

# SARTORIUS

## Simplifying Progress

### Depth Filters - Specifications

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Usage Guide



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# Quantitative Filter Papers

Grade	Weight g/m <sup>2</sup>	Thickness (mm)	Filtration Time (s)*	Particle retention (µm)	Precipitates	Properties
388 (black dot)	84	0.21	10	12 - 15	Coarse crystalline	Fast filtration
389 (white dot)	84	0.19	20	8 - 12	Medium-fine crystalline	Medium-fast filtration, fat-free
392 (red dot)	84	0.17	50	5 - 8	Fine crystalline	Medium-fast filtration
390 (green dot)	84	0.16	100	3 - 5	Fine crystalline	Slow filtration
391 (blue dot)	84	0.15	180	2 - 3	Very fine crystalline	Very slow filtration
393 (purple dot)	100	0.18	300	1 - 2	Very fine crystalline	Very slow filtration

\* Time required to filter 10 mL of distilled water at 20°C through a 110 mm folded filter



# Qualitative Filter Papers

Grade	Material	Weight g/m <sup>2</sup>	Thickness (mm)	Wet bursting strength (kPa)	Ash content (%)	Wet strength	Particle retention (µm)	Properties
1288	Refined pulp and Linters	84	0.21	≥ 30	< 0.1	x	12 -15	Wide pored, fast rate of filtration
1289	Refined pulp and Linters	84	0.21	≥ 30	< 0.1	x	8 -12	Medium-wide pored, medium-fast rate of filtration
1292	Refined pulp and Linters	84	0.17	≥ 30	< 0.1	x	5 -8	Medium pored moderately fast rate of filtration
1290	Refined pulp and Linters	84	0.15	≥ 30	< 0.1	x	3 -5	Narrow pored, slow rate of filtration
1291	Refined pulp and Linters	84	0.15	≥ 30	< 0.1	x	2 -3	Fine pored, very slow rate of filtration
293	Refined pulp and Linters	80	0.15	≥ 20	< 0.1	x	1 -2	Very fine pored, very slow rate of filtration
131	Refined pulp and Linters	80	0.16	20	< 0.02		3 -5	Narrow pored, slow rate of filtration
132	Refined pulp and Linters	80	0.17	20	< 0.02		5 -8	Medium pored, medium-slow rate of filtration
292	Cotton Linters	87	0.18	5	< 0.06		5 -8	Medium pored, medium-slow rate of filtration
292a	Cotton Linters	97	0.19	5	< 0.06		4 -7	Medium to narrow pored, medium-slow rate of filtration



eShop (1288 - 293)



eShop (131 - 292a)

# Qualitative - Technical Filter Papers, Smooth

Grade	Weight g/m <sup>2</sup>	Thickness (mm)	Filtration Time (s)*	Particle retention (µm)	Wet Bursting Strength (kPa)	Color	Properties
6	80	0.17	15	10 - 13	≥ 30	White	Medium-fast filtration
3 w	65	0.14	15	9 - 13	≥ 15	White	Medium-fast filtration
3 hw	65	0.14	20	8 - 12	≥ 15	White	Medium-fast filtration
C 140	140	0.30	20	7 - 11	> 50	White	Medium-fast filtration
4 b	75	0.15	22	8 - 12	≥ 30	White	Medium-fast filtration
3 m/N	65	0.14	30	7 - 10	≥ 30	White	Medium-fast filtration
100/N	85	0.18	30	6 - 8	≥ 80	White	Medium-fast filtration, low ammonium, potassium & sodium content
918	85	0.17	45	8 - 10	n/a	Black	Medium-fast to slow filtration, black paper, stained with a sulfur coloring
3 S/h	200	0.36	55	5 - 7	≥ 15	White	Medium-fast to slow filtration

\* Time required to filter 10 mL of distilled water at 20°C through a 110 mm folded filter



