



Filter Papers

for the Laboratory
and Industry

Simplifying Progress

SARTORIUS

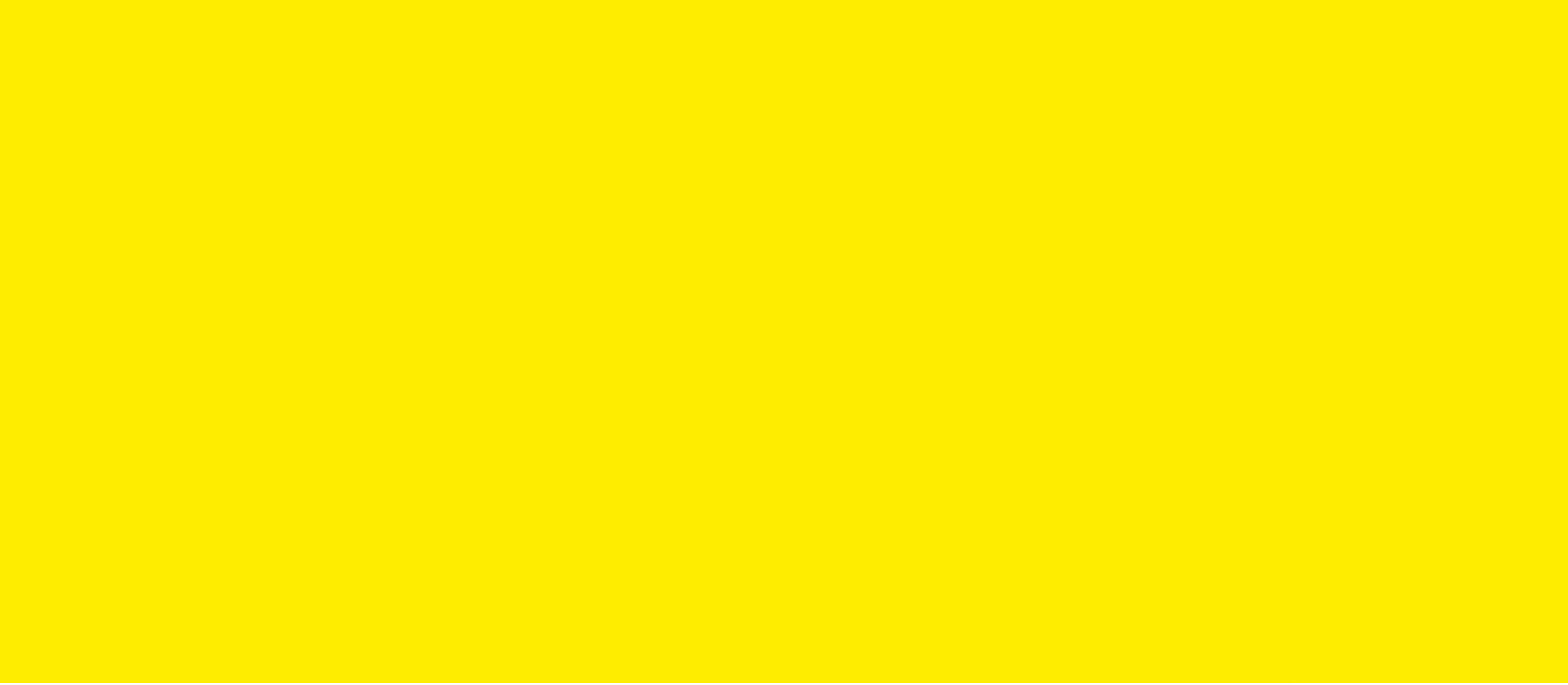


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Filter Papers – An Introduction

High-grade filter papers are indispensable for routine work in laboratory and industrial applications. Sartorius supplies you with a broad range of filter papers for myriad filtration tasks and supports you in solving all your filtration challenges.

With this catalog, we invite you to familiarize yourself with our broad product range. Here, you will find typical examples intended to help you quickly select the filter paper that is right for your application.

Our Product range covers:

- Quantitative, qualitative filter papers
- Technical papers and boards
- Blotting and chromatography papers
- Glass and quartz microfiber filters
- And many other paper grades for special applications

Quality Assurance and Quality Control

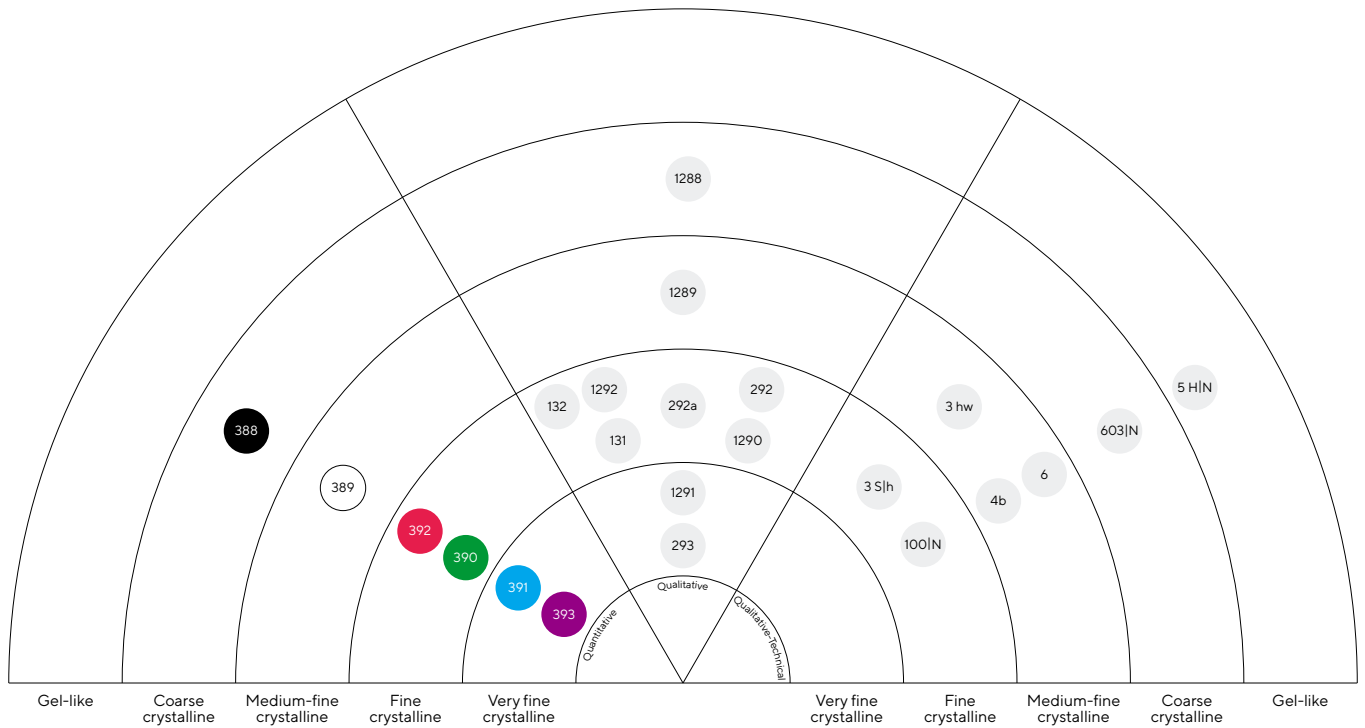
Sartorius pays particular attention to continuous in-process quality control; additionally, regular checks and exact analyses of raw material and of each individual finished product assure constant high quality and product uniformity.

The paper mill meets the requirements set by the ISO 9001 quality management system and the ISO 14001 environmental management system.

How Do Filter Papers Work?

Filter papers are actually depth filters. Various parameters influence their effectiveness: Mechanical particulate retention, absorption, pH, surface properties, thickness and strength of the filter paper as well as the shape, density and quantity of particles to be retained. The precipitates deposited on the filter form a “cake layer”, which – depending on its density – increasingly affects the progress of a filtration run and decisively affects the retention capability. For this reason, it is essential to select the right filter paper to ensure effective filtration. This choice also depends on the filtration method to be used, among other factors. In addition, the amount and properties of the medium to be filtered, the size of the particulate solids to be removed and the required degree of clarification are all decisive in making the right choice.

