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### QFT LABORATORY, LLC.

Williamstown, New Jersey PHONE 856-583-0445 www.enviroteklab.com EPA ID # NJ01298 NJ DEP ID # 03048 IAPMO ID #102

### **TEST RESULTS**

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FOR

**Fairey Industrial Ceramics** 

LYMEDALE CROSS, LOWER MILEHOUSE LANE STAFFORDSHIRE, UK, ST5 9BT

ATC Super Sterasyl Filter Candles NSF/ANSI Standards 42, 53, and 401 Chemical Reduction Tests Results



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### ATC SUPER STERASYL FILTER CANDLES WATER TEST REPORT

Report # 19-119

Report Date: 06/20/2019 Customer Name: Fairey Industrial Ceramics

#### Introduction



The following test report summarises the performances of ATC Super Sterasyl filters tested under gravity using a range of Pesticides, and Chlorine Contaminants to a capacity of 3030 Liters. The influent and effluent levels plus the filtration efficiencies for each contaminant were measured throughout the test and recorded in the following result tables.

Contaminant Tested		10 UV	606 liters	1515 liters	2121 liters	2727 liters	3030 liters	Min Efficiency throughout
Alachlor	Influent	48.25 ug/L	49.39 ug/L	40.32 ug/L	48.8 ug/L	49.58 ug/L	49.25 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.79%	99.80%	99.75%	99.80%	99.80%	99.80%	99.75%
	Influent	50.58 ug/L	48.66 ug/L	62.11 ug/L	46.54 ug/L	51.25 ug/L	52.35 ug/L	
Hexachlorobenze	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.80%	99.79%	99.84%	99.79%	99.80%	99.81%	99.78%
	Influent	48.55 ug/L	64.22 ug/L	79.28 ug/L	62.66 ug/L	52.45 ug/L	52.74 ug/L	
Hexachlorocyclopentadiene	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.79%	99.84%	99.87%	99.84%	99.81%	99.81%	99.79%
	Influent	50.57 ug/L	48.65 ug/L	62.09 ug/L	46.53 ug/L	49.57 ug/L	51.24 ug/L	
Delta-BHC	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.80%	99.79%	99.84%	99.79%	99.80%	99.80%	99.78%
Porpachlor	Influent	50.57 ug/L	48.65 ug/L	62.1 ug/L	46.53 ug/L	53.26 ug/L	52.36 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.80%	99.79%	99.84%	99.79%	99.81%	99.81%	99.78%
	Influent	49.43 ug/L	33.59 ug/L	53.29 ug/L	58.24 ug/L	48.58 ug/L	49.61 ug/L	
Molinate	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1	0.1	
	Reduction	99.80%	99.70%	99.81%	99.83%	99.79%	99.80%	99.66%
	Influent	50.57 ug/L	48.65 ug/L	62.09 ug/L	36.53 ug/L	49.65 ug/L	51.23 ug/L	
Alpha-BHC	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1 ug/L	
	Reduction	99.80%	99.79%	99.84%	99.73%	99.80%	99.80%	99.73%
	Influent	45.15 ug/L	48.26 ug/L	40.05 ug/L	51.54 ug/L	51.42 ug/L	48.56 ug/L	
Beta-BHC	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.78%	99.79%	99.75%	99.81%	99.79%	99.79%	99.75%
Gama BHC (Lindane)	Influent	46.57 ug/L	38.31 ug/L	45.19 ug/L	49.57 ug/L	47.23 ug/L	48.52 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1 ug/L	
	Reduction	99.79%	99.74%	99.78%	99.80%	99.79%	99.79%	99.69%
	Influent	45.13 ug/L	48.26 ug/L	40.1 ug/L	51.54 ug/L	49.85 ug/L	48.58 ug/L	
Atrazine	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.78%	99.79%	99.75%	99.81%	99.80%	99.38%	99.38%



