Grade GF/F

Binder free glass microfiber filter paper exhibiting very fine particle retention with a medium flow rate and a superior loading capacity compared to membranes of the same retention. Used to develop the EPA TCLP 1311 method and recommended for DNA binding and purification.

Typical data*

Grade:		**GF/F**
Type:		**GF**
Description:		**Pure borosilicate glass microfiber**
Composition:	Fiber type	**100% glass fiber**
	Including binder?	**No**
Filtration speed:	Fast/medium/slow	**Medium**

Property	Description	Data	Units
Basis weight	Weight of 1 sq meter of filter paper	**75**	**g/m^2**
Air flow rate (Gurley)	Time taken for a defined volume of air to pass through a defined area of filter paper under constant pressure	**19**	**s/100 mL/1 sq in**
Typical thickness	Thickness under a defined pressure and contact area	**420**	**µm @ 53 kPa**
Typical water flow rate	Volume of water filtered through the filter paper using a defined area, pressure and time	**40**	**mL/min**
Maximum operating temperature	The maximum temperature the product can withstand for 1 hour	**550**	**°C**
Dry burst	The maximum pressure dry filter paper can withstand using an exposed area of 1 sq inch	**64**	**kPa**
Water breakthrough pressure	The water pressure required before water penetrates through the paper filter in a 1 sq inch challenge area, 4.7 cm diameter holder	**N/A**	**inches H_2O**
Autoclavability	Capability of withstanding treatment under 121℃ and steam for 20 min	**Yes**	**N/A**
Air retention efficiency	Retention efficiency of filter in air using 0.3 µm particles at a flow rate of 32 L/min using an area of 100 cm^2	**N/A**	**%**
Pressure drop	Pressure drop of filter paper under constant air flow rate (32 L/min) using an area of 100 cm^2	**N/A**	**mm H_2O**
Bacterial retention efficiency in air	ASTM F2100 (ASTM F2101 and Mil-M-36954C) and EN14683 under flow rate of 28.3 L/min	**N/A**	**%**
Viral retention efficiency in air	ASTM F2100 (ASTM F2101 and Mil-M-36954C) and EN14683 under flow rate of 28.3 L/min	**N/A**	**%**
Particle retention efficiency in liquid	Particle retention rating of filter at 98% efficiency in liquid	**0.7**	**µm**
Wet burst	The maximum pressure wet filter paper can withstand using an exposed area of 1 sq inch	**9**	**inches H_2O**
Wet burst - applicational use	The maximum vacuum pressure the filter paper can withstand during use in 100 mm diameter Büchner funnel	**346.3**	**inches H_2O**

*Typical data only and does not represent a product specification

Trace element composition – ppm

Silver	(Ag)	0.007	Aluminum	(Al)	1.7×10^4
Arsenic	(As)	4.8	Sodium	(Na)	5.0×10^4
Beryllium	(Be)	0.1	Magnesium	(Mg)	876.5
Cobalt	(Co)	0.036	Potassium	(K)	2.4×10^4
Chromium	(Cr)	8.1	Calcium	(Ca)	9.2×10^3
Copper	(Cu)	0.5	Iron	(Fe)	309.2
Mercury	(Hg)	< 0.005	Strontium	(Sr)	132.9
Lithium	(Li)	1.9	Titanium	(Ti)	38.0
Manganese	(Mn)	3.6	Zirconium	(Zr)	233.5
Nickel	(Ni)	0.6	Barium	(Ba)	1.9×10^4
Antimony	(Sb)	0.3	Zinc	(Zn)	3.3×10^4
Lead	(Pb)	0.6	Phosphorus	(P)	14.7
Boron	(B)	3.3×10^4	Silicon	(Si)	3.8×10^5

Note: Samples were digested with 6 mL HNO_3, 1 mL H_2O_2 and 3 mL HF and then tested by ICP-MS

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