

PRODUCT INFORMATION SHEET

FP-XM GLASS FIBER FILTER PAPER

WHERE X = DIMENSIONS OF FILTER PAPER

GENERAL

Glass Fiber Filter Paper Grade FP-XM is made from 100% high quality borosilicate glass micro fibers. It is designed to be used as a general-purpose filtration media. FP-XM is an excellent all-around analytical grade filtration media for use in removal of micron and submicron size particulate from both liquids and gases. This glass fiber filter possesses less than 5% acrylic binder and typically is of excellent purity. This purity makes FP-XM very useful in reducing the number of possible variables, which are frequently introduced into experimentation from trace levels of extractable organic, inherent in cellulose filter paper.

CHARACTERISTICS

PARTICLE RETENTION

For air or gas filtration FP-XM has a DOP efficiency of 98% when measured at a flow velocity of 32 liters per minute, through a 100 cm² area, with a particle concentration of 100 micrograms per liter of air. DOP (dioctylphthalate) particles used in such determinations have an average size of 0.3 microns.

Liquid filtration particle retention values are highly dependent on numerous factors, which affect a depth filter's ability to capture and hold particulate. These factors include physical shape of the particles, viscosity of the solution, flow velocity and others. Although gauging particle retention values for liquid filtration are not as definitive as for air filtration, it is estimated that FP-XM retains particles in the 1 to 2 micron range with very high efficiency.

HIGH FLOW RATE

The non-fibrillated structure of the glass microfibers used in FP-XM allows very rapid flow rates to be achieved, without the loss of collection efficiency for small particles. Use of flow vacuum makes it possible to achieve flow rates equal to, or faster than cellulose filters having far lower retention efficiency in the one to two micron ranges for liquid filtration. The exceptionally high flow rates able to be achieved with glass fiber filters makes FP-XM ideal for procedures which require low back pressure while collecting particles as small as a few tenths of a micron in air or gas filtration.

HIGH LOADING CAPACITY

Load capacity is a measure of a filter's ability to collect particulate without clogging or cessation of flow. The geometrical configuration of the glass microfibers and their formation into paper form in FP-XM permits very high loading capacity. Using FP-XM in place of conventional cellulose paper filters can increase collection of virtually all types of particulate. This is particularly useful when working with samples containing very high concentrations of particulates.

FP-XM (continued)

CHEMICAL AND PHYSICAL INERTNESS

FP-XM, made from 100% borosilicate glass microfibers, is highly inert and resistant to chemical reaction. This property makes FP-XM ideal for those analytical applications which require exposure to acidic or alkaline solutions. Only prolonged exposure to strongly alkaline solutions and certain strong acids, such as hydrofluoric acid, can cause weakening of the filter structure and fibers.

HIGH TEMPERATURE RESISTANCE

Borosilicate glass is known for its high temperature resistance. Fibers used for manufacturing FP-XM have a softening point of around 678°C. However, it is recommended that the filter not be exposed to temperatures in excess of 500°C except for short periods; otherwise, damage to the structural integrity of the filter may occur. This high temperature resistance makes FP-XM ideal for analytical procedures where volatile or organic material must be removed by exposing the filter to a laboratory furnace. These filters are highly suitable and recommended for determination of suspended and volatile suspended solids in water analysis.

TRANSPARENCY

FP-XM is made from borosilicate glass, which has a refractive index of 1.5097 and can be made transparent by placing the filter into a liquid having a similar refractive index. Benzene generally produces excellent results in rendering FP-XM almost transparent. This property is extremely useful in examining the various particles, which become entrapped on and just below the filter surface, thus making visual identification of various precipitates, crystals, air and water borne particulates possible.

FUNCTIONAL SPECIFICATIONS

Fiber Type	100% Borosilicate Glass Microfiber
Basis Weight	58 lb. per 500 24" × 36" sheets
Color	White
Thickness	0.020 inches
Binder	Acrylic
Surface Texture	Smooth
Dry Tensile	5 lbs. per inch width
Wet Tensile	Not Applicable

AVERAGE PARTICLE RETENTION VALUE

Liquid	Est. 1 to 2 micron
Percent DOP Penetration	2%

DIMENSIONS AVAILABLE

CIRCULAR DISCS

21mm
47mm
50mm
2.0 inch
2.25 inch
4.0 inch

RECTANGULAR SHEETS

8" × 10"
Other sizes available upon request

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