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Result **PASS**

Report Date 07-NOV-2014

Customer Name Doulton Water Filters
Tested To Standard 53 Lead Reduction pH 6.5 POU/POE 200%
Description HIP/Ultracarb inline
Test Type Qualification
Job Number J-00142314
Project Number W0126789
Project Manager Demarrio Boles

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization *Kerri S. LeVanseler*
Kerri Levanseler - Director, Chemistry Laboratory

Date 07-NOV-2014

Standard 53 Lead Reduction pH 6.5 POU/POE 200%: PASS

Manufacturer's Name: Fairey Industrial Ceramics Ltd.

Job ID: J-00142314

Date of Job Creation: 12-SEP-2014

Date Sample Received: 08-SEP-2014

Date Job Placed on Hold: 01-OCT-2014

Date Job Released from Hold: 01-OCT-2014

Date Test Completed: 06-NOV-2014

Sample Type: Qualification

Product: HIP/Ultracarb inline

DCC Number: PW00918

Filter Capacity: 600 Gallons

Flushing Time: Flush 10 minutes, let stand 24 hours, flush 10 minutes

Maximum Rated Op. Pressure: 100 PSI

On Cycle: 10/90

Percent Capacity: 200%

Physical Description of Sample: Plumbed in to Separate Tap without Reservoir

Rated Service Flow: 0.5 GPM

Test Description: STD. 53 Lead 6.5 pH Reduction testing HIP/Ultracarb w/FX173-QQ

Trade Designation/Model Number: HIP/Ultracarb inline

Performance Standard: 53 - 2013

Lead P/F: PASS

Pass/Fail Criteria (Lead): 10 ug/L

Overall Percent Reduction: 99.1 %

Maximum Effluent: 4 ug/L

All effluent values are less than or equal to the pass/fail criteria: YES

Data Summary Table

Sample Point	Accumulated Volume (gal)		Dynamic Pressure (psi)	Lead (ug/L)	
	Effluent 1	Effluent 2	Influent	Effluent 1	Effluent 2
Startup	12	12	60	ND(1)	ND(1)
50%	300	300	62	ND(1)	ND(1)
100%	600	600	62	ND(1)	ND(1)
150%	900	900	61	1	ND(1)
180%	1080	1080	60	2	ND(1)
200%	1200	1200	60	4	ND(1)

Sample Point	Flow Rate (gpm)		Lead (ug/L)
	Effluent 1	Effluent 2	Influent
Startup	0.51	0.51	160
50%	0.52	0.52	140
100%	0.51	0.52	150
150%	0.51	0.54	160
180%	0.53	0.52	140
200%	0.55	0.55	150

Lead Detection Limit: 1 ug/L

Data Analysis Table

Sample Point	Inf. Average (ug/L)	Average (ug/L)		Eff. % Reduction (Ave. Inf.) (%)		
		Effluent 1	Effluent 2	All Effluent	Effluent 1	Effluent 2
150%	150	1	ND(1)	99.3	99.3	99.3
180%	150	1	ND(1)	99.0	98.7	99.3
200%	150	2	ND(1)	98.3	97.3	99.3

Sample Point	Ave. % Reduction (%)	Maximum (ug/L)	Validated Capacity with PID	Validated Capacity without PID	Met Minimum Criteria
150%	99.3	1	750	450	YES
180%	99.3	2	900	540	YES
200%	99.1	4	1000	600	YES

Inf. Average: Influent Average

Average: All Effluent Average

Eff. % Reduction (Ave. Inf.): Effluent percent reduction calculated from average of previous influent values.

Ave. % Reduction: Percent reduction calculated from all prior influents and effluents.

