



INFORMATION RELEASE

Advanced Synergy Technology for Pool, Spa, & Fountains

Startup-Tec® Guidelines

As of March 2010

This is a technical reference manual for Startup-Tec® “PK 3-Day” advanced startup treatment. Startup-Tec’s all-polymer technology *reduces* plaster dust formation, labor-intensive brushing, mottling discoloration on colored surfaces, pool warranty issues, acid usage to expose quartz and pebble-type finishes, and use of phosphate based sequestrants.



For The Startup Professional:

Product Overview,
Application Guidelines,
Startup Tips,
and
Questions & Answers

Successfully tested at The National Pool Industry Research Center (NPIRC)
California Poly Technical State University, San Luis Obispo, CA – 2008 & 2009

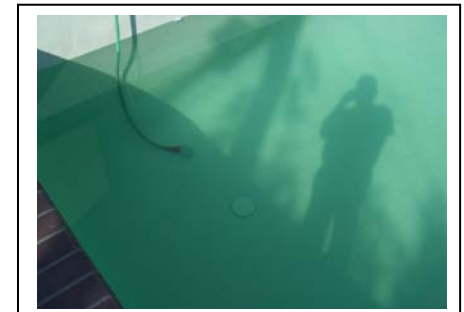
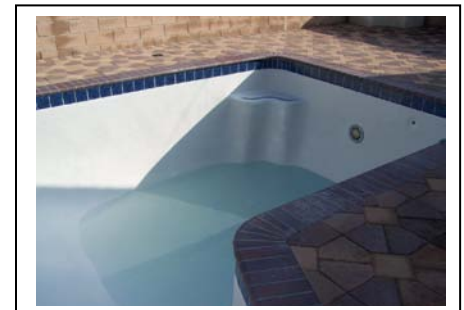
In the past, one of the primary purposes for performing a *new pool startup* has been the removal of plaster dust on pool surfaces. This required daily surface brushing and the addition of sequestrants (usually high phosphates) to help remove the plaster dust buildup. The reduction of surface mottling discoloration, metal staining, and surface scaling were also additional startup concerns. The exposure of exposed quartz and pebble type finishes relied on strong acid washing and/or hot startups (or hot fireups) to achieve proper exposure finish. With the introduction of the Startup-Tec® PK 3-Day Treatment, many of these startup issues have been greatly minimized and the amount of acid needed for quartz and pebble exposure have been noticeably reduced.

With Startup-Tec®, much of the plaster dust formation has been eliminated. Weeks of surface brushing has been reduced to as little as three days or less. Color pigmented pools (grey, black, and blues) can now be finished with the confidence of color consistency and less mottling. Exposed aggregate quartz and pebble type finishes can now be exposed with up to 50% less acid. Startups with Startup-tec® provides for a more brilliant, uniform surface finish with less labor, time, acid usage and cost. The pool builder, plaster, and startup company can now deliver to the new pool owner the pool they envisioned at time of purchase.

Startup-Tec® Technical Application Instructions:

BEFORE pool is Filled:

- After pool construction, perform the following startup procedure depending on type of finish:
White plaster, pigmented, and quartz finishes - Pool can be filled immediately without any other pre-treatment.
Exposed Quartz and pebble finishes – After water washing surfaces, perform a moderate acid washing before filling pool. Pools to be started with Startup-Tec® may use up to 50% less acid to expose surfaces.
- At the 50 to 500 gallon level, add Startup-Tec® “Startup Dosage” to pool basin for your size of pool and type of finish.
- Use plastic water can, plastic PVC pipe, or tube to add product carefully into pool bowl area - avoid splashing onto pool surfaces.
- Disperse the entire Startup-Tec® dosage as evenly as possible throughout the pool bowl area. Continue filling the pool.