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Contaminant Tested		10 UV	606 liters	1515 liters	2121 liters	2727 liters	3030 liters	Min Efficiency throughout
Simazine	Influent	49.58 ug/L	48.05 ug/L	64.63 ug/L	44.7 ug/L	46.78 ug/L	49.85 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.80%	99.79%	99.85%	99.78%	99.79%	99.80%	99.74%
	Influent	46.82 ug/L	49.68 ug/L	60.43 ug/L	47.82 ug/L	51.24 ug/L	50.24 ug/L	
Metribuzin	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1 ug/L	0.3 ug/L	
	Reduction	99.79%	99.80%	99.83%	99.79%	99.80%	99.40%	99.40%
	Influent	46.77 ug/L	41.83 ug/L	49.64 ug/L	65.19 ug/L	48.75 ug/L	50.24 ug/L	
Heptachlor	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.79%	99.76%	99.80%	99.85%	99.79%	99.80%	99.35%
	Influent	73.8 ug/L	49.86 ug/L	51.67 ug/L	45.53 ug/L	48.75 ug/L	49.52 ug/L	
Metolachlor	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.86%	99.80%	99.81%	99.78%	99.79%	99.80%	99.78%
	Influent	65.51 ug/L	89.98 ug/L	71.56 ug/L	109.3 ug/L	84.57 ug/L	70.45 ug/L	5011010
Butylate	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.85%	99.89%	99.86%	99.91%	99.88%	99.86%	99.85%
	Influent	49.75 ug/L	59.32 ug/L	40.02 ug/L	56.85 ug/L	51.45 ug/L	50.25 ug/L	55.8570
2,4-D	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L		<0.1 ug/L	
	Reduction	99.80%	99.83%	99.75%	99.82%	<0.1 ug/L 99.81%	99.80%	99.75%
Aldrin	Influent		56.04 ug/L	50.77 ug/L	51.42 ug/L			33.7376
		56.35 ug/L				58.45 ug/L	54.12 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L	00.80%				
	Reduction	99.82%	99.82%	99.80%	99.81%	99.83%	99.82%	99.80%
Heptachlor Epoxide	Influent	111.31 ug/L	199.18 ug/L	97.85 ug/L	172.73 ug/L	130.25 ug/L	125.25 ug/L	
heptachior epoxiae	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.91%	99.95%	99.90%	99.94%	99.92%	99.92%	99.90%
Trans-Chlordane (Nonachlor)	Influent	34.98 ug/L	50.77 ug/L	66.03 ug/L	42.99 ug/L	44.52 ug/L	48.57 ug/L	
mans-chlordane (Nonachlor)	Filtered	<0.1 ug/L	0.1					
	Reduction	99.71%	99.80%	99.85%	99.77%	99.78%	99.79%	99.71%
Dutachlar	Influent	95.18 ug/L	185.07 ug/L	165.73 ug/L	151.15 ug/L	130.25 ug/L	132.45 ug/L	
Butachlor	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.89%	99.95%	99.94%	99.93%	99.92%	99.92%	99.89%
	Influent	52.35 ug/L	48.92 ug/L	53.25 ug/L	42.9 ug/L	48.58 ug/L	49.57 ug/L	
Endosulfan I	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1	0.1	
	Reduction	99.81%	99.80%	99.81%	99.77%	99.79%	99.80%	99.75%
	Influent	52.35 ug/L	51.23 ug/L	51.24 ug/L	52.24 ug/L	50.65 ug/L	51.45 ug/L	
Cis-Chlordane	Filtered	<0.1 ug/L	0.1					
	Reduction	99.81%	99.80%	99.80%	99.81%	99.80%	99.81%	99.80%
	Influent	35.76 ug/L	66.82 ug/L	104.25 ug/L	71.76 ug/L	50.65 ug/L	51.45 ug/L	
p,p'-DDE	Filtered	<0.1 ug/L	<0.1 ug/L					
	Reduction	99.72%	99.85%	99.90%	99.86%	99.80%	99.81%	99.72%



