START-UP PROCEDURES

NPC RECOMMENDED

NATIONAL PLASTERERS COUNCIL
THE FOREMOST AUTHORITY IN THE CEMENTITIOUS INTERIOR POOL FINISHING INDUSTRY

GENERAL CONSIDERATIONS

The pool interior finish is especially susceptible to staining, scaling, and discoloration within the first 28 days.

Initial start-up procedures include frequent brushing and daily testing and adjusting of the pool water.

The following recommended start-up procedures are based on common trade practice and methods shown to produce the best aesthetic results and longevity of the interior finish.

Due to uniqueness of the fill water or other environmental factors, some portions of the start-up procedures may need to be modified to protect the pool finish. For example; filling the pool with water having extremely high/low calcium hardness, high/low pH, or high/low total alkalinity may necessitate changes to these procedures.

Maintaining the proper initial and ongoing pool water chemistry, brushing the surface, a good pool cleaning system, and regular equipment maintenance are vital to achieve the anticipated lifespan of the finish.

POOL FILLING DAY

1. **Make sure the pool filtration equipment is operational.**
2. Place a clean cloth on the end of the hose and position the hose in the deepest area of the pool to prevent damage to the surface. If a water truck is required, an initial 24 inches (60 cm) of water should be placed at the deepest area for a water cushion, followed by the water from the water truck cascading into the accumulate water.
3. **Fill the pool to the middle of the skimmer (or operating water level) without interruption as rapidly as possible with clean potable water to help prevent a bowl ring, and to decrease shrinkage cracking.**
4. Do not allow any external sources of water to enter the pool to help prevent streaking. It is not recommended to swim in the pool until the water is properly balanced and sanitized.
5. **At no time should any person or pets be allowed in the pool during the fill.**
6. **Test fill water for pH, total alkalinity (TA), calcium hardness (CH) and metals.** Record test results.
7. Start the pool equipment filtration system immediately after the pool is full to the middle of the skimmer (or operating water level). DO NOT turn on the pool heater until the water is chemically balanced and no cloudiness ('plaster dust') remains in the pool, as per manufacturer's recommendations.

IT IS IMPORTANT TO FOLLOW EACH STEP IN THE RECOMMENDED ORDER PRIOR TO PROCEEDING TO THE NEXT STEP

DAY 1

Step #1. Test fill water for pH, total alkalinity (TA), and calcium hardness (CH). Record test results.

Step #2. High alkalinity should be adjusted downward to 80 ppm – 100 ppm using pre-diluted muriatic acid (31–33% hydrochloric acid). Always pre-dilute the acid by adding it to a five gallon (19 L) bucket of water.

Step #3. Low alkalinity should be adjusted upward to 80 ppm using sodium bicarbonate (baking soda).

Step #4. pH should be reduced to 7.2 – 7.6 adding pre-diluted muriatic acid (after the alkalinity is in range 80 ppm – 100 ppm).

Step #5. Low calcium hardness should be adjusted upward to 80 ppm – 100 ppm. Adjustments of hardness increaser (calcium chloride) should be dissolved and added in 10 lb. increments, with each dosage separated by several hours. Never add hardness increaser (calcium chloride) and alkalinity increaser (sodium bicarbonate) at the same time.

Step #6. Brush the entire pool surface thoroughly **at least twice daily** to remove all plaster dust. **Wheeled vacuums or wheeled pool cleaners should not be used in the pool until after 28 days** (brush vacuums or non-wheeled pool cleaners are allowed).

Step #7. Although optional, it is recommended by many to add a sequestering agent, following the manufacturer's recommended initial start-up dosage, and when used, to continue dosing at the recommended maintenance dosage thereafter.

Step #8. Continuous operation of the pumps and filtration system is mandatory for seven days, or until the plaster dust has been brushed away and filtered out, and the water is no longer cloudy (minimum of 72 hours).

Step #9. DO NOT add chlorine for 48 hours. DO NOT turn on pool heater until there is no plaster dust in the pool.

DAY 2

Step #1. Test pool water for pH, total alkalinity (TA), calcium hardness (CH) and repeat steps of DAY 1, except for Step #7.

