Typical data

Grade 50 – Quantitative Filter*

Quantitative acid hardened low ash cellulose filter paper with fine retention and slow flow rate. The surface is highly glazed keeping paper free from loose fibers. It is strong when wet allowing precipitate removal by scrapping and also vacuum filtration in a Buchner or 3 piece funnel.

Grade:		50
Type:		CF
Description:		Hardened low ash
Composition:	Fiber type	100% cotton fiber
	Including binder?	No
Filtration speed:	Fast/medium/slow	Slow

Property	Description	Data	Units
Basis weight	Weight of 1 sq meter of filter paper	96	g/m²
Typical thickness	Thickness under a defined pressure and contact area	115	µm @ 53 kPa
Filtration speed	Volume of water filtered through the filter paper using a defined area, pressure and time	13	mL/2 min
Maximum operating temperature	The maximum temperature the product can withstand for 1 hour	N/A	°C
Ash value	Ash content remaining after firing the filter paper at approximately 800°C	0.015	%
Autoclavability	Capability of withstanding treatment under 121°C and steam for 20 min	Yes	
Surface characteristics	Smooth/creped	Smooth	
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 cm²	N/A	%
Particle retention efficiency in liquid	Particle retention rating of filter at 98% efficiency in liquid	2.1	µm
Wet burst	The maximum pressure wet filter paper can withstand using an exposed area of 1 sq inch	6	psi
Wet burst - applicational use	The maximum vacuum pressure the filter paper can withstand during use in 100 mm diameter Büchner funnel	404	inches H₂O
Alpha cellulose content minimum		N/A	%
Phase separation functionality	The capability of separating water and organic solvent	N/A	N/A
Chemical compatibility HCl	Capability of withstanding HCl	1.00	mol/L
Chemical compatibility NaOH	Capability of withstanding NaOH	1.00	mol/L

*Typical data only and does not represent a product specification

Trace element composition – ppm

Silver	(Ag)	< 0.2	Aluminum	(Al)	< 0.4
Arsenic	(As)	< 0.4	Sodium	(Na)	11.6
Beryllium	(Be)	< 0.1	Magnesium	(Mg)	4.7
Cobalt	(Co)	< 0.4	Potassium	(K)	4.9
Chromium	(Cr)	0.5	Calcium	(Ca)	68.0
Copper	(Cu)	< 0.2	Iron	(Fe)	3.9
Mercury	(Hg)	< 0.4	Strontium	(Sr)	< 0.1
Lithium	(Li)	< 0.2	Titanium	(Ti)	< 0.5
Manganese	(Mn)	< 0.1	Zirconium	(Zr)	< 0.1
Nickel	(Ni)	< 1.0	Barium	(Ba)	0.2
Antimony	(Sb)	< 2.0	Zinc	(Zn)	1.9
Lead	(Pb)	< 1.0	Phosphorus	(P)	< 2.0
Boron	(B)	< 0.3	Silicon	(Si)	147.0

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

gelifesciences.com/Whatman