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Dieldrin	Influent	73.68 ug/L	105.07 ug/L	85.27 ug/L	85.77 ug/L	70.45 ug/L	65.58 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.56 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.86%	99.90%	99.88%	99.35%	99.86%	99.85%	99.35%
	Influent	59.72 ug/L	50.97 ug/L	62.56 ug/L	46.45 ug/L	49.58 ug/L	50.25 ug/L	
Endrin	Filtered	<0.1 ug/L						
	Reduction	99.83%	99.80%	99.84%	99.78%	99.80%	99.80%	99.78%
	Influent	50.6 ug/L	53.49 ug/L	67.23 ug/L	49.8 ug/L	51.45 ug/L	50.32 ug/L	
Endosulfan II	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1	0.1	
	Reduction	99.80%	99.81%	99.85%	99.80%	99.81%	99.80%	99.80%
	Influent	20.25 ug/L	21.56 ug/L	19.44 ug/L	19.45 ug/L	22.45 ug/L	24.85 ug/L	
p,p'-DDD	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1	0.1	
	Reduction	99.51%	99.54%	99.49%	99.49%	99.55%	99.60%	99.49%
	Influent	21.6 ug/L	29.9 ug/L	52.92 ug/L	30.32 ug/L	46.85 ug/L	42.85 ug/L	
Endrin Aldehyde	Filtered	<0.1 ug/L						
	Reduction	99.54%	99.67%	99.81%	99.67%	99.79%	99.77%	99.54%
	Influent	22.18 ug/L	33.36 ug/L	57.83 ug/L	33.22 ug/L	30.52 ug/L	31.45 ug/L	33.3470
p,p'-DDT	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1 ug/L	0.1 ug/L	
	Reduction	99.55%	99.70%	99.83%	99.70%	99.67%	99.68%	99.55%
Endosulfan Sulfate	Influent	37.86 ug/L		93.49 ug/L				55.55%
			53.66 ug/L		54.26 ug/L	52.45 ug/L	53.65 ug/L	
	Filtered	<0.1 ug/L	0.85 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1 ug/L	08.42%
	Reduction	99.74%	98.42%	99.89%	99.82%	99.81%	99.81%	98.42%
Endrin Ketone	Influent	65.25 ug/L	68.53 ug/L	52.03 ug/L	51.56 ug/L	50.85 ug/L	51.98 ug/L	
	Filtered	<0.1 ug/L	0.1 ug/L					
	Reduction	99.85%	99.85%	99.81%	99.81%	99.80%	99.81%	99.80%
Mathewspher	Influent	111.41 ug/L	119.63 ug/L	108.38 ug/L	131.58 ug/L	124.56 ug/L	120.45 ug/L	
Methoxychlor	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1 ug/L	0.1 ug/L	
	Reduction	99.91%	99.92%	99.91%	99.92%	99.92%	99.92%	99.91%
	Influent	115.53 ug/L	113.43 ug/L	213.44 ug/L	130.91 ug/L	120.58 ug/L	121.85 ug/L	
Bromacil	Filtered	<0.1 ug/L						
	Reduction	99.91%	99.91%	99.95%	99.92%	99.92%	99.92%	99.91%
	Influent	36.49 ug/L	58.34 ug/L	59.5 ug/L	76.89 ug/L	52.85 ug/L	59.62 ug/L	
Carbofuran	Filtered	<0.1 ug/L						
	Reduction	99.73%	99.83%	99.83%	99.87%	99.81%	99.83%	99.73%
	Influent	47.55 ug/L	67.64 ug/L	81.61 ug/L	58.55 ug/L	58.95 ug/L	50.45 ug/L	
Chlorneb	Filtered	<0.1 ug/L						
	Reduction	99.79%	99.85%	99.88%	99.83%	99.83%	99.80%	99.79%
	Influent	75.42 ug/L	49.87 ug/L	73.9 ug/L	66.86 ug/L	52.85 ug/L	50.48 ug/L	
Chlorthalonil	Filtered	<0.1 ug/L						
	Reduction	99.87%	99.80%	99.86%	99.85%	99.81%	99.80%	99.80%