Product Overview



Quantitative Filter Papers

- | | |
|---|---|
| <p>388 Black dot
Fast filtering, wide-pore, loose structure, ash-free, wet-strengthened</p> | <p>390 Green dot
Slow filtering, narrow-pore, dense, ash-free, wet-strengthened</p> |
| <p>389 White dot
Medium fast filtering, medium- to wide-pore, low-fat content, ash-free, wet-strengthened</p> | <p>391 Blue dot
Very slow filtering, fine-pore, very dense, ash-free, wet-strengthened</p> |
| <p>392 Red dot
Medium fast filtering, medium density ash-free, wet-strengthened</p> | <p>393 Purple dot
Very slow filtering, very fine-pore, very dense, ash-free, wet-strengthened</p> |

Ash-free Filter Papers for Quantitative and Gravimetric Analyses

These filter papers are used for quantitative and gravimetric analyses as well as for pressure or vacuum filtration. They are made out of 100 % cotton linters with an α -cellulose content of > 98% and are acid-washed to make the papers ashless and achieve high purity.

In gravimetric applications, the cake layer is calcined and the residue quantified. For quantitative analysis of the filtrate, the filter paper must not give off any foreign substances. This guarantees that no test results are falsified. That is why it is important that the filters are ash-free.

For some quantitative analyses, the cake layer has to be mechanically removed from the filter (for example, with a water jet or a spatula). The filter must be wet-strengthened so that it doesn't break when the cake layer is removed.

Application Examples

Application	Grade
Determination of ash content	388
Gravimetric analysis of metals	388
Analysis of alkaline earth carbonates	389
Determining the fat content in natural raw materials	389
Gravimetric analyses in power plants	392
Filtration of fine precipitates	390
Filtration of fine-grained precipitates	391, 393
Blaine Test for cement (EN 196-6:2010)	392, 391, 390, 389

- Made of 100 % cotton linters
- Ash-free (Ash content $\leq 0.01\%$ according to DIN 54370)
- Wet-strengthened
- Color-coded box for easy selection
- Supplied in rolls, sheets, discs and folded filters



Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Particle retention (µm)	Filtration (s)*	Precipitates	Properties
■ 388	84	0.21	12-15	10	Coarse crystalline	Wide-pore, loose structure, fast filtering
□ 389	84	0.19	8-12	20	Medium-fine crystalline	Medium- to wide-pore, medium fast filtering
■ 392	84	0.17	5-8	50	Fine crystalline	Medium dense, medium fast filtering
■ 390	84	0.16	3-5	100	Fine crystalline	Narrow-pore, dense, slow filtering
■ 391	84	0.15	2-3	180	Very fine crystalline	Fine-pore, dense, very slow filtering
■ 393	100	0.18	1-2	300	Very fine crystalline	Very fine-pore, very dense, very slow filtering

* See test methods, page 33

Ordering Information



Filter Discs, 100 pieces

Ø in mm	Grade 388	Grade 389	Grade 390	Grade 391	Grade 392	Grade 393
55	FT-3-101-055	FT-3-102-055	FT-3-103-055	FT-3-104-055	FT-3-105-055	FT-3-127-055
70	FT-3-101-070	FT-3-102-070	FT-3-103-070	FT-3-104-070	FT-3-105-070	FT-3-127-070
90	FT-3-101-090	FT-3-102-090	FT-3-103-090	FT-3-104-090	FT-3-105-090	FT-3-127-090
110	FT-3-101-110	FT-3-102-110	FT-3-103-110	FT-3-104-110	FT-3-105-110	FT-3-127-110
125	FT-3-101-125	FT-3-102-125	FT-3-103-125	FT-3-104-125	FT-3-105-125	FT-3-127-125
150	FT-3-101-150	FT-3-102-150	FT-3-103-150	FT-3-104-150	FT-3-105-150	FT-3-127-150
185	FT-3-101-185	FT-3-102-185	FT-3-103-185	FT-3-104-185	FT-3-105-185	FT-3-127-185
240	FT-3-101-240	FT-3-102-240	FT-3-103-240	FT-3-104-240	FT-3-105-240	FT-3-127-240



Folded Filters, 100 pieces

Ø in mm	Grade 388	Grade 389	Grade 390	Grade 391	Grade 392
110	FT-4-101-110	FT-4-102-110	FT-4-103-110	FT-4-104-110	FT-4-105-110
125	FT-4-101-125	FT-4-102-125	FT-4-103-125	FT-4-104-125	FT-4-105-125
150	FT-4-101-150	FT-4-102-150	FT-4-103-150	FT-4-104-150	FT-4-105-150
185	FT-4-101-185	FT-4-102-185	FT-4-103-185	FT-4-104-185	FT-4-105-185
240	FT-4-101-240	FT-4-102-240		FT-4-104-240	



Sheets in 580 × 580 mm, 100 pieces

Grade 388	Grade 389	Grade 390	Grade 391	Grade 392	Grade 393
FT-2-101-580580	FT-2-102-580580	FT-2-103-580580	FT-2-104-580580	FT-2-105-580580	FT-2-127-580580

Other dimensions are available on request

Wet-strengthened Filter Papers for Qualitative Analyses

These qualitative filter papers are essentially used for analytical purposes and routine analyses, whenever no gravimetric analyses are required. They are wet-strengthened and can be used for pressure and vacuum filtration. They are made of refined pulp and linters with an >95% α -cellulose content, are very pure with an ash content <0.1%.

Application Examples

Application	Grade
Must analysis	1288
Routine filtration for malt analysis	1289
Rapid filtration of fine precipitates	1292
Analysis of coffee extracts	1290
Tannin solutions	1291
Clarification of wine	293

- Made of refined pulp and cotton linters with an >95% α -cellulose content
- Ash content \leq 0.1% according to DIN 54370
- Wet-strengthened
- Supplied in rolls, sheets, discs and folded filters



Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Particle retention (µm)	Filtration (s)*	Precipitates	Properties
1288	84	0.21	12-15	10	Coarse crystalline	Wide-pore, loose structure, fast filtering
1289	84	0.21	8-12	20	Medium-fine crystalline	Medium- to wide-pore, medium fast filtering
1292	84	0.17	5-8	20	Fine crystalline	Medium dense, medium fast filtering
1290	84	0.15	3-5	100	Fine crystalline	Narrow-pore, dense, slow filtering
1291	84	0.15	2-3	180	Very fine crystalline	Fine-pore, dense, very slow filtering
293	80	0.15	1-2	300	Very fine crystalline	Very fine-pore, very dense, very slow filtering

* See test methods, page 33

Ordering Information



Filter Discs, 100 pieces

Ø in mm	Grade 1288	Grade 1289	Grade 1290	Grade 1291	Grade 1292	Grade 293
55	FT-3-206-055	FT-3-207-055	FT-3-208-055	FT-3-209-055	FT-3-210-055	FT-3-211-055
70	FT-3-206-070	FT-3-207-070	FT-3-208-070	FT-3-209-070	FT-3-210-070	FT-3-211-070
90	FT-3-206-090	FT-3-207-090	FT-3-208-090	FT-3-209-090	FT-3-210-090	FT-3-211-090
110	FT-3-206-110	FT-3-207-110	FT-3-208-110	FT-3-209-110	FT-3-210-110	FT-3-211-110
125	FT-3-206-125	FT-3-207-125	FT-3-208-125	FT-3-209-125	FT-3-210-125	FT-3-211-125
150	FT-3-206-150	FT-3-207-150	FT-3-208-150	FT-3-209-150	FT-3-210-150	FT-3-211-150
185	FT-3-206-185	FT-3-207-185	FT-3-208-185	FT-3-209-185	FT-3-210-185	FT-3-211-185
240	FT-3-206-240	FT-3-207-240	FT-3-208-240	FT-3-209-240	FT-3-210-240	



Folded Filters, 100 pieces

Ø in mm	Grade 1288	Grade 1289	Grade 1290	Grade 1290	Grade 1291	Grade 293
110	FT-4-206-110	FT-4-207-110	FT-4-208-110	FT-4-209-110	FT-4-210-110	
125	FT-4-206-125	FT-4-207-125	FT-4-208-125	FT-4-209-125	FT-4-210-125	FT-4-211-125
150	FT-4-206-150	FT-4-207-150	FT-4-208-150	FT-4-209-150	FT-4-210-150	FT-4-211-150
185	FT-4-206-185	FT-4-207-185	FT-4-208-185	FT-4-209-185	FT-4-210-185	FT-4-211-185
240	FT-4-206-240	FT-4-207-240	FT-4-208-240	FT-4-209-240	FT-4-210-240	FT-4-211-240



Sheets in 580 × 580 mm, 100 pieces

Grade 1288	Grade 1289	Grade 1290	Grade 1291	Grade 1292	Grade 293
FT-2-206-580580	FT-2-207-580580	FT-2-208-580580	FT-2-209-580580	FT-2-210-580580	FT-2-211-580580

Other dimensions are available on request

High-Purity Filter Papers for Qualitative Analyses

These paper grades are used for analytical purposes that require a low ash content. Grades 292 and 292a are especially suitable for soil analyses because they are low in nitrogen. For phosphate or sodium determination, we recommend grades 131 and 132.



