Foamulations, LLC
303 Najoles Rd, Suite 112
Millersville, MD 21108

KDF Comparison Test

Test Date: 2/20/12

Testing Labratory: Foamulations,LLC testing Facility
303 Najoles Rd, Suite 112
Millersville, MD 21108

Technician: R. Brooks

Client: CuZn Water Filtration Systems

Model: KDF Large Granules, KDF Regular fines, KDF Super Fines

Vessel: Standard 10" Slim Line Cartridge

Comments :

This test was performed to give a weight to weight comparison between KDF Large Granules, KDF Fines on Foam matrix, and KDF Super Fines on Foam Matrix. Each sample was placed in a standard 10" x 2 7/8" cartridge on a confined, regulated, recirculating test rig. The influent water was regulated to remain @ approx 2mg/l (ppm) of free chlorine. The tested samples were taken at a flow rate of 2 gallons per minute(gpm). Each sample was tested at ten gallon intervals up to 100 gallons. Tests were performed on a Hach DR/3000 Spectrophotometer using method 8021 Free Chlorine.

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Sample #1: Large Granule KDF

Gallons tested	Influent ppm	Effluent ppm	%efficiency
10g	2.08	0.21	90%
20g	2.08	0.22	89%
30g	2.08	0.26	88%
40g	2.06	0.21	90%
50g	2.02	0.19	91%
60g	2.02	0.26	87%
70g	2.04	0.31	85%
80g	2.05	0.24	88%
90g	2.01	0.21	90%
100g	2.06	0.24	88%

Sample #2: Regular Fine KDF on Foam Matrix

Gallons tested	Influent ppm	Effluent ppm	%efficiency
10g	2.08	0.19	91%
20g	2.08	0.17	92%
30g	2.08	0.14	93%
40g	2.06	0.16	92%
50g	2.02	0.16	92%
60g	2.02	0.19	91%
70g	2.04	0.17	92%
80g	2.05	0.15	93%
90g	2.01	0.16	92%
100g	2.06	0.19	91%

Sample #3: Super Fine KDF on Foam Matrix

Gallons tested	Influent ppm	Effluent ppm	%efficiency
10g	2.08	0.04	98%
20g	2.08	0.06	97%
30g	2.08	0.03	99%
40g	2.06	0.04	98%
50g	2.02	0.05	98%
60g	2.02	0.03	99%
70g	2.04	0.06	97%
80g	2.05	0.02	99%
90g	2.01	0.06	97%
100g	2.06	0.04	98%

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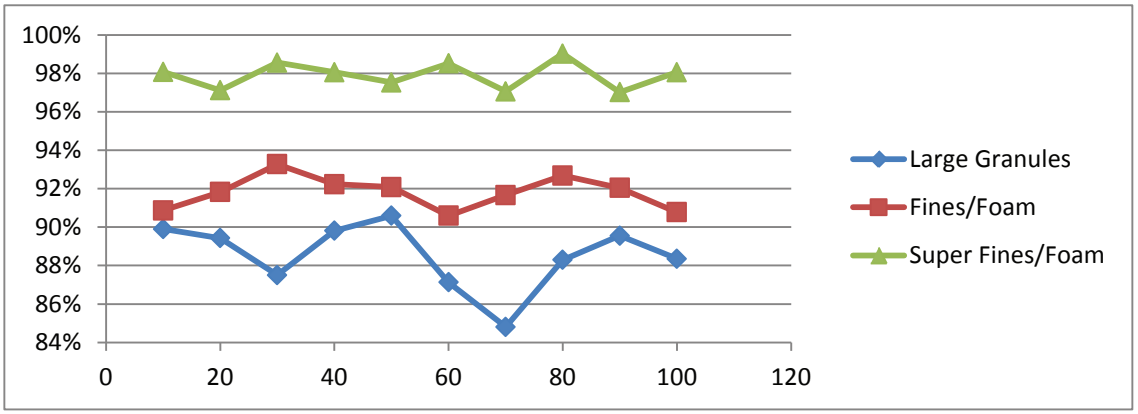

Conclusion:

- When comparing the efficiency of free chlorine removal between the given samples we have found KDF Super Fines to be approximately 5 times more effective than KDF large granules and approximately 4 times more effective than KDF Regular Fines.

- The efficiency spread on both samples attached to a foam matrix was more stable than the results from the Granular sample. This is believed to be a function of the reticulated foam avoiding packing or channeling.

- We have also noted the difference in pressure loss over the tested samples. At 2 gpm flow rate the Granular Cartridge, Sample#1 had a loss of 7psi over the cartridge; Sample #2 had a loss of 1.5psi; and Sample#3 had a loss of 2psi.