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Chlorprophane	Influent	33.89 ug/L	19.16 ug/L	60.22 ug/L	69.57 ug/L	53.45 ug/L	50.51 ug/L	
	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.70%	99.48%	99.83%	99.86%	99.81%	99.80%	99.48%
	Influent	49.76 ug/L	49.7 ug/L	54.93 ug/L	53.4 ug/L	51.52 ug/L	51.58 ug/L	
Chlorpyriphos	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.80%	99.80%	99.82%	99.81%	99.81%	99.81%	99.77%
	Influent	45.71 ug/L	41.77 ug/L	69.26 ug/L	41.53 ug/L	51.78 ug/L	52.65 ug/L	
Cyanizine	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.78%	99.76%	99.86%	99.76%	99.81%	99.81%	99.76%
	Influent	50.23 ug/L	63.21 ug/L	121.79 ug/L	51.86 ug/L	54.03 ug/L	51.35 ug/L	
Dichlorvos	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.80%	99.84%	99.92%	99.81%	99.81%	99.81%	99.80%
	Influent	36.83 ug/L	49.3 ug/L	71.24 ug/L	61.16 ug/L	53.65 ug/L	52.05 ug/L	
Diphenamid	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.73%	99.80%	99.86%	99.84%	99.81%	99.81%	99.73%
Disulfoton	Influent	15.72 ug/L	19.62 ug/L	76.14 ug/L	26.09 ug/L	20.63 ug/L	20.51 ug/L	55.7578
	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.36%	99.49%	99.87%	99.62%	99.52%	99.51%	99.36%
Fenamiphos	Influent	56.43 ug/L	69.56 ug/L	70.27 ug/L	45.84 ug/L	49.85 ug/L	48.57 ug/L	55.50%
	Filtered							
		<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	00.76%
	Reduction	99.82%	99.86%	99.86%	99.78%	99.80%	99.79%	99.76%
Fenarimol	Influent	34.48 ug/L	53.37 ug/L	76.16 ug/L	56.4 ug/L	50.05 ug/L	51.35 ug/L	
renarmor	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.71%	99.81%	99.87%	99.82%	99.80%	99.81%	99.71%
Thursday	Influent	72.54 ug/L	50.25 ug/L	87.52 ug/L	53.65 ug/L	53.62 ug/L	54.36 ug/L	
Fluoridone	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.86%	99.80%	99.89%	99.81%	99.81%	99.82%	99.80%
	Influent	51.54 ug/L	71.97 ug/L	62.67 ug/L	74.02 ug/L	60.25 ug/L	63.32 ug/L	
Ethoprop	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	
	Reduction	99.81%	99.86%	99.84%	99.86%	99.83%	99.84%	99.81%
	Influent	36.65 ug/L	39.89 ug/L	73.32 ug/L	39.56 ug/L	46.36 ug/L	43.52 ug/L	
Toxaphene	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1	0.1	
	Reduction	99.73%	99.75%	99.86%	99.75%	99.78%	99.77%	99.73%
	Influent	10.25 ug/L	12.42 ug/L	10.45 ug/L	10.35 ug/L	11.98 ug/L	11.75 ug/L	
PCB's	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.1	0.1	
	Reduction	99.02%	99.19%	99.04%	99.03%	99.17%	99.15%	98.93%
	Influent	810.2 ug/L	803.4 ug/L	804.8 ug/L	806.8 ug/L	803.6 ug/L	804.9 ug/L	
Glyphosate	Filtered	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	<0.1 ug/L	0.3 ug/L	0.5 ug/L	
	Reduction	99.99%	99.99%	99.99%	99.99%	99.96%	99.94%	99.94%



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Accumulated Volume	Influent Chlorine	Effluent Chlorine	% Reduction	
10 UV	1.90 mg/L	<0.01	99.47%	6
303 Liters	2.20 mg/L	<0.01	99.55%	
606 liters	1.80 mg/L	<0.01	99.44%	L
909 liters	1.90 mg/L	<0.01	99.47%	
1212 liters	1.80 mg/L	<0.01	99.44%	
1515 liters	1.80 mg/L	<0.01	99.44%	
1818 liters	1.80 mg/L	<0.01	99.44%	
2121 liters	2.00 mg/L	<0.01	99.50%	
2424 liters	2.20 mg/L	<0.01	99.55%	
2727 liters	1.80 mg/L	<0.01	99.44%	
3030 liters	1.80 mg/L	<0.01	99.44%	

### **Chlorine Test Results**

### Results

The filters provided <a>>98.9% filtration efficiency of all contaminants throughout the testing.

### 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, the National Environmental Laboratory Accreditation Conference (NELAC) Institute Standards, and the ISO 17025.

Disclaimer: The test results are only related to the filter cartridges tested, in the condition received at the laboratory.

laime Young

Jaime Young Lab Director