Application Examples

Application	Grade
Malt filtration according to EBC standards	292
Determination of nitrogen content in soils	292, 292a
Determination of phosphate and sodium content in soils	131, 132

- Pure cotton linters or cotton linters with refined pulp
- No additives, such as wet-strengthening agents
- Supplied in rolls, sheets, discs and folded filters

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Particle retention (µm)	Filtration (s)*	Material
292	87	0.18	5-8	45	Cotton linters, low-nitrogen and nitrates, ash content ≤0.06% according to DIN 54370
292a	97	0.19	4-7	60	Cotton linters, low-nitrogen and nitrates, ash content ≤0.06% according to DIN 54370
132	80	0.17	5-8	55	Cotton linters and refined pulp, low-phosphate and low-potassium, ash content <0.02% according to DIN 54370
131	80	0.16	3-5	100	Cotton linters and refined pulp, low-phosphate and low-potassium, ash content <0.02% according to DIN 54370

* See test methods, page 33

Ordering Information



Filter Discs, 100 pieces

Ø in mm	Grade 131	Grade 132	Grade 292	Grade 292a
55		FT-3-329-055	FT-3-205-055	FT-3-215-055
70		FT-3-329-070	FT-3-205-070	FT-3-215-070
90		FT-3-329-090	FT-3-205-090	FT-3-215-090
110		FT-3-329-110	FT-3-205-110	FT-3-215-110
125	FT-3-351-125	FT-3-329-125	FT-3-205-125	FT-3-215-125
150		FT-3-329-150	FT-3-205-150	FT-3-215-150
185		FT-3-329-185	FT-3-205-185	FT-3-215-185
240		FT-3-329-240	FT-3-205-240	FT-3-215-240



Folded Filters, 100 pieces

Ø in mm	Grade 131	Grade 132	Grade 292	Grade 292a
110	FT-4-351-110	FT-4-329-110	FT-4-205-110	FT-4-215-110
125	FT-4-351-125	FT-4-329-125	FT-4-205-125	FT-4-215-125
150	FT-4-351-150	FT-4-329-150	FT-4-205-150	FT-4-215-150
185	FT-4-351-185	FT-4-329-185	FT-4-205-185	FT-4-215-185
240		FT-4-329-240	FT-4-205-240	FT-4-215-240

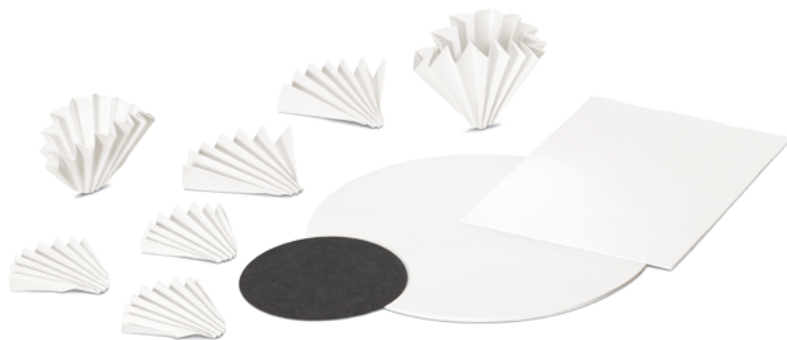


Sheets in 580 × 580 mm, 100 pieces

Grade 292	Grade 292a
FT-2-205-580580	FT-2-215-580580

Smooth Filter Papers for Qualitative & Technical Analyses

These filter papers are used for routine analyses like clarification, determination of substances, but also as discs with a center hole for technical applications. Grades with a wet burst resistance > 30 kPa are referred to as wet-strengthened and are therefore suitable for pressure or vacuum filtration. White and bright particles can be easily detected with the black paper grade 918, due to the color contrast for example for the detection of fluorine or silicon in water or the detection of mycelium in mildews.



Application Examples

Application	Grade
Routine work in the lab	3 hw
Degassing beer before analysis	6
Determination of the sugar content	100/N
Clarification of clear or dyed liquids	3 m/N
Water Absorption test for mortar according to EN 1015-18	3 S/h
Durum wheat flour and semolina - Determination of yellow pigment content (ISO 11052:1994)	918
Clarification and brightening of dull and dark urines	69 k
Polarimetric sugar determination	69 k

- Made of refined pulp and cotton linters with an > 95 % α -cellulose content
- Ash content between 0.1 – 0.15 % (grade 100/N < 0.1%)
- Wet-strengthened
- Supplied in rolls, sheets, discs and folded filters as well as customer-specific cuts

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Filtration (s)*	Particle Retention (µm)	Wet burst resistance (kPa)*	Properties
10	120	0.33	8	11–16	≥ 30	Fast filtering, wide-pore
6	80	0.17	15	10–13	≥ 30	Fast filtering
3 w	65	0.14	15	9–13	≥ 15	Medium fast filtering
3 hw	65	0.14	20	8–12	≥ 15	Medium fast filtering
C 140	140	0.30	20	7–11	> 50	Medium fast filtering
4 b	75	0.15	22	8–12	≥ 30	Medium fast filtering
3 m/N	65	0.14	30	7–10	≥ 30	Medium fast filtering
50 S	120	0.22	30	6–10	≥ 20	Medium fast filtering
100/N	85	0.18	30	6–8	≥ 80	Medium fast filtering, low ammonium, potassium & sodium content
3 h	65	0.13	35	6–9	≥ 15	Medium fast to slow filtering
918	85	0.17	45	8–10		Medium fast to slow filtering, black paper
460/N	90	0.17	50	3–4	≥ 30	Medium fast to slow filtering
3 S/h	200	0.36	55	5–7	≥ 15	Medium fast to slow filtering, narrow-pore
69 k	155	0.36	65	7–9	≥ 20	Slow filtering, narrow-pore, black activated charcoal paper

* See test methods, page 33

Ordering Information



Filter Discs

Ø in mm	Grade 10 (50 pieces)	Grade 100/N (100 pieces)	Grade 3 h (100 pieces)	Grade 3 hw (100 pieces)	Grade 3 m/N (100 pieces)	Grade 3 S/h (50 pieces)
55	FT-3-352-055	FT-3-328-055	FT-3-302-055	FT-3-303-055	FT-3-305-055	FT-3-307-055
70	FT-3-352-070	FT-3-328-070	FT-3-302-070	FT-3-303-070	FT-3-305-070	FT-3-307-070
90	FT-3-352-090	FT-3-328-090	FT-3-302-090	FT-3-303-090	FT-3-305-090	FT-3-307-090
110	FT-3-352-110	FT-3-328-110	FT-3-302-110	FT-3-303-110	FT-3-305-110	FT-3-307-110
125	FT-3-352-125	FT-3-328-125	FT-3-302-125	FT-3-303-125	FT-3-305-125	FT-3-307-125
150	FT-3-352-150	FT-3-328-150	FT-3-302-150	FT-3-303-150	FT-3-305-150	FT-3-307-150
185	FT-3-352-185	FT-3-328-185	FT-3-302-185	FT-3-303-185	FT-3-305-185	FT-3-307-185
240	FT-3-352-240	FT-3-328-240	FT-3-302-240	FT-3-303-240	FT-3-305-240	FT-3-307-240

Ø in mm	Grade 3 w (100 pieces)	Grade 4 b (100 pieces)	Grade 6 (100 pieces)	Grade 69 k (100 pieces)	Grade 918 (100 pieces)	Grade C 140 (50 pieces)
55	FT-3-308-055	FT-3-309-055	FT-3-312-055		FT-3-607-055	
70	FT-3-308-070	FT-3-309-070	FT-3-312-070	FT-3-326-070		
90	FT-3-308-090	FT-3-309-090	FT-3-312-090	FT-3-326-090	FT-3-607-090	FT-3-356-090
110	FT-3-308-110	FT-3-309-110	FT-3-312-110	FT-3-326-110		
125	FT-3-308-125	FT-3-309-125	FT-3-312-125	FT-3-326-125		
150	FT-3-308-150	FT-3-309-150	FT-3-312-150	FT-3-326-150		
185	FT-3-308-185	FT-3-309-185	FT-3-312-185	FT-3-326-185		FT-3-356-185
240	FT-3-308-240	FT-3-309-240	FT-3-312-240			



