

OC-1

FILTRATION MEDIA



Following the successful launch of Certikin’s ground breaking new filtration media, we have throughout the year continued to test, trial and improve the use of OC-1 in sand filters. The purpose of this technical bulletin is to give you the benefit of our experience and knowledge.

IFTS Test Results

The European Standard for Swimming Pool Filtration Media EN16713-1 is the benchmark for any domestic filtration media in Europe

OC-1 has been independently tested to EN16713-1 by the IFTS (Institut de la Filtration et des Techniques Séparatives). It passed all tests with flying colours and indeed surpassed certain tests to levels not seen before by IFTS.

The test results can be viewed in more detail on the OC-1 website.

Highlights include:

Test 1 Turbidity Reduction Efficiency Test

- The European Standard states that a minimum reduction in turbidity of 50% must be achieved over 20 cycles in this test.
- OC-1 Media reduced the turbidity by 93.7% after 20 cycles. Therefore passing the test with ease.

Test 2 Simplified Retention Capacity Test

- This test measures the amount of test dust retained by the filter media.
- OC-1 Media retained 96.1% of the test dust, among the highest results seen by IFTS.

- The retention capacity of OC-1 Media was not reached during this test.
- By the end of this test the filter containing OC-1 Media had shown no rise in differential pressure.

Test 3 Particulate Retention Efficiency and Retention Capacity Test

- The aim of this test is to define the efficiency with which particles of a specified size are removed by the filter in one pass.
- To identify the amount of test dust that the filter can retain before it requires cleaning. This is defined in the European standard as the point at which the differential pressure has increased by 0.7bar
- Contaminant was introduced constantly to the filter for 8 hours. OC-1 retained 96.1% of the test dust with no increase in differential pressure across the filter.
- The retention capacity of OC-1 Media was not reached during this testing.
- The test ended because IFTS only allocate 8 hours maximum for this test. By comparison, sand blocks and the test is complete after 2 hours, no media has ever exceeded the test in IFTS history.

- OC-1 removed 81% of 10 micron particles in a single pass and continued to remove particles as small as 1 micron without flocculation or coagulation.

Flow / Pressure

As discovered above and in our trials, we have found that OC-1 media will not increase the pressure across the filter as it retains debris from the pool and because it is an open cell media it can actually increase the flow compared to using sand by approximately 20% - without any changes to the rest of the system.

Furthermore, we now know that OC-1 will perform at any filtration rate from 10m³/m²/hr to 50m³/m²/hr and above.

Weight / Manual Handling

A standard bag of filter sand weighs 25kg. By comparison, the equivalent volume of OC-1 weighs just 3kg. OC-1 is supplied in 50 ltr bags which weigh approximately 9kg. For further details on the quantities of OC-1 required for different filter sizes please visit our website.

Converting to OC-1

OC-1 is an open cell media and functions differently to sand inside the filter. Firstly, it works by settlement and not entrapment. This means the debris settles within the cells of the media rather than being trapped on top of the filter bed which vastly increases the effective filtration area. Secondly, it is a multipass media that allows an even flow throughout the entire filter bed. In order for OC-1 to operate correctly it is **ESSENTIAL** to modify the laterals to allow full flow along the entire length of the lateral. This forces the water to flow through the entire filter bed and not just through a

central column, making the filter far more effective and efficient. The modification is a simple operation that only takes a few minutes and does not require any new parts for the filter. Also when converting from traditional media a diffuser for the top outlet inside the filter is required and again this is easy to install.

For detailed instructions on filter conversions please visit our website.

New Installations

We have developed a purpose made filter with the above modifications incorporated thus getting the most benefit from the additional features that OC-1 brings. These will officially be available from February 2017 but if you are interested in being one of the first customers to run an OC-1 Filter please contact Certikin for details.

PAC Dosing on Commercial Pools

PAC (Polyaluminum Chloride) flocculant is not suitable for use with OC-1 Media. This is because it is designed to make a layer on the top of the sand bed and as explained above OC-1 is open cell media so this layer cannot form and the PAC passes through the media. We recommend the alternative product, Swimfresh Ultimate clarifier. This can be dosed in the same way using the existing PAC dosing equipment and satisfies the requirement by PWTAG for continuous dosing of coagulant. This binds small particles together in the pool water enabling more efficient removal by the OC-1 media.

For much more information including more details of the IFTS results, instructions for converting a filter to OC-1 and the quantity matrix please see our specialist web site.

www.oc-1filtrationmedia.com

Email: OC-1@certikin.co.uk



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