



NATIONAL PLASTERERS COUNCIL

THE FOREMOST AUTHORITY IN THE CEMENTITIOUS
INTERIOR POOL FINISHING INDUSTRY

Balanced water chemistry is as critical during the off-season months as it is in season. Water may become aggressive because of rain, snow, and fill water as with the regular use of acid to control pH. Adjust your pH and **Carbonate Alkalinity**¹ frequently; monitor calcium hardness and Cyanuric acid monthly.

DAILY WATER CHEMISTRY AFTER 28 DAYS

Maintain the water chemistry using the Langelier Saturation Index (LSI) between 0.0 and +0.3

- Free Chlorine = 1 to 3 ppm
- Total Chlorine = 1 to 3 ppm
- Sequestering Agent as per Manufacturer's directions
- pH = 7.2 to 7.6
- Carbonate Alkalinity = 80 to 120 ppm¹
- Calcium hardness = 200 to 400 ppm
- Cyanuric acid = 30 to 50 ppm (100 ppm is max)
- TDS = 300 to 1800 ppm (Non-salt pools)
- Salt Level = according to the manufacturer recommendations (Salt chlorination ONLY)

The Langelier Saturation Index (LSI) must be maintained between 0.0 and +0.3 for day-to-day maintenance after the initial start-up procedure has been completed.

This will help to reduce the likelihood of problems with the pool surface. Disregarding these LSI parameters promotes leaching, etching and discoloration on the negative (-) side and scaling and discoloration on the positive (+) side.

$$\text{pH} + \text{Total Alkalinity Factor} + \text{Calcium Hardness Factor} + \text{Temperature Factor} - \text{TDS Factor} = \text{Langelier Saturation Index (LSI)}$$

Deterioration, discoloration and scaling as a result of the premature or improper use of chemicals and use of chemical feeders are the responsibility of the equipment installer and operator. Feeders other than Oxidation Reduction Potential (ORP) types and pH controllers should not be placed in operation for a minimum of 28 days after the start-up.

Failure to follow the manufacturer's and/or applicator instructions and to control the LSI may cause deleterious effects, which are not the result of improper workmanship or a manufacturer's defect.

LSI CALCULATOR

TA ¹ ppm	CH ppm	Temp F° (C)	Total Dissolved Solids (TDS) ppm
FACTOR	FACTOR	FACTOR	FACTOR
5 = 0.7	75 = 1.5	32 (0°C) = 0.0	Up to 1000 = 12.10
25 = 1.4	100 = 1.6	37 (3°C) = 0.1	1000 = 12.19
50 = 1.7	150 = 1.8	46 (8°C) = 0.2	2000 = 12.29
75 = 1.9	200 = 1.9	53 (12°C) = 0.3	3000 = 12.35
100 = 2.0	300 = 2.1	60 (16°C) = 0.4	4000 = 12.41
125 = 2.1	400 = 2.2	66 (19°C) = 0.5	5000 = 12.44
150 = 2.2	800 = 2.5	76 (24°C) = 0.6	
200 = 2.3	1000 = 2.6	84 (29°C) = 0.7	
300 = 2.5		94 (34°C) = 0.8	
400 = 2.6		105 (41°C) = 0.9	

CALCULATED LSI*

*Use the closest factor to the chemistry reading.

For example if Pool
Water Chemistry

pH 7.8

TA 125¹

CH 300

TF 90° F (32°C)

TDS 950

pH	7.8
TA Factor ¹	2.1
CH Factor	2.1
Temp Factor	.8

TOTAL	+12.8
Subtract TDS Factor	-12.1
LSI =	+0.7

Target calculated 0.0 to +0.3
SCALING

A calculated (+) positive
LSI has scaling tendencies.

A calculated LSI of 0.0 is
considered balanced.

CAUTION: Research has shown that Cyanuric acid levels of 100 ppm (mg/l) and above may cause permanent deterioration to the pool surface. Excessively high calcium hardness and Cyanuric acid levels should be diluted. DILUTION IS THE LOW COST SOLUTION.

¹Total Alkalinity - 1/3 Cyanuric Acid = Corrected or Carbonate Alkalinity (Field Rate)

²ALWAYS ADD A CHEMICAL TO WATER, NEVER WATER TO THE CHEMICAL