Palintest pool & spa

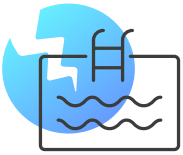
Pooltest 10

Test Instructions

At Palintest we deliver:

Swimmer safety

Safeguard pool users through effective disinfection and water balance control



Pool integrity

Regular pool testing helps maintain your pool and protects the pool infrastructure

Water balance

Maintain optimum water balance to avoid corrosion or scaling

Cost efficiency

Optimise your pool treatment plan

Backed by over 100 years of research, our equipment has been designed to make testing simple and easy.

Our technology delivers reliable results, to drive confident water quality management, ensuring that we can all bathe and play safely.

Contents

Good Practice

- Ensure all equipment is thoroughly clean.
- Rinse glassware, caps, crush rods and syringe several times with pool water before using.
- During testing, remove any attached bubbles by capping the tube and holding it on its side whilst rolling it on its axis.
- Ensure tubes are dry on the outside before placing them in the photometer.
- Place tubes in the photometer with the white diamond facing towards you.
- Always use the light cap.

Results

The values shown in the method texts refer to mg/L. By convention, this is taken as being equivalent to ppm.
The following results may also be reported:

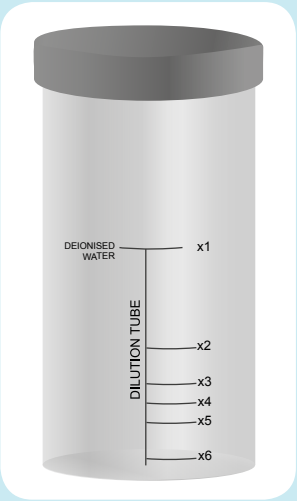
<<	Value is too low to be measured. This is sometimes caused by a blanking error.
>>	Value is higher than the range of the test. A Dilution will be required.

Blanking

- Blanking is always required prior to testing. When "Blank" is requested put a tube of pool water sample in the holder and press "OK".
- The "Blank" value will be saved until the instrument is powered down.
- A new blank will be required if a different pool is being tested or time has elapsed since the pool or spa was last tested.

Sample Dilution

A dilution extends the upper range of a test. The Dilution Tube simplifies this.



1. Rinse the dilution tube with sample.

2. Decide on the level of dilution required. (For this example we will use x3)

3. Fill to the x3 line with sample. Top up with de-ionised water to the x1 line.

4. Mix thoroughly by inverting several times.

5. Carry out the test(s) as required on this diluted sample.

6. Multiply result by dilution factor used. (x3 in this example).

(IMPORTANT: pH and Alkalinity tests are not suitable for dilution)

Test 001 Free Chlorine/5 or Free Chlorine/10

Two Ranges:	**0-5** mg/L	Use DPD 1 Tablet
	0-10 mg/L	Use DPD XF Tablet
Colour Change:	Colourless to Pink	

It is important to **use the correct tablets** for the range that has been selected in System Mode.

1. Rinse a test tube with pool water sample leaving a **few drops.**
2. Add **one DPD 1 or DPD XF tablet**, crush to form a paste.
3. Fill with **pool water sample to the 10 m**L line and mix.
4. Allow no more than a few seconds for any gas bubbles to clear, then take the **photometer reading.**
5. This is the value for Free Chlorine.
6. **Keep this test solution** for the "Follow-On" Total Chlorine Test.

Test 002 Total Chlorine

Two Ranges: **0-5** mg/L Use DPD 3 Tablet

0-10 mg/L Use DPD XT Tablet

Colour Change: Colourless to Pink

1. Use the **sample from Test 001** Free Chlorine

If no shock treatment has been used continue to step 3

2. Add one DPD Oxystop tablet, crush and mix to dissolve. Stand for one minute.

3. Add **one DPD 3 or DPD XT tablet,** crush and mix.

4. Stand for **two minutes.**

5. Take the **photometer reading.** This is the value for Total Chlorine.

6. **NB**: Combined Chlorine = Total Chlorine - Free Chlorine

Test 003 Bromine

Range: 0 - 10.0 mg/L Br_2

Colour Change: Colourless to Pink

It is important to use the correct tablets for the range that has been selected in System Mode.

1. Rinse a tube with sample leaving a **few drops.**
2. Add **one DPD 1 tablet**, crush to form a paste.
3. Fill with pool water **sample to the 10 mL** line and mix.
4. Allow no more than a few seconds for any gas bubbles to clear then take the **Photometer reading.**
5. This is the value for Total Bromine.

Test 004 Ozone

Range: 0 - 2.00 mg/L O_3

Colour Change: Colourless to Pink

1. Rinse a tube with sample leaving a **few drops.**
2. Add **one DPD 4 tablet**, crush to form a paste.
3. Fill with **sample to the 10 mL** line and mix.
4. Allow no more than a few seconds for any bubbles to clear.
5. Take the **Photometer reading.**

NB: If Chlorine or Bromine is present the following further steps will be required.