Folded Filters, 100 pieces

Ø in mm	Grade 10	Grade 100/N	Grade 3 h	Grade 3 hw	Grade 3 m/N
110	FT-4-352-110		FT-4-302-110	FT-4-303-110	FT-4-305-110
125	FT-4-352-125		FT-4-302-125	FT-4-303-125	FT-4-305-125
150	FT-4-352-150	FT-4-328-150	FT-4-302-150	FT-4-303-150	FT-4-305-150
185	FT-4-352-185		FT-4-302-185	FT-4-303-185	FT-4-305-185
240	FT-4-352-240	FT-4-328-240	FT-4-302-240	FT-4-303-240	FT-4-305-240
270	FT-4-352-270	FT-4-328-270	FT-4-302-270	FT-4-303-270	FT-4-305-270
320	FT-4-352-320	FT-4-328-320	FT-4-302-320	FT-4-303-320	FT-4-305-320
385	FT-4-352-385		FT-4-302-385	FT-4-303-385	FT-4-305-385

Ø in mm	Grade 3 S/h	Grade 3 w	Grade 4 b	Grade 6	Grade C 140
110		FT-4-308-110	FT-4-309-110	FT-4-312-110	FT-4-356-110
125		FT-4-308-125	FT-4-309-125	FT-4-312-125	FT-4-356-125
150		FT-4-308-150	FT-4-309-150	FT-4-312-150	FT-4-356-150
185		FT-4-308-185	FT-4-309-185	FT-4-312-185	FT-4-356-185
240	FT-4-307-240	FT-4-308-240	FT-4-309-240	FT-4-312-240	FT-4-356-240
270	FT-4-307-270	FT-4-308-270	FT-4-309-270	FT-4-312-270	FT-4-356-270
320	FT-4-307-320	FT-4-308-320	FT-4-309-320	FT-4-312-320	FT-4-356-320
385		FT-4-308-385	FT-4-309-385	FT-4-312-385	



Sheets in 580×580 mm, 100 pieces

Grade 10	Grade 100/N	Grade 3 h	Grade 3 hw	Grade 3 m/N
FT-2-352-580580	FT-2-328-580580	FT-2-302-580580	FT-2-303-580580	FT-2-305-580580

Grade 3 S/h	Grade 3 w	Grade 4 b	Grade 460/N	Grade 6
FT-2-307-580580	FT-2-308-580580	FT-2-309-580580	FT-2-332-580580	FT-2-312-580580

Other dimensions are available on request

Crêped Filter Papers for Qualitative & Technical Analyses

Crêped filter papers are mostly used for the rapid filtration of relatively coarse precipitates; because of their crêped structure they provide a larger filtration area than smooth filter papers. Grades with a wet burst resistance > 30 kPa are referred to as wet-strengthened and are therefore suitable for pressure or vacuum filtration. Below you will find an overview of the most commonly used grades.



Application Examples

Application	Grade
Cooking oils	39/N
Vinegar filtration	39/N
Galvanic baths	34/N
Prefilters for transformer oil	6 S/N
Filtration of sugar solutions	603/N
Filtration of essential oils	5 H/N
Juice filtration	67/N

- Made of refined pulp and cotton linters with an > 95% α -cellulose content
- Ash content between 0.1 – 0.15 %
- Wet-strengthened
- Supplied in rolls, sheets, discs and folded filters as well as customer-specific cuts

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Filtration (s)*	Wet burst resistance (kPa)*	Air resistance (mbar)*	Properties
5 H/N	85	0.28	3	≥40		Very fast filtering, wide-pore
34/N	60	0.20	4	≥50	2.0	Very fast filtering
37/N	135	0.50	4	≥70	1.9	Very fast filtering, wide-pore
FT 55	55	0.15	5	≥20		Very fast filtering
1602/N	70	0.23	5	≥30		Very fast filtering
39/N	180	0.65	5	≥90	2.5	Very fast filtering, wide-pore
39/N	300	0.95	5	120	2.5	Very fast filtering, wide-pore
603/N	75	0.25	8	≥50		Fast filtering
6 S/N	145	0.55	12	≥90		Medium fast filtering
601/N	65	0.19	13	≥30		Medium fast filtering
67/N	160	0.65	13	≥60	5.5	Medium fast filtering

* See test methods, page 33

Ordering Information



Filter Discs

Ø in mm	Grade 5 H/N (100 pieces)	Grade 6 S/N (50 pieces)	Grade 601/N (100 pieces)	Grade 603/N (100 pieces)	Grade 37/N (50 pieces)	Grade 39/N, 180 g/m ² (50 pieces)
47	FT-3-423-047				FT-3-480-047	
70		FT-3-314-070			FT-3-480-070	
90	FT-3-423-090	FT-3-314-090		FT-3-335-090	FT-3-480-090	
110	FT-3-423-110	FT-3-314-110	FT-3-354-110	FT-3-335-110	FT-3-480-110	FT-3-483-110
125	FT-3-423-125	FT-3-314-125	FT-3-354-125	FT-3-335-125	FT-3-480-125	
150	FT-3-423-150	FT-3-314-150	FT-3-354-150	FT-3-335-150	FT-3-480-150	
185	FT-3-423-185	FT-3-314-185	FT-3-354-185	FT-3-335-185	FT-3-480-185	FT-3-483-185
240	FT-3-423-240	FT-3-314-240	FT-3-354-240	FT-3-335-240	FT-3-480-240	
320			FT-3-354-320	FT-3-335-320		



Folded Filters, 100 pieces

Ø in mm	Grade 5 H/N	Grade 6 S/N	Grade 603/N	Grade 34/N	Grade 37/N	Grade 39/N, 180 g/m ²
125	FT-4-423-125	FT-4-314-125	FT-4-335-125	FT-4-478-125	FT-4-480-125	
150	FT-4-423-150	FT-4-314-150	FT-4-335-150		FT-4-480-150	FT-4-483-150
185	FT-4-423-185	FT-4-314-185	FT-4-335-185		FT-4-480-185	FT-4-483-185
240	FT-4-423-240	FT-4-314-240	FT-4-335-240		FT-4-480-240	FT-4-483-240
270	FT-4-423-270	FT-4-314-270	FT-4-335-270			
320	FT-4-423-320	FT-4-314-320	FT-4-335-320	FT-4-478-320	FT-4-480-320	
385	FT-4-423-385					FT-4-483-385
500	FT-4-423-500	FT-4-314-500			FT-4-480-500	FT-4-483-500



Sheets in 580 × 580 mm, 100 pieces

Grade 5 H/N	Grade 6 S/N	Grade 601/N	Grade 603/N
FT-2-423-580580	FT-2-314-580580	FT-2-354-580580	FT-2-335-580580
Grade FT 55	Grade 37/N	Grade 39/N, 180 g/m ²	Grade 39/N, 300 g/m ²
FT-2-348-580580	FT-2-480-580580	FT-2-483-580580	FT-2-487-580580

Paper Boards for the Filtration and Absorption of Liquids

Among other applications, these boards are used for the filtration of cooking and transformer oils, galvanic baths and as base paper for further impregnation with certain reagents. Grades with a wet burst resistance >30 kPa are referred to as wet-strengthened and are therefore suitable for pressure or vacuum filtration.



Application Examples

Application	Grade
Cytocards	151
Transformer oils	C 250
Clarifications of galvanic baths	C 350
Blotting paper for determination of water absorptiveness according to COBB (EN 20535 & ISO 535)	A 250
Cooking oil	C 251
Paper air fresheners	157
Fragrance test cards	C 160
Preparation of laboratory sheets for physical testing according to ISO 52691:2005	A 250
Determination of the resistance to chemical agents of wood flooring, wood panelling and cladding according to DIN EN 13442:2013-5	C 450
Determination of properties of sheets based on thermosetting resins (usually called laminates) according to DIN EN 438-2:2019-0	C 450

- Made of refined pulp or cotton linters
- Smooth
- Supplied in sheets, discs and as well as customer-specific cuts



Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Filtration (s)*	Air resistance (mbar)*	Capillary rise (mm/10 min)*	Dry burst resistance (kPa)*	Wet burst resistance (kPa)*	Water capacity (%)
C 160	160	0.30	40	25	80		≥ 50	
S 165	165	0.34		35	≥ 40			
C 250	250	0.48	40	25	100		≥ 80	
C 251	250	0.62	8	3.5	180	≥ 200	≥ 80	
A 250	250	0.45			70			180
C 300	300	0.60	40	24	100		≥ 80	
1339	315	0.63		42	≥ 60	≥ 500	≥ 230	
C 350	350	0.63	40	25	110		≥ 80	
C 350L	360	0.75		30	80		≥ 200	
C 450	450	0.95	40	25	110		≥ 80	
151	460	1.00		19	120	≥ 400		
1220	475	1.00	200		120			
K12	520	1.60		2.5	200	≥ 250	≥ 50	
157	700	1.80		8	150			
SEK 770	800	1.00						400

* See test methods, page 33

Ordering Information



Sheets in 580×580 mm, 100 pieces

Grade C 160	Grade C 250	Grade C 251	Grade C 300
FT-2-343-580580	FT-2-344-580580	FT-2-355-580580	FT-2-345-580580
Grade C 350	Grade C 450	Grade S 165	
FT-2-346-580580	FT-2-347-580580	FT-2-368-580580	

Other dimensions are available on request

Seed Testing Papers

These papers satisfy the requirements for the determination of germination capability according to ISTA (International Seed Testing Association) and are ideal for ensuring optimal moisture content for the most diverse types of seeds and germination forms. Their pH ranges between 6.0 and 7.5, they are wet-strengthened and their special structure prevents fine seed roots from growing through the paper. The colored papers are produced with dyes that do not influence the growth of roots. These papers are mainly used to count more easily very fine and white roots.



