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EPA ID # NJ01298 NJ DEP ID # 03048

ATC SUPER STERASYL FILTER LEAD TEST REPORT

Report # 16-374-1-Pb-LPH
Report Date: 11/08/2016
Customer Name: Fairey Industrial Ceramics, LTD.

PROPRIÉTÉ AQUA-TECHNIQUES

EXECUTIVE SUMMARY:

The ATC Super Sterasyl Filter was tested for Lead Reduction at pH 6.50 for a total volume of 800 gallons. The Filter Element reduces the Lead concentration by 98.6% for up to 800 gallons, tested following the NSF Standard 53.

INTRODUCTION:

The ATC Super Sterasyl Filter was tested for Lead Reduction at pH 6.50 for a total volume of 800 gallons; passing five gallons per day. The filter was challenged with tap water adjusted and spiked with Lead, then tested following the EPA method 200.8. The Filter Element reduces the Lead concentration by 98.6% for up to 800 gallons, tested following the NSF Standard 53.

REAGENTS, MATERIALS, AND LAB EQUIPMENT:

Perkin Elmer ICP/MS DRC-e 6100 mass spectrometer.
Perkin Elmer Lead Nitrate standard solution 1000 mg/L.
ATC Super Sterasyl Filter.

PROCEDURE:

Flushed the filter elements with approximately 1 gallon of tap water. Prepared 5 gallons of influent water every day with Lead at a concentration of 150 µg/L of Lead and a pH of 6.50. Table 1 summarizes the Influent water properties. Ran 5 gallons of challenge water per day until a total volume of 800 gallons passed through the filter element. Collected the effluent water every day at the end of the 5 gallons, analyzed the filtered water for Lead every 100 gallons following the EPA Method 200.8. The results are summarized in Table 2 below.

RESULTS:

Table 1
Influent Challenge Water Properties

Parameter	Influent Challenge Water	Target
pH	6.40 to 6.70	6.25 to 6.75
Temperature	20.0 to 21.5 °C	20 ± 2.5°C
TDS	55 to 75 mg/L	<100 mg/L
Turbidity	0.55 to 0.75 NTU	<1 Nephelometric Turbidity Units
Total Lead	135 to159 µg/L	140 – 160 µg/L

Table 2
Filtered Water Lead Test Results

Accumulated volume	Influent Water Concentration	Filtered Water Concentration	% Reduction	Minimum % Reduction: 93.3%
Initial (0.1 gallons)	149 µg/L	<0.5 µg/L	99.9+ %	Passed
50 gallons	137 µg/L	<0.5 µg/L	99.9+ %	Passed
100 gallons	152 µg/L	<0.5 µg/L	99.9+ %	Passed
150 gallons	151 µg/L	<0.5 µg/L	99.9+ %	Passed
200 gallons	159 µg/L	<0.5 µg/L	99.9+ %	Passed
300 gallons	139 µg/L	<0.5 µg/L	99.9+ %	Passed
400 gallons	135 µg/L	<0.5 µg/L	99.9+ %	Passed
500 gallons	145 µg/L	<0.5 µg/L	99.9+ %	Passed
600 gallons	149 µg/L	0.5 µg/L	99.7 %	Passed
700 gallons	149 µg/L	1.2 µg/L	99.2 %	Passed
800 gallons	149 µg/L	2.1 µg/L	98.6 %	Passed
Avg	146 µg/L	0.7 µg/L	99.5%	Passed

CONCLUSION:

The Filter Element reduces the Lead concentration by an average of 99.5% efficiency for up to 800 gallons, tested following NSF Standard 53.

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CERTIFICATION OF RESULTS:

I certify in writing that all analyses, and reporting performed herein, comply with all requirements set forth in N.J.A.C. 7:9E and N.J.A.C. 7:18, and hereby certify that this laboratory is in compliance with all laboratory certification and quality control procedures and requirements as set forth in N.J.A.C. 7:18; the NYCRR Subpart 55-2 and the National Environmental Laboratory Accreditation Conference (NELAC) Institute Standards.

Disclaimer: The test results are only related to the filter sample tested.

Jaime A. Young
Jaime A. Young
Lab Director

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