Step #2. Once the total alkalinity (TA) is adjusted to 80 ppm – 100 ppm and the pH is adjusted to 7.2 – 7.6, then adjust calcium hardness (CH) upward to 100 ppm – 150 ppm. Adjustments of hardness increaser (calcium chloride) should be dissolved and added in 10 lb. increments, with each dosage separated by several hours. Never add hardness increaser (calcium chloride) and alkalinity increaser (sodium bicarbonate) at the same time.

DAY 3

Step #1. Test and adjust pH, total alkalinity (TA) and calcium hardness (CH) as per DAY 2 Step #2, and repeat Steps #6 and #8 of DAY 1.

Step #2. Add pre-diluted chlorine or liquid chlorine to 1.5 ppm – 3.0 ppm level **(IMPORTANT:** For salt water (SWCG) pools, do not add salt within the first 30 days).

Step #3. Brush the entire pool surface thoroughly **at least twice daily** to remove all plaster dust.

DAY 4 – 28

Day 4 – 7

Step #1. Test and adjust pH and total alkalinity (TA) maintaining ranges of DAY 2 Step #2, and repeat Steps #6 and #8 of DAY 1 each day for seven days to help prevent the scaling of the pool surface.

Step #2. In-floors and directional eyeballs may be added once water chemistry is balanced.

Day 4

Step #1. Calcium hardness (CH) should be increased slowly (if necessary) to a minimum of 200 ppm.

Step #2. Begin adjusting the cyanuric acid (CYA) to 30 ppm – 50 ppm. Add CYA through the skimmer while the pumps and filtration system are running for a minimum of three days. After each addition brush the entirety of the interior finish. **Concentrated CYA can cause pigmented finishes to discolor.**

Day 7

If there is any plaster dust remaining, remove it using a brush pool vacuum.

Day 7 – 28

Once plaster dust is removed, and with a good pool cleaning system in place, brushing can be limited to the removal of visually observed material (leaves, dirt, etc.) or when adding chemicals.

ALWAYS ADD A CHEMICAL TO WATER
NEVER WATER TO THE CHEMICAL

NPConline.org 847-416-7272

WATER CHEMISTRY & MAINTENANCE

NPC RECOMMENDED

NATIONAL PLASTERERS COUNCIL
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AFTER 28 DAYS & BEYOND

It is critical that maintenance of the finish and balanced water chemistry continue throughout the year.

The pool water chemistry constantly changes and must be continually monitored and chemically adjusted.[1] Especially, strive to maintain the pH and **carbonate** alkalinity[3] (**CA**) in their proper ranges. A negative (-) **LSI** will cause leaching, etching, or discoloration of the surface. A positive (+) **LSI** will cause mineral scaling, metal staining, or discoloration on the surface.

The Langelier Saturation Index (LSI) must be maintained between 0.0 and +0.3 for ongoing maintenance, especially within the first six months after the initial start-up, to avoid potentially serious damage to the interior finish surface.

- Free Chlorine = 1 ppm to 3 ppm
- Total Chlorine = 1 ppm to 3 ppm
- Sequestering Agent = as per manufacturer recommendations
- pH = 7.2 to 7.6
- Carbonate Alkalinity = 80 ppm to 120 ppm [3]
- Calcium hardness = 200 ppm to 400 ppm
- Cyanuric acid = 30 ppm to 50 ppm (ideal operating range)[2]
- TDS = 300 ppm to 1800 ppm (non-salt pools)
- Salt Level = as per manufacturer recommendations (salt chlorination ONLY)

pH + **C**arbonate **A**lkalinity Factor + **C**alcium **H**ardness Factor + **Temp**erature Factor − **TDS** Factor = Langelier Saturation Index (LSI)

[1] When possible, pre-dilute chemicals prior to adding into the pool water. Add chemicals while the pumps are running, and when possible, in the deep end away from benches, steps, and suction lines, followed by brushing of the area to disperse the chemicals. Chemical feeders should be installed and maintained in a manner that does not allow chemicals to enter the pool in concentrations that would cause deterioration, color loss, discoloration, or scaling of the interior finish.
Always follow the manufacturer's and/or plasterer's recommendations and instructions. Always add a chemical to water, never water to the chemical.