PP (“Pleated Paper”) Method

The pleated paper is placed in a box; the seeds are distributed among the folds of the pleated paper and covered with a wrapping strip to keep the seeds moist. The pleated papers have 50 double folds that are 20 mm in depth; usually, 2 seeds are placed in each fold. Both white and grey papers are available. Colored paper makes it easier to count white seed species.

Application Examples

Made of refined pulp or cotton linters This method is mainly applied with corn, sugar beets, wheat, barley and various grasses, but can also be used for all other seed types.

Technical Specifications & Ordering Information

Grade	Properties	Weight (g/m ²)*	Thickness (mm)*	Size (mm)	Qty per box	Order No.
20	Pleated strips, white	110	0.22	2,000 × 110	1,008**	FT-2003532000110
20, grey	Pleated strips, grey	110	0.22	2,000 × 110	1,008**	FT-2003662000110
4 b	Wrapping strips	75	0.15	110 × 580	100	FT-2-309-110580
6	Wrapping strips	80	0.17	110 × 580	500	FT-2-312-110580

* See test methods, page 33

** 112 rods à 9 pleated strips

BP (“Between Paper”) Method

One wetted paper sheet is laid on top of a second, the seeds are placed on the double sheet which is then rolled up.

Application Examples

The method is used for peas and oats, among others.

Technical Specifications & Ordering Information

Grade	Properties	Weight (g/m ²)*	Thickness (mm)*	Size (mm)	Qty per box	Order No.
1750	Sheets, white	90	0.20	220 × 400	500	FT-210607-220400
1755	PE-coated sheets	82	0.19	190 × 400	500	FT-210608-190400
39/N	Crêped white paper	180	0.65	580 × 580	100	FT-2-483-580580

* See test methods, page 33

TP (“Top of Paper”) Method

The seeds are placed on the paper (discs or sheets) and then transferred either to petri dishes or plastic boxes. By supplying the filter with water, wick papers are used for constant moistening during the Jacobsen method. They are also supplied as blue and yellow papers to make it easier to count white seed species.



Application Examples

The method is applied to small seeds like clover species, for example.

Technical Specifications & Ordering Information

Grade	Properties	Weight (g/m ²)*	Thickness (mm)*	Size (mm)	Qty per box	Order No.
50 S	Smooth, white filter discs	120	0.22	95	50	FT-3-353-095
50 S	Smooth white paper sheets	120	0.22	225 × 225	100	FT-2-353-225225
C 140	Smooth white paper	140	0.30	240 × 400	100	FT-2-356-240400
6 S/N	Crêped white paper	145	0.55	150 × 580	100	FT-2-314-150580
193	Smooth, yellow paper sheets	160	0.32	120 × 300	100	FT-2-381-120300
193	Smooth, yellow paper sheets	160	0.32	110 × 170	1000	FT-2-381-110170
190	Smooth, light blue wick paper	300	0.65	25 × 133	100	FT-2-378-025133
190	Smooth, light blue paper sheets	300	0.65	90 × 133	100	FT-2-378-090133
194	Smooth, dark blue paper	430	0.68	200 × 350	100	FT-3-383-200350
191	Smooth, blue paper	700	1.35	140 × 200	100	FT-2-379-140200
192	Smooth, dark blue paper	720	1.45			

* See test methods, page 33

Other dimensions are available on request

Filter Papers for the Sugar Industry

In the sugar industry, filter papers are used in laboratories to assay sugar beet or cane sugar. The sugar beets are mashed and further analyzed according to the aluminum sulfate method. Potassium, nitrogen, sodium and saccharose content are measured using a spectrophotometer or the likes. These papers are wet-strengthened and either smooth or crêped. They are made of cellulose or a mixture of cellulose and diatomaceous earth.

Grade 100/N is not only supplied as discs or folded filters, but also on rolls for VENEMA systems.

Technical Specifications

Grade	Properties	Weight (g/m ²)*	Thickness (mm)*	Filtration (s)*	Wet burst resistance (kPa)*	Order No.
603/N	Crêped paper, very fast filtering	75	0.25	8	≥ 50	See page 15
6 S/N	Crêped paper, very fast filtering	145	0.55	12	≥ 90	See page 15
601/N	Crêped paper, fast filtering	65	0.19	13	≥ 30	See page 15
3 hw	Smooth paper, medium fast filtering	65	0.14	20	≥ 15	See page 13
470	Diatomaceous earth filter paper, slow filtering	140	0.32	80	30	See page 21
100/N	Smooth paper, medium fast filtering, low phosphate and low sodium	85	0.18	30	≥ 80	See below on rolls or page 13 as sheets, discs or folded filters

* See test methods, page 33

Ordering Information

Venema Rolls, Grade 100/N

Width	Length	Qty per box	Order No.
150 mm	1,000 m	1 roll	FT-1-328-1501000
240 mm	1,000 m	1 roll	FT-1-328-2401000



Other dimensions are available on request

Diatomaceous Earth Filter Paper



Grade 470 papers are made of cellulose and diatomaceous earth and offer a much better separating capability than pure cellulose papers at the same rate of filtration. This grade quickly retains the finest particles at high flow rates.

Application Examples

- Clarification of beer, wine, urine during spectrophotometric or refractometric tests
- Filtration of the finest, semi-colloidal precipitates, e.g. those consisting of proteins, clay or cold-precipitated barium

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Filtration (s)*
470	140	0.32	80

* See test methods, page 33

Ordering Information



Filter Discs, 100 pieces

Ø in mm	Order No.
90	FT-3-606-090
110	FT-3-606-110
125	FT-3-606-125
150	FT-3-606-150
185	FT-3-606-185



Folded Filters, 100 pieces

Ø in mm	Order No.
125	FT-4-606-125
150	FT-4-606-150
185	FT-4-606-185
240	FT-4-606-240
320	FT-4-606-320

Phase Separating Paper



Grade 480 is impregnated with stabilized silicon, thus rendering it hydrophobic: It retains water, but allows solvents to flow through. The flow stops automatically when the entire solvent has passed through. In many applications, this phase separator paper eliminates the need to use separating funnels.

Application Examples

- These nonwoven grades are made of rayon or polyester and are available in different weights. They can be used for the filtration or prefiltration of viscous solutions containing particles visible with the naked eye.
- Filtration of extracting solvents in clinical or medical labs
- Separation of emulsions that are formed during the extraction of aqueous plant or drug solutions

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*
480	85	0.19

* See test methods, page 33

Ordering Information



Filter Discs, 100 pieces

Ø in mm	Order No.
70	FT-3-602-070
90	FT-3-602-090
110	FT-3-602-110
125	FT-3-602-125
150	FT-3-602-150
185	FT-3-602-185



Folded Filters, 100 pieces

Ø in mm	Order No.
90	FT-4-602-090
125	FT-4-602-125
150	FT-4-602-150
185	FT-4-602-185
270	FT-4-602-270

Other dimensions are available on request

Nonwovens

These nonwoven grades are made of rayon or polyester and are available in different weights. They can be used for the filtration or prefiltration of viscous solutions containing particles visible with the naked eye.