AFTER pool is filled:

- Lightly brush all pool surfaces and move any remaining plaster dust towards the main drain(s). Brush-vac pool bottom to remove all traces of plaster dust - do not use roller type vac or pool cleaner.
- Exposed quartz and pebble type finishes may require brushing with a combo type brush to help remove loose plaster dust and expose final finish.
- All pools - balance pool water: adjust pH level, alkalinity (TA), calcium hardness sanitizer, and conditioner as required. Brush pool walls and bottom surfaces for several days to remove any dirt, debris, and particulate matter. Follow National Plaster Council guidelines for best results.

STARTUP-TEC® TREATMENT CHART:

POOL SIZE (IN U.S. GALS.)	STARTUP DOSAGES: Add At Initial Filling	
	WHITE, COLORED, and EXPOSED AGGREGATE	PEBBLE FINISHES
10,000	1/2 Gal. (1 btl.)	1 Gal. (2 btls.)
20,000	1 Gal. (2 btls.)	2 Gals. (4 btls.)
30,000	1 1/2 Gals. (3 btls.)	3 Gals. (6 btls.)

Note: For Pools filled without Startup-Tec®: Startup-Tec® must be added at the initial pool filling to obtain the proper startup results. It is now recommended that you use **Beautec® Scale & Stain Controller** to remove plaster dust.

1. Startup-Tec® must be added within the first 50 to 500 gallons of fill water to achieve proper results. Otherwise, plaster dust will form, quartz and pebble-type finishes will have improper exposure, and mottling discoloration is likely to occur on surfaces.
2. For best results, *evenly distribute* Startup-Tec® throughout the bowl area as pool fills.
3. Avoid under treatment when using Startup-Tec®. For example, if the pool is 24,000 gallons, use the dosage for a 20,000 gallon pool plus add additional Startup-Tec® for another 10,000 of gallons.
4. Avoid product splash onto pool surfaces. Use a watering can or perforate bottle seal with small holes to add Startup-Tec® directly into pool and throughout the fill area.
- Lightly brush all pool surfaces for the first 3 days to ensure removal of any remaining plaster dust, dirt, debris, and other particulate matter that may be attached to walls and pool bottom.
5. Add an additional 1 to 2 quarts of Startup-Tec® per 10,000 gallons of pool water under these conditions:
 - a. Calcium chloride exceeds 2% in plaster batch (especially in colder season).
 - b. Very high metal or calcium content in source fill water.

Commonly Asked Questions about Pool Startups with Startup-Tec®

1. **Q: Why must you add Startup-Tec® at the beginning of the new pool fill.**
A: *In order to block the formation of plaster dust, prevent mottling discoloration, and ensure proper quartz / pebble exposure, the product must be added as early as possible. And proper addition is also necessary to ensure adequate dissolving and dispersion of plaster cream on quartz and pebble-type finishes.*
2. **Q: Why is less acid needed during a “hot startup” to expose an “exposed” quartz finish?**
A: *Startup-Tec’s multi-polymer formula has proven extremely effective in preventing the formation of plaster dust as well as the dispersion of plaster cream on the matrix surface edge. This results in the need for less acid usage typically up to 50% or more.. In some cases, due to high calcium content, high temperature, environmental, or other possible factors in the plaster batch, a “light hot-startup” may be required for final exposure. A “light hot-startup” is defined as 1 gallon of acid to 10,000 gallons of pool water. Perform the “light hot-startup” the same way as a regular hot-startup.*
3. **Q: How does Startup-Tec® function?**
A: *As the new plaster is curing during the emersion water filling process, calcium and hydroxides in the plaster transport to the surface matrix edge and the high pH (from hydroxides), calcium, and water react to cause the formation of calcium carbonate plaster dust. This precipitation occurs at pH 8.3. Startup-tec’s polymers sequester or grab the calcium molecule and prevent its precipitation when it would otherwise cause calcium dust. The product also helps disperse plaster cream residue and other particulate matter to provide a better, more uniform surface finish.*
4. **Q: I arrived at a pool to do a startup and the pool was already filled. What should I do now?**
A: *Do not use Startup-Tec®, instead use the product called Beautec® Scale-Stain-Scum Controller for effective removal of plaster dust buildup. This product will quickly remove the plaster dust and reduce the amount of surface brushing. Beautec will also provide many months of scale and stain protection throughout all pool surfaces, tile equipment, and salt cell without acids and phosphates.*
5. **Q: How soon can I operate the pool cleaner and pool heater?**
A: *Normally, the pool cleaner vac can be started in 1 week after startup. Some pools free of plaster dust can operate cleaner in about 3 or 4 days after startup. The pool heater should be started as per manufacturer’s instructions – most heaters should not be started any sooner than two weeks.*

