

I.W. Tremont

Technical and Specialty Papers

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Glass Microfiber



Binderless glass microfiber media is available in many formats such as custom die-cut shapes, disks, sheets, rolls and thimbles.

Glass microfiber filters offered in this product range are produced from 100% borosilicate glass microfiber without the use of binders or strengthening agents. These filters offer many advantages in a wide range of analytical applications.

The fibers used to manufacture these depth filters are smooth and uniform. This permits their characteristically high flow rates while allowing retention of exceptionally small particles and high load capacity. These characteristics are particularly important in applications involving high concentrations of particulate or gelatinous substances. In choosing the appropriate filter for a specific application, careful consideration should be given to the physical form and concentration of the material to be captured by the filter.

Grade A - Fine porosity, fast flow rate, with a $1.5\mu\text{m}$ size particle retention. Frequently used in the filtration of precipitated proteins and cells. Ideally suited for use as a filter for radioimmuno assay of weak beta emitters by scintillation counting and gravimetric determination of airborne particulate. Binderless borosilicate glass microfiber.

Grade B - Fine porosity, medium to fast flow rate, with a $0.9\mu\text{m}$ size particle retention. Ideally suited for the collection of biochemical polymers that have been precipitated by denaturation. This material is twice as thick as Grade A with a higher loading capacity. May also be used as a particulate filter for gasses or as a prefilter. Binderless borosilicate glass microfiber.

Grade C - Fine porosity, fast flow rate, with a $1.1\mu\text{m}$ size particle retention. Frequently used for RIA procedures and harvesting lymphocytes. Binderless borosilicate glass microfiber.

Grade D - Coarse porosity, fast flow rate, with a $2.6\mu\text{m}$ size particle retention. Well suited for higher volume and repetitive laboratory filtering. Also ideally used as a general pre-filter to extend final filter life. Binderless borosilicate glass microfiber.

Grade E - Fine porosity, fast flow rate, with a $1.3\mu\text{m}$ size particle retention. This material is an economical media for suspended particle analysis in water, cell harvesting, pre-filtration and air monitoring applications. Binderless borosilicate glass microfiber.

Grade F - Fine porosity, medium flow rate, with a $0.7\mu\text{m}$ size particle retention. Frequently used with Grade D to filter diluted aqueous solutions containing strong oxidizing, acidic, or alkaline components prior to laser spectroscopy. May also be used for TCLP analysis and collecting extremely fine precipitated proteins, including immunoglobulins. Binderless borosilicate glass microfiber.

934-AH® - Fine porosity, fast flow rate, with a $1.5\mu\text{m}$ size particle retention. This material is the standard for suspended solids content and related measurements (Standard Methods 2540D and EPA Method 160.2). Also widely used in cell harvesting applications and RIA scintillation counting. Binderless borosilicate glass microfiber enables use up to 550°C .

Grade A-E - Fine porosity and fast flow rate, with a $1.0\mu\text{m}$ size particle retention. Binderless borosilicate glass microfiber. DOP efficiency is 99.98%. Primarily used in suspended solids and air monitoring.

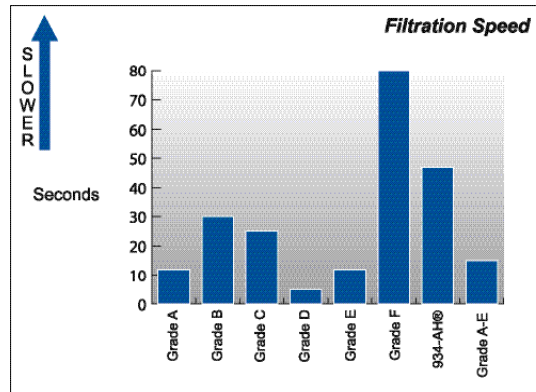
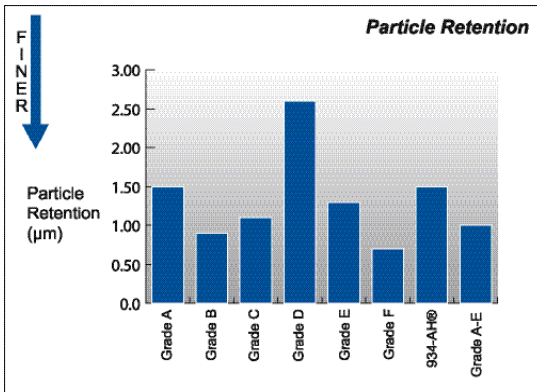
Depth filtration categorizes filter media that traps particulate within the random matrix of fibers found within the thickness of the media. The efficiency rating of the filter is characteristic of the complex void space structure that develops as the fibers overlap. The fibrous material within the filter is commonly glass microfiber, cellulose or polypropylene. In depth filters using glass microfiber, the purity of the filter is dictated by the presence of, if any, binder material that acts as a strengthening agent and aids in holding the fibers together. All of the media described on this page are 100% borosilicate glass and free of binders.