Technical Specifications

Grade	Material
2601	Rayon (viscose) supplied in pore sizes from 75 to 100 µm
2602	Rayon (viscose) Polyester

Application Examples

- Testing of mortars containing mineral binders; determination of water retentivity of freshly mixed mortar by the filter plate method according to DIN 18555-7: FT-3-01308-185
- Food-processing industry: Detection of contaminants in dairy products, baby food: FT-3-01324-032, FT-3-01324-047
- Petrochemical industry: Filtration of viscous solutions to retain the biggest particles before further analysis with a viscosimetry: FT-3-01304-025
- Metal-processing industry: Non-woven belt filters (rolls) for the removal of particles from liquids.

Ordering Information

Grade	Weight (g/m ²)*	Thickness (mm)*	Mean pore size (µm)	Format	Size (mm)	Qty per box	Order No.
2601	20	0.18	100	Filter discs	185	100	FT-3-01308-185
2601	60	0.40	75	Filter discs	25	100	FT-3-01304-025
2601	60	0.46	75	Filter discs	47	100	FT-3-01304-047
2602	150	0.80		Filter discs	25	1,000	FT-3-01324-025
2602	150	0.80		Filter discs	32	1,000	FT-3-01324-032
2602	150	0.80		Filter discs	47	1,000	FT-3-01324-047



Surface Protection Paper

LabSorb is a highly absorptive grade of paper coated on one side with polyethylene. Used with the cellulose side up, the paper absorbs liquids, which are stopped by the polyethylene layer and thus prevented from soaking through. Used with the polyethylene side up, the paper is highly useful for recovery of valuable or toxic liquids.



Application Examples

- Preventing radioactive contamination of work surfaces in radiochemical laboratories
- Recovering spilled solutions containing expensive reagents
- Protecting laboratory bench surfaces from spillage or splashes of liquids by preventing absorption and seepage of these liquids into work surfaces
- Lining animal cages for protection and hygiene
- Reducing the risk of objects breaking after falling on hard surfaces

Technical Specifications

Weight (g/m ²)	Water capacity
140	150%

Ordering Information

Grade	Format	Size	Qty per box	Order No.
LabSorb	Roll	400 mm × 50 m	1	FT-1-601-400050
LabSorb	Roll	400 mm × 100 m	1	FT-1-601-400100
LabSorb	Roll	460 mm × 50 m	1	FT-1-601-460050
LabSorb	Roll	600 mm × 50 m	1	FT-1-601-600050
LabSorb	Roll	600 mm × 100 m	1	FT-1-601-600100
LabSorb	Sheets	460 × 570 mm	50	FT-2-601-460570K
LabSorb	Sheets	480 × 600 mm	50	FT-2-601-480600K



Blotting Papers

These blotting papers are made from the purest raw materials with the maximum degree of absorptiveness and cellulose content. They are available in a choice of different weights and thicknesses as well as in different formats to cover the majority of blotting applications. Furthermore, they are the ideal complement to the Sartorius nitrocellulose blotting membranes available in two pore sizes, 0.22 µm and 0.45 µm.

- Made of high-purity cotton linters for uniform buffer flow and resulting blots
- No additives to avoid any interference during the transfer
- Supplied in sheets, rolls as well as in customized sizes to save time and avoid any waste

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Capillary rise (mm/10 min)*	Capillary rise (mm/30 min)*
BF 1	90	0.16	80	140
BF 2	195	0.35	70	115
BF 3	330	0.76	130	
BF 4	550	1.30	160	

* See test methods, page 33

Ordering Information

Grade	Size (in mm)	Qty per box	Order No.
BF 1	580 × 600	100	FT-2-518-560600N
BF 2	80 × 90	100	FT-2-519-080090N
BF 2	130 × 210	100	FT-2-519-130210N
BF 2	200 × 200	100	FT-2-519-200200N
BF 2	460 × 570	100	FT-2-519-460570N
BF 2	580 × 600	100	FT-2-519-580600N
BF 3	135 × 155	100	FT-2-520-135155N
BF 3	200 × 200	100	FT-2-520-200200N
BF 3	460 × 570	50	FT-2-520-460570K
BF 3	580 × 600	50	FT-2-520-580600K
BF 4	110 × 170	25	FT-2-521-110170G
BF 4	150 × 150	25	FT-2-521-150150G
BF 4	580 × 580	25	FT-2-521-580580G
BF 4	580 × 600	25	FT-2-521-580600G

Other dimensions are available on request

Application Examples

Application	Grade
To cover the gel membrane sandwich in the buffer tank	BF 1
For gel wicking and drying, capillary blotting using Western, Southern or semidry techniques	BF 2
To increase and maintain the transport of liquid from the buffer and as buffer reservoir in capillary and semidry blotting methods	BF 3
To transfer DNA or RNA according to the Southern technique or semidry blotting of proteins	BF 4



Blotting Membranes

Sartorius blotting membranes are ideal as a complement to the blotting papers for western blotting, DNA blotting as well as dot or slot blots. They have been optimized for all protein blotting systems, such as electrotransfer, semi-dry or simple capillary blotting.

- High membrane surface area for high binding capacity & no sample loss
- Exceptionally low background allowing longer exposure times & better results
- High membrane stability for easy handling



Technical Specifications

Description	11327	11306
Material	Cellulose Nitrate	Cellulose Nitrate
Pore size (µm)	0.22	0.45
Thickness (µm)	120	130
Water flow rate (mL/[min. cm ² bar])	27	70
Bubble point with water (bar)	4.4	2.4
Extractables in water (%)	<1	<1
Burst pressure (bar)	0.8	0.2
Binding capacity for IgG (µg/cm ²)	200	200

Ordering Information



Rolls

Grade	Roll Size	Order No.
11327	30 cm × 3 m	11327-----41BL
11306	30 cm × 3 m	11306-----41BL

Chromatography Papers

Chromatography papers are made of 100% cotton linters. These highly pure papers are not only ideal for blotting & chromatography, but also for a wide range of absorption applications like those common in the life sciences and diagnostics.



Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Capillary rise (mm/30 min)*
FN 1	90	0.19	145
FN 2	125	0.24	145
FN 3	90	0.19	95
FN 4	125	0.24	95
FN 5	90	0.18	60
FN 7	150	0.32	145
FN 7a	200	0.41	145
FN 8	280	0.55	170
FN 30	320	0.90	240
FN 100	195	0.35	115

* See test methods, page 33

Other dimensions are available on request

Application Examples

Application	Grade
The most commonly used chromatography paper	FN 100
Analytical paper for routine and repetitive separations	FN 1
Routine analysis of proteins in serum (e.g. human albumin)	FN 3
Blotting paper in analysis sets	FN 8
Antibiotic test strips	FN 30

Ordering Information



Sheets

Grade	Size (in mm)	Qty per box	Order No.
FN 1	400×400	100	FT-2-501-400400N
FN 1	470×580	100	FT-2-501-470580N
FN 1	580×600	100	FT-2-501-580600N
FN 2	580×600	100	FT-2-502-580600N
FN 3	300×580	100	FT-2-503-300580N
FN 3	460×570	100	FT-2-503-460570N
FN 3	580×600	100	FT-2-503-580600N
FN 4	580×600	100	FT-2-504-580600N
FN 5	200×200	100	FT-2-505-200200N
FN 5	580×600	100	FT-2-505-580600N
FN 7	460×570	50	FT-2-507-460570K
FN 7	580×600	50	FT-2-507-580600K
FN 7a	460×570	50	FT-2-508-460570K
FN 7a	580×600	50	FT-2-508-580600K
FN 8	470×580	50	FT-2-509-460580K
FN 8	580×600	50	FT-2-509-580600K
FN 30	254×305	100	FT-2-526-254305N
FN 30	580×600	25	FT-2-526-580600G
FN 100	76×102	100	FT-2-527-076102N
FN 100	200×200	100	FT-2-527-200200N
FN 100	260×410	100	FT-2-527-260410N
FN 100	460×570	50	FT-2-527-460570K
FN 100	460×570	100	FT-2-520-460570N
FN 100	580×600	50	FT-2-527-580600K
FN 100	580×680	50	FT-2-527-580680K

Glass Microfiber Filters With Binder



These filters are mostly used either for monitoring air and gas or as prefilter. They are manufactured with synthetic binding agents to ensure that the filter has a defined strength. They are mechanically and chemically stable, have a temperature resistance up to 180 °C and – depending on the binding agent used – are either hydrophobic or hydrophilic.

