

High Performance Pool Filter Media Lagoon Spa trial.

Reduces chemical usage and enhances chlorine performance

Reduces pool odour, eye and skin irritation

Keeps your pool sparkling clean



No other swimming pool filtration medium on the market provides 'three mechanisms' for effectively cleaning pool water:

Physical Filtration + Surface Adsorption + Chemical Capture

Macro Filtration + Micro Filtration + Ion Exchange

Background

In early 2009 I met with Peter and Nigel and after a an initial meeting Zelbrite was offered as a trial product at the YMCA Lagoon. This was a fantastic opportunity for us. I was intrigued by the product as according to the information provided we should be able to no only provide a greater water clarity but also help reduce Cac'c therefore allowing up less backwashes on the filters and less water loss. Adding up to a great saving in dollars.

What we hope to achieve

Zelbrite has been awarded the Smart Approved WaterMark, and is the only pool filter media that has been proven to save water. This would be my initial test however finding a media that would give crystal clear water in a spa pool would be a major bonus. Due to the high bather load and comparatively low amount of water spa pools have traditionally been high maintenance pools. Water chemistry no matter how well set requires replenishment at 30l per person per day. Water can become cloudy quick due to the high bather loads and New Zealand standard recommends that the pool be emptied al least one a week.

Benefits

At the time of the trial backwashing was done on one of the spa filters at once a day. This was a system set in place to counteract the CAC'C problems. For the duration of the trial this would be changed and I would manager the backwashing on and when required with the following indicators (a) the filters reached optimum filtering capacity (b) CAC'S needed reduced (c) TDS required reduction (not affected by filter media).

In a sample of testing results conducted before and after the filter media was changed. It was found that a 0.5 mg/l reduction in cac's was achieved. Most importantly backwashing was reduced from a routinely nightly event to be done once every 3 weeks on average.

This data can be taken in to consideration with other variables. Pool water chemistry and bather loads can affect the cac's. Pool water chemistry remained constant in the data recorded. The aim being to set a ph of 7.8 to destroy cac's and create tricholorimes (to provide and inoffensive odor. The other variable would have been that the backwashing program was not necessary and that the current program, however this was not borne thorough in the results regarding cac'c.

Results

SPA Pool Results

CAC

10/06/2008	1.3	11/06/2008)	1	12/06/2008	1.6	13/06/2009	1.6	14/06/2008		15/06/2008			
	1.4		0.8		1.1		1.6						
	2.1		1		0.9		1.2						
	0.7		1.4		1		1.1		1.2		1		
	1.6		2.1		1.7		1.6		1.1		2.4		
	1.8		2.7		1.3		2.6		2		1.2		
	1.7		1.8		0.8		1.1		2.4		2.2		
	1.8		1		1.3		1.9		1.6		1.9		
	12.4		11.8		9.7		12.7		8.3		8.7		
	1.55		1.475		1.2125		1.5875		1.66		1.74	9.225	CAC Average 1.5375

After

18/05/2009	0.7	19/05/2009	1.7	20/05/2009	1.2	21/05/2009	1.4	22/05/2009	2	23/05/2009	0.5		
	0.6		1.4		1		1		1.1		0.5		
	0.9		0.9		1		1.7		1.4		1		
	1		1.4		1		0.9		1.1		1		
	1		1.1		1		2		1.8		1		
	0.9		1.7		2		1.2		1.5		1.2		
	1.3		1.4		1.6		1.4		2		1.3		
	1.8		2		1.2		1.1		2.6		1.6		
	8.2		11.6		10		10.7		13.5		2		
	1.025		1.6571		1.25		1.3375		1.69		1.01	7.967143	CAC Average 1.13816

Backwashing – From daily has been stretched out to 2-3 weeks.

Issues

There have been two issues the first occurred when media was expelled into the pool through the system. This was due to a deterioration of the filter system and the stone that should keep the media in place had dissolved to a level that was allowing the leak.

The second consideration is the pressure feedback on filters and pumps. This also can be attributed to the age of the system. Dominion pool and spa are currently investigating to find if part of the system has collapsed. This was a problem before the trial however may interfere with the consistency of pressure and warrant more backwashing than Zeolite may normally demand. Zeolite due to its larger surface area demands a higher pressure from the filters than sand.

Observations

Many products on the aquatics market make claims sounding too good to be true. At first I expected Zeolite to fall in that category. The graphics and statistics were impressive however and so had many others I had encounter at trade shows before. Two things made me take consider this product as something different. Contacting John McKenny a tutor working with NSW TAFE in Newcastle. Who explained the features in pool manager's language and Nigel's offer to put his product on trial for me to explore.

In my opinion and after the trials held here I have found that with regards to reducing backwashes and cac's Zeolite does what it claims to do.

It also provides crystal clear water whether this is in the minerals contained in the media or the surface dimensions. It does provide a level of clarity of water which could only be achieved by flocculating a sand filter.

I am pleased to say that the trial has been a success and that we have achieved favorable results backing up the claims made by Zeolite.

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