# Qualitative - Technical Filter Papers, Creped

Grade	Weight g/m <sup>2</sup>	Thickness (mm)	Filtration Time (s)*	Wet Bursting Strength (kPa)	Air Resistance (mbar)	Properties
5 H/N	85	0.28	3	≥ 40	n/a	Very fast filtration, wide-pore
34/N	80	0.25	5	≥ 50	2.0	Very fast filtration
37/N	135	0.50	4	≥ 70	1.9	Very fast filtration
1602/N	70	0.23	5	≥ 30	n/a	Very fast filtration
39/N, 180 g	180	0.65	5	≥ 90	2.5	Very fast filtration
39/N, 300 g	300	0.95	5	≥ 120	2.5	Very fast filtration
603/N	75	0.25	8	≥ 50	n/a	Fast filtration
6 S/N	145	0.55	12	≥ 90	n/a	Medium-fast filtration
601/N	65	0.19	13	≥ 30	n/a	Medium-fast filtration, for sugar industry

\* Time required to filter 10 mL of distilled water at 20°C through a 110 mm folded filter



# Absorptive Filter Papers and Cardboards

Grade	Weight g/m <sup>2</sup>	Thickness (mm)	Filtration Time (s)*	Wet Bursting Strength (kPa)	Dry bursting strength (kPa)	Air Resistance (mbar)	Capillary Rise (mm/ 10 min)	Water Capacity (%)	Properties
C 160	160	0.30	40	> 50		25	80		Filtration of fine-flaked precipitates
1339	315	0.63		≥ 230	≥ 500	42	≥ 60		Raw paper for Bowie-Dick-test indicator sheets, sterilization control
C 350L	360	0.75		≥ 200		30	80		Antibiotic testing paper, ash content < 0.08 %
151	460	1.00			≥ 400	19	120		Base paper for cyto-strips
1220	475	1.00	200				120		Filtration of essential oils, galvanic baths, use in filter presses, ash content of 0.15 %
SEK 770	800	100						≥ 500	Absorbent paper board for the transport of liquids

\*Time required to filter 10 mL of distilled water at 20°C through a 110 mm folded filter



# Blotting and Chromatography Papers

Grade	Weight g/m <sup>2</sup>	Thickness (mm)	Capillary Rise (mm/10 min)	Capillary Rise (mm/30 min)	Ash Content	pH Value	Properties
BF 2	195	0.35	70	115			Blotting paper
BF 3	330	0.76	130				Blotting paper
BF 4	550	1.30	160				Blotting paper
FN 3	90	0.19		95	≤ 0.04	7	Blotting & Chromatography paper, medium-fast absorption
FN 4	125	0.24		95	≤ 0.04	7	Blotting & Chromatography paper, medium-fast absorption
FN 7	150	0.32		145	≤ 0.04	7	Blotting & Chromatography paper, fast absorption
FN 30	320	0.90		240	≤ 0.05	7	Blotting & Chromatography paper, very fast absorption
FN 100	195	0.35	70	115	≤ 0.04	7	Blotting & Chromatography paper, fast absorption





# Seed Germination Test Papers

Grade	Weight (g/m <sup>2</sup> )	Thickness (mm)	Color	Wet Bursting Strength (kPa)	Water Absorption (g/100 cm <sup>2</sup> )	ISTA Test Method	Properties
20	110	0.22	White			PP	Pleated strips, white, 2,000 x 110 mm
20, gray	110	0.22	Gray			PP	Pleated strips, gray, 2,000 x 110 mm
4 b	75	0.15	White	≥ 30		PP	Wrapping strips
6	80	0.17	White	≥ 30		PP	Wrapping strips
C 140	140	0.30	White	≥ 50		TP	Smooth paper
6 S/N	145	0.55	White	≥ 90		TP	Creped paper
193	160	0.32	Yellow			TP	Smooth paper
191	700	1.35	Light Blue	≥ 50	12.8	TP	Smooth paper
39/N	180	0.62	White			BP	Creped paper