Application Examples

Application	Grade
Prefiltration	13400, MG 1387/1
Smoke number measurement	MG 227
Gas monitoring	MG 1387/1
Air pump protection	MG 227/1/60

- Mechanically and chemically stable
- Temperature resistant up to 180 °C
- Supplied as discs or sheets



Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Penetration 0.3 μm (%)	Pressure drop 5.3 cm/s (Pa)	Binding agent
MG 227/1/60	60	0.32	<0.5	260	Hydrophobic
13430	220	1.25	0.02	360	Hydrophilic
13400	73	0.39	0.015	363	Hydrophilic
MG 227	75	0.40	<0.01	350	Hydrophobic
MG 400 XA	75	0.35	<0.001	425	Hydrophobic
MG 1387/1	90	0.38	≤0.003	400	Hydrophilic

* See test methods, page 33

Ordering Information



Ø in mm	MG 227/1/60 (100 pieces)	13430**	13400**	MG 227 (100 pieces)	MG 1387/1 (50 pieces)
13			13400--13-----S		
16			13400--16-----S		
20			13400--20-----S		
25			13400--25-----Q		
42			13400--42-----Q		
44			13400--44-----Q		
45			13400--45-----Q		FT-3-01125-045
47		13430--47-----S	13400--47-----Q	FT-3-01120-047	FT-3-01125-047
50			13400--50-----Q		FT-3-01125-050
55				FT-3-01120-055	FT-3-01125-055
80			13400--80-----N		
100		13430-100-----K	13400-100-----K		
110			13400-110-----K	FT-3-01120-110	FT-3-01125-110
120			13400-120-----K		
124			13400-124-----K		
125					FT-3-01125-125
127		13430-127-----K	13400-127-----K		
130		13430-130-----K	13400-130-----K		FT-3-01125-130
150	FT-3-01124-150				

** K = 50 pieces,
N = 100 pieces,
Q = 500 pieces,
S = 200 pieces

Other dimensions are available on request

Glass Microfiber Filters Without Binder

Binder-free glass microfiber filters are recommended for analytical and gravimetric analyses and also as prefilters. These filters combine fast flow rates with high load capacity and the retention of very fine particles; they are biologically inert, are resistant to most chemicals and withstand temperatures up to 500 °C (grade 550-HA up to 550 °C).



Application Examples

Application	Grade
Prefiltration	13440, MGB, MGD
Analysis of suspended solids in wastewater according to EN 872	MGC
Analysis of suspended solids in wastewater according to 2540D	MG 550-HA
Clarification of buffer & reagent solutions	MGA
Clarification of protein solutions	MGF
Air Monitoring, PM10	MG 160
TCLP Test	MGF

- Manufactured from 100 % borosilicate glass
- 100 % binder free
- pH stable
- Withstand temperatures up to 500 °C (Grade MG 550-HA up to 550 °C)
- Supplied as discs or sheets

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Penetration 0.3 μm (%)**	Particle retention in liquids (μm)	Filtration speed (mL/min)*	Fulfills the requirements in EN 872:2005 (weigh loss)
MGA	54	0.23	<0.001	1.6	510	yes
MGB	143	0.70	<0.001	1.0	210	
MGC	54	0.24	<0.001	1.2	335	yes
MGD	120	0.47	<0.1	2.7	920	
MGF	75	0.38	<0.001	0.7	110	
MGG	65	0.27	≤0.001	1.5	600	
13440	88	0.44		0.7	120	yes
MG 160	75	0.35	<0.002	1.2	400	
MG 550-HA	65	0.27		1.5	500	

* See test methods, page 33

** Measurement according to EN 143 (0.3 μm, 5.3 cm/s, paraffin oil)

Ordering Information



Filter Discs

Ø in mm	MGA (100 pieces)	MG 160 (50 pieces)	MGB (50 pieces)	MGC (100 pieces)	MGD (50 pieces)
13					FT-3-1104-013
20	FT-3-1101-020				
21			FT-3-1102-021	FT-3-1103-021	
25	FT-3-1101-025		FT-3-1102-025	FT-3-1103-025	FT-3-1104-025
37	FT-3-1101-037	FT-3-01110-037			
47	FT-3-1101-047	FT-3-01110-047	FT-3-1102-047	FT-3-1103-047	FT-3-1104-047
50	FT-3-1101-050	FT-3-01110-050	FT-3-1102-050	FT-3-1103-050	FT-3-1104-050
55	FT-3-1101-055		FT-3-1102-055	FT-3-1103-055	
70	FT-3-1101-070	FT-3-01110-070	FT-3-1102-070	FT-3-1103-070	FT-3-1104-070
80	FT-3-1101-080				
90	FT-3-1101-090	FT-3-01110-090	FT-3-1102-090	FT-3-1103-090	FT-3-1104-090
100	FT-3-1101-100	FT-3-01110-100	FT-3-1102-100	FT-3-1103-100	FT-3-1104-100
110	FT-3-1101-110	FT-3-01110-110	FT-3-1102-110	FT-3-1103-110	FT-3-1104-110
125	FT-3-1101-125		FT-3-1102-125	FT-3-1103-125	FT-3-1104-125
150	FT-3-1101-150		FT-3-1102-150	FT-3-1103-150	FT-3-1104-150
185	FT-3-1101-185			FT-3-1103-185	
240	FT-3-1101-240		FT-3-1102-240		FT-3-1104-240
293					FT-3-1104-293

Ø in mm	MGF (100 pieces)	MGG (100 pieces)	MG 550-HA (100 pieces)	13440**
20		FT-3-1106-020		
24			FT-3-01147-024	
25	FT-3-1105-025	FT-3-1106-025		
37		FT-3-1106-037		
42				13440--42-----Q
44				13440--44-----Q
47	FT-3-1105-047	FT-3-1106-047	FT-3-01147-047	13440--47-----Q
50	FT-3-1105-050	FT-3-1106-050	FT-3-01147-050	13440--50-----Q
55	FT-3-1105-055	FT-3-1106-055	FT-3-01147-055	
60		FT-3-1106-060		
70	FT-3-1105-070	FT-3-1106-070	FT-3-01147-070	
90	FT-3-1105-090	FT-3-1106-090	FT-3-01147-090	
100				13440-100-----K
110	FT-3-1105-110	FT-3-1106-110	FT-3-01147-110	
125	FT-3-1105-125	FT-3-1106-125	FT-3-01147-125	
130				13440-130-----K
142	FT-3-1105-142			
150	FT-3-1105-150	FT-3-1106-150		
240	FT-3-1105-240			

** Q = 500 pieces,
K = 50 pieces,

Other dimensions are available on request

Quartz Microfiber Filters

These quartz microfiber filters are made of high-purity quartz microfibers without any addition of glass microfibers and binding agents. They are especially suited for emission monitoring at temperatures of up to 900 °C and wherever filters of the highest purity are needed. In addition, the Q3400 filter grade is tempered to remove all chemically combined water and to give the filters excellent weight and dimensional stability.

- Made of 100 % quartz microfiber silicium dioxide (SiO₂)
- High-purity filters with the lowest trace metal values
- Extreme temperature resistance up to 900 °C
- Exceptional chemical resistance
- Excellent weight and dimensional stability
- Biologically inert
- Certificate on trace elements available for every batch of the grade Q3400



Application Examples

- Analysis of dust levels according to EN 13284 1:2001.
- Emission monitoring at high temperatures (air pollution)
- Analysis of hot and acidic gases
- Trace element analysis
- Analytical and gravimetric analyses
- Stationary source emissions – Determination of PM₁₀/PM_{2,5} mass concentration in flue gas – Measurement at low concentrations by use of impactors according to ISO 23210:2009 (Grade Q3400)

Technical Specifications

Grade	Weight (g/m ²)*	Thickness (mm)*	Penetration (%)**	Pressure drop 5.3 cm/s (Pa)	Dry tensile strength longitudinal (N/m)	Dry tensile strength crosswise (N/m)	Pre-Heated
Q3400	85	0.43	<0.002	450	200	80	yes
T293	85	0.43	<0.002	450	150	70	no

* See test methods, page 33

** according to EN 143 (0.3 µm, 15 cm/s, paraffin oil)

Ordering Information

Filter Discs, grade Q3400

Ø in mm	Qty per box	Order No.
20	25	Q3400--20-----G
25	25	Q3400--25-----G
30	25	Q3400--30-----G
37	25	Q3400--37-----G
45	25	Q3400--45-----G
47	25	Q3400--47-----G
50	25	Q3400--50-----G
82	100	Q3400--82-----N
90	100	Q3400--90-----N
142	50	Q3400-142-----K
150	50	Q3400-150-----K

Filter Discs, grade T293

Ø in mm	Qty per box	Order No.
13	100	FT-3-1109-013
25	50	FT-3-1109-025
37	50	FT-3-1109-037
45	50	FT-3-1109-045
47	50	FT-3-1109-047
50	50	FT-3-1109-050
70	50	FT-3-1109-070
85	50	FT-3-1109-085
90	50	FT-3-1109-090
100	50	FT-3-1109-100
110	50	FT-3-1109-110
125	50	FT-3-1109-125
150	50	FT-3-1109-150
293	25	FT-3-1109-293

Other dimensions are available on request

Quality Control Test Methods

Basis Weight According to DIN EN ISO 536

The basis weight is determined by weighing a paper sheet that is between 500 cm² and 1,000 cm² in size on a calibrated paper scale showing an accuracy of +/- 0.5%. The basis weight is expressed in grams per square meter (g/m²).

