

Selecting Filtration Media

Selecting the right filtration media is a science and learned experience, as it needs to be done right to achieve the desired results in a cost efficient manner.

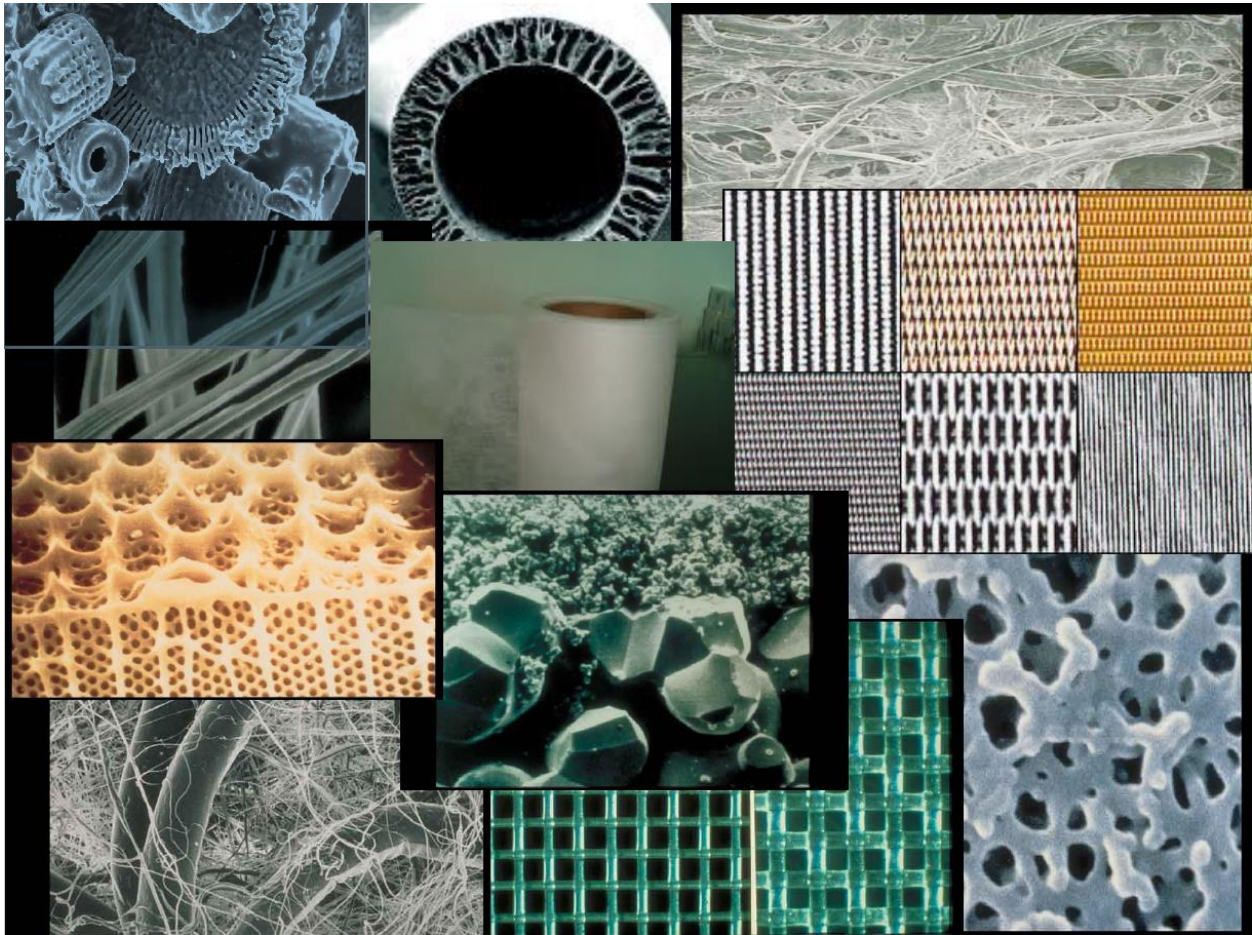
The first need is to understand what is being filtered and the desired level of purity required. This means asking questions specific to the application, before ever considering which media to choose.

- What is the viscosity of the fluid
- Particle size removal need
 - Amount of contaminate
 - Dirt holding capacity desired
 - Efficiency of removal
 - Purity desired
- Particulate makeup
 - Solid or gelatinous
- Desired flow rate
 - Volume to be filtered
- Temperature and pH of the process or fluid
- Dirt-holding capacity
 - Effects frequency of change
- Energy costs and pressure drop relationships
- Filter life requirements

The above is but a sampling of many considerations. Keep in mind, there is always one best choice or category of filtration media, whether it be a ceramic, filter aid, membrane (MF/UF/NF or RO), monofilament woven fabric, porous plastic, wetlaid cellulose or synthetic blend, wire cloth or dozens of other choices from activated carbon to media with a charge whether it be zeta potential, triboelectric or electrets in air filtration.

The key, there is no single perfect media for all uses or never will be...it all depends on the application and the circumstances. It is unusual for a media manufacturer to supply more than one or couple categories of filtration media. For example, a membrane producer does not also produce wetlaid media or the wire cloth weaver does not make porous plastic media etc. Selecting the right media for a specific application requires experience along with plenty of laboratory time, ultimately leading to application experiments, before the job is finished.

Finally, just don't think about media for the final filter, consider what benefits a pre-filter might have in allowing a final filter to achieve longer life.



Keywords
Filtration Media
Filter and Filtration Processes