[2] **CAUTION:** Research has shown that cyanuric acid (CYA) levels of 100 ppm (mg/l) and above may cause permanent deterioration to the pool surface. High cyanuric acid levels may require the CYA test to be diluted to calculate an accurate reading. CYA readings near 100 ppm should be retested using a solution that is diluted by 50% with tap or bottled water, then multiplied by 2, to reach the corrected CYA level. If the reading is still near 100 ppm after using a 50% dilution, it is recommended to drain the pool and/or treat the water to within the normal operating range for CYA (30 ppm – 50 ppm).

[3] **Total Alkalinity (TA) – 1/3 Cyanuric Acid = Corrected or Carbonate Alkalinity (CA)**

LSI CALCULATOR

CA 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 is:
pH 7.8
CA 125
CH 300
Temp 90°F (32°C)
TDS 950

pH	7.8
CA Factor	2.1
CH Factor	2.1
Temp Factor	0.8
TOTAL	+12.8
Subtract TDS Factor	-12.1
LSI =	+0.7

A calculated (+) positive LSI has scaling tendencies. | Target calculated 0.0 to +0.3 is considered balanced.

ALWAYS ADD A CHEMICAL TO WATER
NEVER WATER TO THE CHEMICAL

REV 03-2021

NPConline.org 847-416-7272

UNIVERSAL WHITE CEMENT WARRANTY FOR FINEST FINISH PRODUCTS

Please submit warranty form within 30 days of product installation.

WARRANTY CLAIM PROCESS:

The material warranty begins from the date of installation. If there is a warranty issue, first contact the pool contractor or product installer to pre-inspect any issues. Universal White Cement must be notified in writing of any claim of product failure by the contractor/installer and reserves the right to inspect any warranty claims. If it is found that the Universal material is defective Universal will cover the material costs of the certified installer to replace or repair the area of failure. Universal White Cement shall not be held responsible for incidental and consequential costs including but not limited to water replacement, chemicals, and loss of use of the pool.

WATER CHEMISTRY:

New product Installations require proper "start-up" procedures. Failure to follow proper "start-up" procedures, including but not limited to brushing of the surfaces and balancing of water chemistry, shall void this warranty. Water chemistry must be continuously maintained within the NPC or APSP recommended standards for all surfaces. Proper water chemistry and regular weekly maintenance are critical in sustaining an aesthetically pleasing and long lasting pool finish. Complete and unaltered pool chemistry records are required when filing a warranty claim. Please refer to the 28 day start up instructions and weekly maintenance readings located on the Finest Finish website. Damages by lack of proper water chemistry balancing or other chemical abuses, neglect or sanitation applications and issues such as stains, scale build up or spot etching caused by water chemistry and/or maintenance are not covered by this warranty.

Universal White Cement manufactures thoughtfully sourced raw materials including a variety of natural aggregates. Additionally, we provide our proprietary high performance cement, pigments and accents, which make up our Finest Finish Blend products.

The ingredients and formulas of our Finest Finish Blends are carefully pre-blended to ensure consitent quality, strength and durability.

Universal White Cement pigments are added at the job site.

7 Year Limited Warranty

7 Year Limited Warranty

10 Year Limited Warranty

7 Year Limited Warranty

7 Year Limited Warranty

7 Year Limited Warranty

7 Year Limited Warranty

7 Year Limited Warranty

WARRANTY LIMITATIONS:

1. This warranty is issued jointly to the contractor and pool owner. The contractor is the first point of contact for any warranty concerns. Warranty is not valid unless contractor has been paid in full.
2. Materials are naturally occurring aggregates and therefore cosmetic and aesthetic variations (ex. shading, tones, grouping, mottling etc.) are naturally occurring and shall not be considered a material failure.
3. During the life of the pool some loss of aggregate is normal and is not considered a material failure.
4. The addition of non Universal White Cement pigments or other products in the mix design will void the warranty.
5. This Warranty is not transferrable
6. Mottling or overall color variances can occur across the surface resulting from differences in moisture content and/or rate of hydration within the matrix of the surface coating. Normal mottled variation is not considered a defect but is a normal characteristic of cementitious products.
7. Any re-polishing of Arctic Coast will be at owners expense.
8. Crushed Abalone and Mica are used to add sparkle to our finishes however due to the nature of these products they are not warranted against long-term breakdown or loss of color due to poor pool water chemistry