Maximum: Maximum Effluent

Met Minimum Criteria: All effluent values are less than or equal to the pass/fail criteria

Validated Capacity with PID: Validated Capacity with Performance Indication Device

Validated Capacity without PID: Validated Capacity without Performance Indication Device

Water Characteristics

Characteristic	Units	Range		
		Minimum	Average	Maximum
Alkalinity as CaCO ₃	mg/LCaCO ₃	15	16	16
Hardness, Total	mg/LCaCO ₃	21	22	24
Solids, Total Dissolved	mg/L	52	52	53
Temperature	degrees C	20	20	21
Turbidity	NTU	ND(0.1)	ND(0.1)	ND(0.1)
pH		6.67		6.69

All analyses performed at NSF International, 789 N. Dixboro Road, Ann Arbor MI 48105

Calculation Definitions

All calculations use values as presented in the Data Summary Table and rounding is performed only at the conclusion of the calculation.

Percent Reduction Calculations

Overall Percent Reduction:

Influent Average includes all influents.

Effluent Average includes all effluents.

$$\% \text{ Reduction} = \frac{\text{Influent Average} - \text{Effluent Average}}{\text{Influent Average}} * 100$$

Influent Average Percent Reduction Calculations

Influent Average Percent Reduction for Current Influent Point:

Influent Average includes all influents up to and including the current sample point.
Effluent Average includes all effluents for the current sample point.

$$\text{Average \% Reduction} = \frac{\text{Influent Average} - \text{Effluent Average}}{\text{Influent Average}} * 100$$

Influent Average Percent Reduction for Current Effluent Point:

Influent Average includes all influents up to and including the current sample point.
Effluent includes the effluent value for the specific sample point.

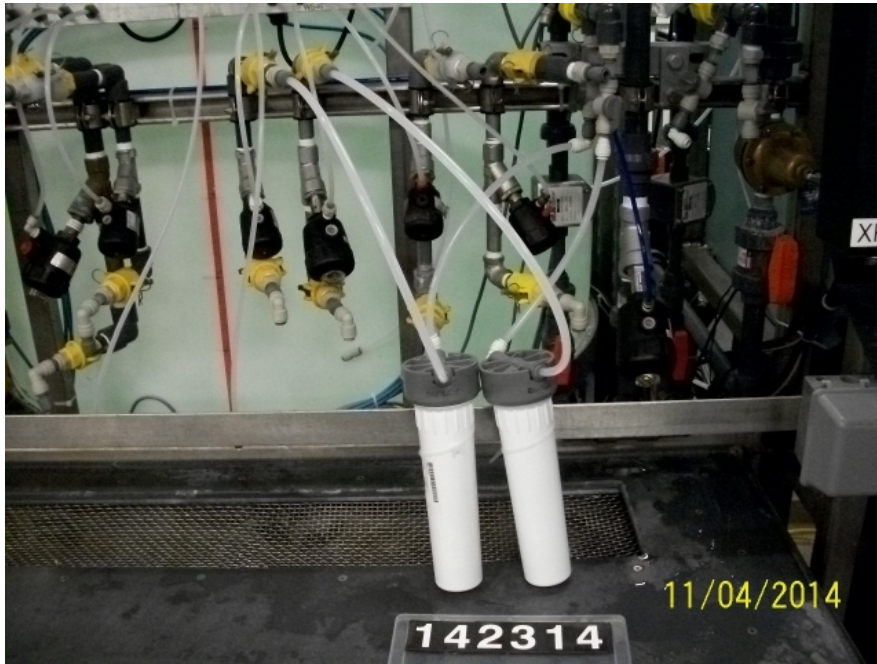
$$\text{Average \% Reduction} = \frac{\text{Influent Average} - \text{Effluent}}{\text{Influent Average}} * 100$$

Average Percent Reduction Calculations

Average Percent Reduction:

Influent Average includes all influents up to and including the current sample point.
Effluent Average includes all effluents up to and including the current sample point.

$$\% \text{ Reduction} = \frac{\text{Influent Average} - \text{Effluent Average}}{\text{Influent Average}} * 100$$



Test Configuration