combined Chlorine causes eye irritation and strong pool odors. To maintain a clean and clear pool, keep the Free Chlorine level in the right range. But before making any adjustments, be sure that the pH and Total Alkalinity are in the ideal ranges. If the Free Chlorine is too low, add Chlorine. (See tables below) For more detailed advice on the specific treatment of your pool or spa, contact your dealer.

Chlorination Chart - Spas (Amount needed to introduce 4 ppm)		
Type of Chlorine	Spa volume	
	250 gal. 948 L	500 gal. 1.9 L
Sodium Hypochlorite	1 oz. 29.6 mL	2 oz. 59.1 mL
Dichlor	¼ oz. 7.0 g	½ oz. 14.2 g
Lithium Hypochlorite	½ oz. 14.2 g	1 oz. 28.3 g

Superchlorination Chart – Spas* (Amount needed to introduce 10 ppm)		
Type of Chlorine	Spa volume	
	250 gal. 948 L	500 gal. 1.9 L
Sodium Hypochlorite	2 ½ oz. 74 mL	5 oz. 148 mL
Dichlor	¾ oz. 18.9 g	1 ¼ oz. 35.1 g
Lithium Hypochlorite	1 oz. 28.3 g	2 oz. 56.7 g

Establishing or Increasing Cyanuric Acid Level

Increase in Cyanuric Acid in ppm	Pool volume				
	1 000 gal. 3.8 kL	5 000 gal. 19 kL	10 000 gal. 38 kL	15 000 gal. 57 kL	25 000 gal. 95 kL
10	1 ¼ oz. 35 g	6.5 oz. 184 g	12 ¾ lbs. 361 g	1 ¼ lbs. 567 g	2 lbs. 0.9 kg
	2.5 oz. 70.9 g	12 ¾ lbs. 361.5 g	1 ¼ lbs. 0.8 kg	2.5 lbs. 1.1 kg	4 lbs. 1.8 kg
50	4 oz. 113 g	1 ¼ lbs. 567 g	2.5 lbs. 1.1 g	3 ¾ lbs. 1.7 kg	6 ¼ lbs. 2.8 kg

SPECK

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