6. **Q: How soon can salt be added to a salt pool after a startup is performed with Startup-Tec®?**
A: *The salt should not be added for a least four weeks as per National Plaster Council guidelines. This allows the necessary curing process of the plaster's porosity before the aggressive salts are added.*
7. **Q: I have to perform a startup on a large commercial pool. What is the best way to add Startup-Tec® to the pool while it is filling?**
A: *The product may be added using a variety of feed methods. Startup-Tec® may be slug (by hand) slowly into the fill water as the first 50 – 500 gallons of water begin entering the pool. A chemical feed pump may be used to inject product into the fill water throughout the filling stage. Another method is to use a sprayer unit to add product evenly over the water surface. It is important to add the product uniformly throughout the bowl area as it is being filled. Avoid spraying on surfaces.*
8. **Q: Is pool water treated with Startup-Tec safe for swimmers and can children or pet drink treated pool water?**
A: *Absolutely. Treated water is safe for swimmers and pets once the pool is filled.*
9. **Q: The Startup-Tec® label recommends a product called Beautec® scale and stain controller. How soon should it be added after completing a startup with Startup-Tec®?**
A: *Generally, Beautec® monthly maintenance dosage should be started within 30 to 60 days.*
10. **Q: How does Startup-Tec® prevent mottling discoloration on colored pigmented finishes?**
A: *Startup-Tec® reduces most abnormal discoloration on colored finishes due to effective prevention of most plaster dust formation. Because the product is added during the initial filling stage and not after the pool is filled, the normal discoloration of finishes can be greatly be prevented.*
11. **Q: I used Startup-Tec® to startup a new pool and I got lots of plaster dust. What happened?**
A: *Several possibilities could have caused this unusual condition to occur: **a)** one reason is either insufficient initial dosage and/or not adding the product at the initial 50 to 500 gallon level; **b)** calcium chloride ratio in the plaster mixture exceeded the 2% maximum level; **c)** insufficient distribution of product as the pool filled may have also caused a problem; **d)** water / cement ratio was too high – too much water results in too much “cream” and plaster dust.*
12. **Q: How effective is Startup-Tec® on exposing aggregate finishes such as SpectraQuartz,® 3M Quartz,® DiamondBrite,® GemStone,® QuartzScape,® and other brands without using acids?**
A: *Very effective. Both factory and field testing has demonstrated that pools with these types of quartz finishes effectively exposed the aggregate without the need for a “hot startup” acid bath, in most cases. These finishes also obtained greater color consistency and experienced fewer issues of surface mottling (discoloration). Some types of finishes may require a “hot startup” to etch quartz surface properly.*
13. **Q: Can I substitute another sequestrant type scale and stain product for Startup-Tec® during the pool filling process?**
A: *Not recommended! Several types of sequestrant products were evaluated and were found not to be effective. This was due to their acidic formula and/or high phosphate content which can adversely react with the pool surfaces to leave gradient circle stains and phosphate nutrients for algae growth.*

*For additional information regarding Startup-Tec®, please call customer technical support at 1-800-289-7660 ext. 223, Monday thru Friday 8:30 AM to 5 PM PST. **Further technical assistance is also available from 9 AM to 6 PM PST by contacting Marvin Rezac, Technical Director, at 1-559-246-3719 or John Johnson at 714-813-5100.***