WARRANTY EXCLUSIONS:

1. This warranty is material only and does not cover labor costs.
2. This warranty does not cover damages caused by workmanship, physical abuse, or neglect.
3. Cracks, check cracking, minor surface checking caused by structural damage or from draining the pool are excluded from the warranty.
4. Draining the pool for a period of more than 48 hours will void this warranty.
5. Pool interiors installed on surfaces out of water not covered in this warranty.
6. Damages caused my natural disasters, extreme weather or acts of God not covered in this warranty.

** Your initials or name in the **Owner Signature** field of this form will be considered a **legal signature***

*Please fill out the following information and submit to Universal White Cement **wihtin 30 days of product installation**. Download PDF to your computer and fill out on screen, save and forward to warranty@universalcement.com, or print and fax to (623)915-0963*

Product Name:

POOL OWNER:

Name

Street Address

City *State* *Zip Code*

Telephone number

POOL INSTALLER:

Name

Street Address

City *State* *Zip Code*

Telephone number

*** Pool Owner Signature:** _____

Signature Date: _____/_____/_____

UNIVERSAL WHITE CEMENT
5610 W. Maryland, Glendale AZ 85301 T/(623)915-1813 F/(623)915-0963

UNIVERSAL WHITE CEMENT MINI PEBBLE WARRANTY

Please submit warranty form within 30 days of product installation.

WARRANTY CLAIM PROCESS:

The material warranty begins from the date of installation. If there is a warranty issue, first contact the pool contractor or product installer to pre-inspect any issues. Universal White Cement must be notified in writing of any claim of product failure by the contractor/installer and reserves the right to inspect any warranty claims. If it is found that the Universal material is defective Universal will cover the material costs of the certified installer to replace or repair the area of failure. Universal White Cement shall not be held responsible for incidental and consequential costs including but not limited to water replacement, chemicals, and loss of use of the pool.

WATER CHEMISTRY:

New product Installations require proper "start-up" procedures. Failure to follow proper "start-up" procedures, including but not limited to brushing of the surfaces and balancing of water chemistry, shall void this warranty. Water chemistry must be continuously maintained within the NPC or APSP recommended standards for all surfaces. Proper water chemistry and regular weekly maintenance are critical in sustaining an aesthetically pleasing and long lasting pool finish. Complete and unaltered pool chemistry records are required when filing a warranty claim. Please refer to the 28 day start up instructions and weekly maintenance readings located on the Finest Finish website. Damages by lack of proper water chemistry balancing or other chemical abuses, neglect or sanitation applications and issues such as stains, scale build up or spot etching caused by water chemistry and/or maintenance are not covered by this warranty.

Universal White Cement manufactures carefully sourced raw materials including a variety of natural aggregates. Additionally, we provide our proprietary high performance cement, pigments and accents that allow the creation of many different mini pebble color variations.

Our recipes in Universal Mini Pebble and Desert Mini Pebble are a combination of natural mini pebble aggregates including, white, black and gold. We provide recipes and samples to our installers so that they can create these colorful series.

UNIVERSAL MINI PEBBLE SERIES

JEWELS for POOLS SERIES — **7 Year** Limited Warranty

DESERT SERIES — **7 Year** Limited Warranty

UNIVERSAL MINI PEBBLE SERIES — **7 Year** Limited Warranty

UNIVERSAL MINI PEBBLE SERIES — **7 Year** Limited Warranty

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7. Crushed Abalone and Mica are used to add sparkle to our finishes however due to the nature of these products they are not warranted against long-term breakdown or loss of color due to poor pool water chemistry

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4. Draining the pool for a period of more than 48 hours will void this warranty.
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Name

Street Address

City *State* *Zip Code*

Telephone number

POOL INSTALLER:

Name

Street Address

City *State* *Zip Code*

Telephone number

*** Pool Owner Signature:** _____

Signature Date: _____/_____/_____