Because of the characteristically high flow rates of depth filters, they are generally used in applications such as single and multi process removal of sediment and coarse particulate. Glass microfiber filters without binders are an ideal medium to entrap sediment for further analysis and counting due to the inert matrix. Also, depth filtration media are commonly used for pre-filtration prior to surface filtration with substrates such as membranes.

Grade	Particle Retention (µm)	Filtration Speed (sec.)	Thickness (mm)	Basis Weight (g/m ²)
Grade A	1.50	12	0.30	55
Grade B	0.90	30	0.65	140
Grade C	1.10	25	0.28	50
Grade D	2.60	5	0.60	120
Grade E	1.30	12	0.35	70
Grade F	0.70	80	0.40	80
934-AH®	1.50	47	0.43	64
Grade A-E	1.00	15	0.33	60

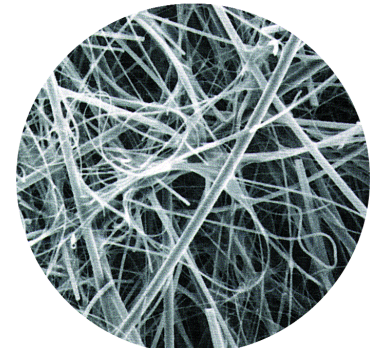
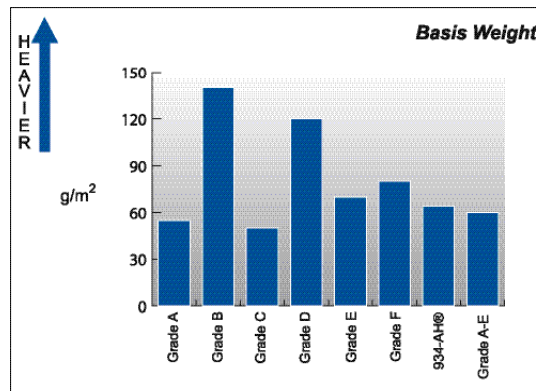
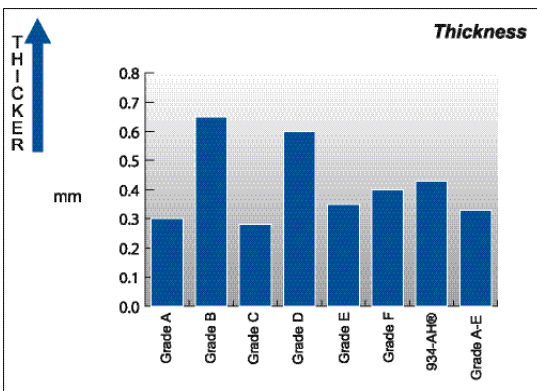
Characteristics of Glass Micro Fiber Media:

- Fastest Flow Rate
- High Load Capacity
- Retention of particles to sub-micron size
- Temperature range up to 500° C
- Use in liquid and gaseous filtration
- Inert fiber composition
- Free of binders or additives



934-AH® is specified in standard methods for use in:

- Determination of Suspended Solids
- Determination of Total Dissolved Solids
- Determination of Total solids
- Determination of Total Volatile Solids



Photomicrograph of Glass Microfiber