Correction for Chlorine or Bromine

6. Fill a tube with **fresh sample to the 10 mL** mark.
7. Add **one DPD Glycine tablet**, crush and mix.
8. Pour **one drop** of this in **to a second tube.**
9. Add **one DPD 4 Tablet**, crush.
10. Add **remainder of sample** from step 3 and mix.
11. Take the **Photometer reading.**

This result equates to the Bromine and Chlorine. Subtract this value from the result in step 5 to get the corrected Ozone

Test 005 Copper – Total

Range: 0 – 4 mg/L Cu

Colour Change: Colourless to Purple

1. Fill tube with sample to the **10 mL** line
2. Add **one Coppercol No 1 tablet** and **one Coppercol No 2 tablet**
3. Crush and mix.
4. Take the **Photometer reading**

Test 006 pH-Phenol Red

Range: 6.5 - 8.5

Colour Change: Yellow to Red

1. Fill tube with sample **precisely** to the **10 mL** line.
2. Add **one Phenol Red tablet**, crush and mix until completely dissolved.
3. Take the **Photometer reading.**

Test 007 Total Alkalinity

Range: 0 – 500 mg/L $CaCO_3$

Colour Change: Yellow to Green to Blue

1. Fill tube with sample to the **10 mL** mark.
2. Add **one Alkaphot™** tablet, crush thoroughly and mix. Ensure all particles have completely dissolved.
3. **Stand for one minute**. Mix again if the colour is not uniform.
4. Take the **Photometer reading.**

Test 008 Calcium Hardness

Range: 0 – 500 mg/L $CaCO_3$

Colour Change: Violet to Orange

1. Fill tube with sample to the **10mL** mark.
2. Add **one Calcicol No 1 tablet**, crush and mix.
3. Add **one Calcicol No 2 tablet,** crush and mix.
4. **Stand for two minutes**.
5. Take the **Photometer reading.**

Test 009 Cyanuric Acid

Range: 0 to 200 mg/L CYA

Colour Change: Clear to Cloudy

1. Fill tube with sample to the **10 mL** line
2. Add **one Cyanuric Acid tablet. DO NOT CRUSH**. Allow to disintegrate for at least **two minutes**. A cloudy solution indicates the presence of cyanuric acid.
3. Crush any remaining tablet and mix.
4. Take the **Photometer reading**

Test 010 Iron/1

Range: 0 to 1.00 mg/L Fe

Colour Change: Colourless to Pink

1. Fill tube with sample to the **10mL** line.
2. Add **one Iron LR tablet,** crush and mix to dissolve.
3. Stand for **one minute.**
4. Take the **Photometer reading.**

Test 020 Phosphate/4

Range: 0 to 4.00mg/L PO_4

Colour Change: Colourless to Blue

1. Fill tube with sample to the **10mL** line.
2. Add **one Phosphate No 1 tablet**, crush and mix to dissolve.
3. Add **one Phosphate No 2 tablet,** crush and mix to dissolve.
4. Stand for **10 minutes.**
5. Take **Photometer reading.**

Test 077 Water Balance

Select Langelier or Palintest as the Water Balance Index in System Mode.

Once Test 077 is selected the Photometer will prompt the user to carry out tests or manually enter values. Sample solutions for step 2,3 and 4 can be pre-prepared.

The sequence is below

1. Blank
2. Carry out **Alkalinity** Test – select "Follow On"
3. Carry out **Calcium Hardness** Test – select "Follow On"
4. Carry out **pH Test** – select "Follow On"

If Instrument is set to **Palintest Index,** the result will be shown, if set to **Langelier Index** continue to the next step.

5. Manually enter the **TDS** and **Temperature**.

The **Langelier Index** result will be displayed.

Langelier		*Palintest		
Index	**Water Balance Condition**	**Conditon**	**Water Balance Condition**	**Recommendation**
<-1.5	Corrosive	<9.6	Highly Corrosive	Increase pH to 7.5 - 7.8. Increase Calcium Hardness to at least 50mg/L. Increase Total Alkalinity to 100mg/L or higher as necessary. Retest Water Balance
-0.6 to -1.5	Corrosive	9.6 to 10.5	Corrosive	
-0.1 to -0.5	Corrosive	10.6 to 10.9	Acceptable Balance	Retest water regularly.
0.0	Ideal Balance	11.0 to 11.2	Ideal Balance	No action required.**
0.1 to 0.5	Scale Forming	1.3 to 11.6	Acceptable Balance	Retest water regularly.
0.6 to 1.5	Scale Forming	11.7 to 12.6	Scale Forming	Decrease pH to 7.2 - 7.5. Decrease Total Alkalinity to 150mg/l or lower as necessary. Retest Water Balance.
>1.6	Scale Forming	<12.7	Highly Scale Forming	

*Palintest Index is based on 28°C/82°F. Add 0.1 to the value if temperature is higher.

NB: If scale forms or corrosion is apparent **seek expert advice, even if an ideal balance is indicated.

Test 088 Calcium Hardness

Range: 0 to 500mg/L (ppm) $CaCO_3$

Colour Change: Violet to Orange

1. Fill tube with sample to the **10 mL** line
2. Add **one Calcicol No 1 tablet**, crush and mix.
3. Add **one Calcicol No 2 tablet**, crush and mix.
4. Stand for **two minutes**.
5. Take **Photometer reading.**

Palintest

Water Analysis Technologies

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