# Special Papers

Grade	Material	Weight (g/m <sup>2</sup> )	Thickness (mm)	Water Absorption (%)	Properties
LabSorb	Polyethylene-coated paper	140		150	Polyethylene-coated paper for surface protection
Labsorb Ultra	Polyethylene-coated paper	187		300	Polyethylene-coated paper with high water absorption
480	Silicone-impregnated paper	85	0.19		Hydrophobic phase separating paper for the filtration of solvents
470	Cellulose & diatomaceous earth	140	0.32		Diatomaceous earth filter paper for the filtration of fine precipitates – slow filtration: 80 s
605	Parchment paper	23	0.07		Smooth, soluble for weighing solid particles
2113	Non-linting silk paper	13			Very thin and soft lit-free paper for the cleaning of optical surfaces such as lens and mirrors of microscopes, cuvettes



eShop (LabSorb)



eShop  
(LabSorb Ultra)



eShop (480)



eShop (470)



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# Glass Microfiber Filters with Binder

Grade	Weight (g/m <sup>2</sup> )	Thickness (mm)	Penetration 0.3 µm (%)	Pressure Drop at 5.3 cm/s (Pa)	Binding Agent	Temperature Resistance (°C)	Applications
13430	220	1.25	< 0.02		Hydrophilic	180 °C	Prefiltration
13400	73	0.39	< 0.015		Hydrophilic	180 °C	Prefiltration
MG 1387/1	90	0.38	< 0.003	400	Hydrophilic	220°C	Gas monitoring, sample preparation
MG 227/1/60	60	0.32	< 0.5		Hydrophobic	220 - 250°C	Air pollution control
MG 400 XA	75	0.35	< 0.001	425	Hydrophobic	180 °C	Air sampling for collection of atmospheric particulates and aerosols



# Glass Microfiber Filters without Binder

Grade	Weight (g/m <sup>2</sup> )	Thickness (mm)	Penetration 0.3 µm (%)	Particle Retention in Liquids (µm)	Filtration Time* (mL/min)	Fulfills requirements in EN 872:2005 (weigh loss)	Temperature Resistance (°C)	Applications
MGA	54	0.24	< 0.001	1.6	435	yes	500	Clarification of buffer and reagent solutions. Air and water pollution monitoring
MGB	143	0.66	< 0.001	1.0	500		500	Prefiltration of large volumes
MGC	54	0.24	< 0.001	1.2	310	yes	500	Analysis of suspended solids in wastewater according to EN 872:2005
MGD	120	0.51	< 0.01	2.7	875		500	Prefiltration
MGF	75	0.36	< 0.001	0.7	135		500	Clarification of protein solutions, filtration of liquids prior to HPLC, TCLP Testing
MGG	65	0.29	< 0.001	1.5	570		500	Filtration of gasses and liquids
13440	88	0.44		0.7	120	yes	500	Prefiltration
MG 160	75	0.33	< 0.001	1.2	410		500	Air monitoring; PM-10 sampling
MG 550-HA	65	0.27		1.5	500		550	Analysis of suspended solids in wastewater according to 2540D

\*Herzberg method



# Quartz Microfiber Filters

Grade	Weight g/m <sup>2</sup>	Thickness (mm)	Penetration 0.3 µm (%)	Pressure Drop at 5.3 cm/s (Pa)	Dry tensile strength, longitudinal (N/m)	Dry tensile strength, crosswise (N/m)	Temperature Resistance	Pre-heated
Q3400	85	0.43	< 0.002	450	200	80	900 °C +/-10 %	yes
T 293	85	0.43	< 0.002	450	150	70	900 °C +/-10 %	no




**Germany**

Sartorius Lab Instruments GmbH & Co. KG  
Otto-Brenner-Strasse 20  
37079 Goettingen  
Phone +49 551 308 0

**USA**

Sartorius Corporation  
3874 Research Park Dr.  
Ann Arbor, MI 48108  
Phone +1 734 769 1600

 For further contacts, visit  
[www.sartorius.com](http://www.sartorius.com)