Thickness According to DIN EN ISO 20534

The thickness is measured using a thickness meter or gauge readings and is expressed in millimeters.

Filtration Speed (s)

The time required to filter 10 mL of distilled water at 20 °C through a free-hanging, fully-wetted filter disc with a diameter of 110 mm folded in quarters. The filtration rate is expressed in seconds.

Filtration Speed (mL/min – Herzberg)

The time required to filter distilled water at 20 °C through a filter surface of 10 cm² and at a constant pressure of 5 cm water column. The filtration rate is expressed in mL/min.

Ash Content According to DIN 54370

The ash content is the residue determined after ignition of 10 g of filter paper at 800 °C in a platinum crucible. The ash content is expressed in percent.

Tensile Strength According to DIN EN ISO 1924-2

A continually increasing load is applied vertically to a paper strip measuring 15 mm in width and 180 mm in length. The tensile strength is defined as the stretching force necessary to break the piece and measured lengthwise and in the transverse direction. The tensile strength is expressed in N/15 mm.

Dry Bursting Strength According to DIN ISO 2758

A paper with a surface area of 10 cm² is clamped over and subjected to increasing pressure from a rubber diaphragm. The bursting strength is the pressure reading at the time of rupture. The bursting strength is expressed in kilopascal (kPa).

Wet Burst Resistance According to DIN ISO 3689

A paper with surface area of 10 cm² is immersed in water and then clamped over a rubber diaphragm. The paper is subjected to evenly increasing pressure from the rubber diaphragm. The bursting strength is the pressure reading at the time of rupture. The wet bursting strength is expressed in kilopascal (kPa).

Air Resistance

Air resistance is the pressure drop that occurs after filtration of a defined air stream (270 L/h and | or 75 cm/s at 10 cm²) through a filter paper. The air resistance is expressed in mbar.

Capillary Rise According to DIN ISO 8787 (Klemm Method)

The capillary rise is defined as the height to which a paper strip measuring 15 mm in width and 250 mm in length, whose narrow side is immersed in prefiltered distilled water (20 °C), is wetted after 10 or 30 min. After this test period of 10 and 30 min., the wetted part of the strip is measured in mm. The capillary rise is expressed in mm per 10 min and | or 30 min.

Index of Grades

Grade	Middler number	Description	Page
10	352	Qualitative-technical paper, smooth	12-13
100/N	328	Qualitative-technical paper, smooth	12-13, 20
1220, 475 g/m ²	10389	Paper board	16-17
1288	206	Qualitative filter paper	8-9
1289	207	Qualitative filter paper	8-9
1290	208	Qualitative filter paper	8-9
1291	209	Qualitative filter paper	8-9
1292	210	Qualitative filter paper	8-9
131	351	Qualitative filter paper	10-11
132	329	Qualitative filter paper	10-11
1339	441	Paper board	17
13400	n.a.	Glass microfiber filter, with binder	28-29
13430	n.a.	Glass microfiber filter, with binder	28-29
13440	n.a.	Glass microfiber filter, binder-free	30-31
151	449	Paper board	16-17
157	437	Paper board	16-17
1602/N	342	Qualitative-technical paper, créped	14
1750	10607	Germination test paper	19
1755	10608	Germination test paper	19
190, light blue	378	Germination test paper	19
191, blue	379	Germination test paper	19
192, dark blue	380	Germination test paper	19
193, yellow	381	Germination test paper	19
194, dark blue	383	Germination test paper	19
20	00353	Germination test paper	18
20 grey	00366	Germination test paper	18
2601, 20 g/m ²	01308	Nonwovens, viscose	23
2601, 60 g/m ²	01304	Nonwovens, viscose	23
2602, 150 g/m ²	01324	Nonwovens, viscose, polyester	23
292	205	Qualitative filter paper	10-11
292a	215	Qualitative filter paper	10-11
293	211	Qualitative filter paper	8-9

Grade	Middler number	Description	Page
34/N, 60 g/m ²	478	Qualitative-technical paper, créped	14-15
37/N, 135 g/m ²	480	Qualitative-technical paper, créped	14-15
39/N, 180 g/m ²	483	Qualitative-technical paper, créped	14-15, 19
39/N, 300 g/m ²	487	Qualitative-technical paper, créped	14
■ 388	101	Quantitative filter paper	6-7
□ 389	102	Quantitative filter paper	6-7
■ 390	103	Quantitative filter paper	6-7
■ 391	104	Quantitative filter paper	6-7
■ 392	105	Quantitative filter paper	6-7
■ 393	127	Quantitative filter paper	6-7
3 h	302	Qualitative-technical paper, smooth	12-13
3 hw	303	Qualitative-technical paper, smooth	12-13, 20
3 m/N	305	Qualitative-technical paper, smooth	12-13
3 S/h	307	Qualitative-technical paper, smooth	12-13
3 w	308	Qualitative-technical paper, smooth	12-13
460/N	332	Qualitative-technical paper, smooth	12-13
470	606	Diatomaceous earth filter	20-21
480	602	Phase separating paper	22
4 b	309	Qualitative-technical paper, smooth	12-13, 18
50 S	353	Germination test paper Qualitative-technical paper, smooth	12, 19
5 H/N	423	Qualitative-technical paper, creped	14-15
6	312	Qualitative-technical paper, smooth	12-13, 18
6 S/N	314	Qualitative-technical paper, creped	14-15, 19, 20
601/N	354	Qualitative-technical paper, creped	14-15, 20
603/N	335	Qualitative-technical paper, creped	14-15, 20
67/N, 160 g/m ²	477	Qualitative-technical paper, creped	14-15
69 K	326	Qualitative-technical paper, smooth	12-13
918	607	Qualitative-technical paper, smooth, black	12-13
A 250	412	Paper board	16-17

Grade	Middler number	Description	Page
BF 1	518	Blotting paper	25
BF 2	519	Blotting paper	25
BF 3	520	Blotting paper	25
BF 4	521	Blotting paper	25
C 140	356	Qualitative-technical paper, smooth	12–13, 19
C 160	343	Filter paper for liquid absorption	16–17
C 250	344	Paper board	16–17
C 251	355	Paper board	16–17
C 300	345	Paper board	17
C 350	346	Paper board	16–17
C 350L	340	Paper board	17
C 450	347	Paper board	16–17
FN 1	501	Chromatography paper	27
FN 100	527	Chromatography paper	27
FN 2	502	Chromatography paper	27
FN 3	503	Chromatography paper	27
FN 30	526	Chromatography paper	27
FN 4	504	Chromatography paper	27
FN 5	505	Chromatography paper	27
FN 7	507	Chromatography paper	27
FN 7a	508	Chromatography paper	27
FN 8	509	Chromatography paper	27
FT 55	348	Qualitative-technical paper, creped	14–15
K 12	438	Paper board	17
LabSorb	601	Surface protection paper	24
MG 1387/1	01125	Glass microfiber filter, with binder	28–29
MG 160	01110	Glass microfiber filter, binder-free	30–31
MG 227	01120	Glass microfiber filter, with binder	28–29
MG 227/1/60	01124	Glass microfiber filter, with binder	28–29
MG 400 XA	01123	Glass microfiber filter, with binder	29
MG 550-HA	01147	Glass microfiber filter, binder-free	30–31


Grade	Middler number	Description	Page
MGA	1101	Glass microfiber filter, binder-free	30–31
MGB	1102	Glass microfiber filter, binder-free	30–31
MGC	1103	Glass microfiber filter, binder-free	30–31
MGD	1104	Glass microfiber filter, binder-free	30–31
MGF	1105	Glass microfiber filter, binder-free	30–31
MGG	1106	Glass microfiber filter, binder-free	30–31
Q3400	n.a.	Pre-heated quartz microfiber filter	32
S 165	368	Filter paper for liquid absorption	17
SEK 770	419	Paper board	17
T293	1109	Quartz microfiber filter	32

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