FOAMULATIONS

ATS/SZT
Reticulated Foam

Featured Contaminant Selectivity

- **Lead**
- **Mercury**
- **Ammonium**
- **Nickel**
- **Copper**
- **Cadmium**

Filtration Mechanism Specifics

ATS is a ceramic, cationic ion-exchanger with high specificity for lead and other heavy metals. ATS is not effected by competing ions like calcium and magnesium and will not leach either organic or inorganic residues. ATS has an amorphous crystalline structure and a bulk density of ~68lbs/Cu.Ft.

SZT is an inorganic silicate compound with a negative internal polarity. SZT has a definite crystalline lattice structure of exceptional stability and a bulk density of ~30lbs/Cu.Ft. The negative polarity gives SZT an affinity for ammonium, lead, mercury, cadmium and other dissolved metals.

Foamulations has combined these two refined medias at optimum proportions to achieve a more efficient, higher capacity product for lead removal. Foamulations' reticulated matrix maximizes the collisions seen by these highly active particles and does not require carbon impregnation as a carrier. ATS and SZT have been the industry standard lead removal additives to carbon granular and carbon block media for several years. These products are effective but unlike Foamulations' reticulated media forms, are limited in the amount of ATS/SZT that can be used. Foamulations' ATS/SZT reticulated media makes gravity flow, high flow,and low pressure applications all possible in both liquid and gas phase filtration. The available shapes and sizes of the reticulated media make a lead removal additive easier than ever before to implement into your current product line.

Efficiencies and Capacities

Contaminant	Contaminant level	Expected Efficacy	Expected Capacity
Lead	50ppb	99.99%	50 Litres/ Cubic Inch
Mercury	50ppb	95+%	50 Litres/ Cubic Inch
Nickel	50ppb	95+%	50 Litres/ Cubic Inch
Cadmium	50ppb	95+%	50 Litres/ Cubic Inch
Ammonium	50ppb	99.99%	15 Litres/ Cubic Inch

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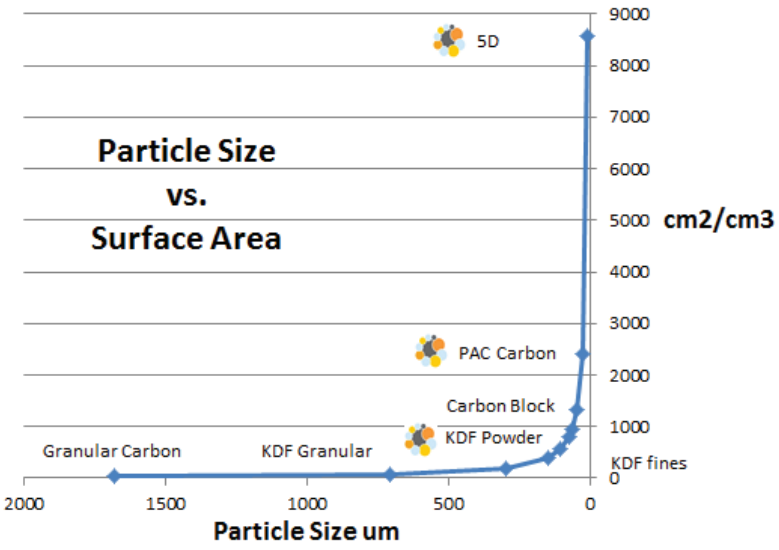
Foamulations Increased Efficiency

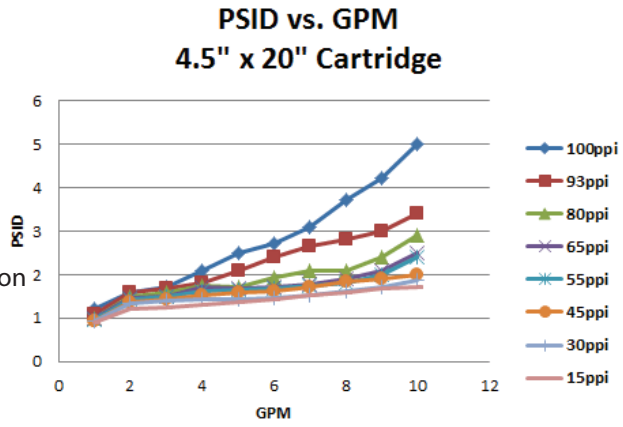


Graph F1

Foamulations' reticulated medias outperform the same medias in granular form because of chemical kinetics and the Collision Theory. This is accomplished by the size of the particle and the reticulated structure which causes a torturous path for the influent gas or liquid solution. The law of mass action states that the speed of a chemical reaction is proportional to the quantity of the reacting substances. In the case of Foamulations' medias it is the quantity of readily available surface area. Graph F1 shows as the particles decrease in size the surface area increases exponentially. In relation to Collision Theory the more collisions created the higher percentage of chemical reactions. The reticulated structure assures the influent stream will see many collisions with the most efficient particle possible.

Foamulations Pressure Differential

One of the main benefits of Foamulations' reticulated medias is the lack of PSID (pressure differential) over standard filtration cartridges. Most 4.5" diameter filtration cartridges max out at approximately 4-5gpm. Foamulations' cartridges have been pushed upwards of 10gpm and still show lower PSID than all other filtration cartridges. Foamulations cartridges also filter axially so the influent sees a much larger bed depth than that of comparable radially flown cartridges. The reticulated structure can also act as a separation or dispersion layer which will help to decrease the overall PSID even when used in conjunction with granular medias. Graphs are available to show how using Foamulations' reticulated media as a dispersion or separation layer can improve the overall PSID. Graph F2 shows the PSID in a standard 4.5" x 20" cartridge for the various PPI (pore per inch) or density of reticulated medias available. The 5D media is typically manufactured at 100ppi.



Graph F2

Foamulations can shape, size and cut medias to fit directly in your current housing or we can aid in the development of a housing which will help our media function in the most efficient manor. Foamulations' reticulated media can be used in gravity situations, high and low pressure situations. Contact a Foamulations engineer today to help with your next filtration project.

Water Quality Association
MEMBER

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