Johnson®
TEST PAPERS

Filtration

Filter Papers, Microfibre filters, Extraction Thimbles, Micro Filtration, Syringe Filters

Johnson Test Papers...

The leading paper impregnation and converting specialists

Johnson Test Papers is a world leading paper impregnation and converting specialist partnering with businesses around the world. Our products are used in a wide variety of applications including, the laboratory, education, food & beverage and medical. We are known and recognised for providing leading service, reliability and high quality products.

Johnson Test Papers was founded in 1938 and has over 70 years of experience with distributors in over 45 countries. This experience has resulted in satisfied customers all over the world. Manufacturing a comprehensive range of products has given us the expertise and know how on being able to solve individual problems and requirements while providing a quality service and maintaining the standards that Johnson Test Papers has set.

This catalogue highlights the main Johnson Test Paper grades we produce. Please contact us or visit our website at www.johnsontestpapers.com to discover all Johnson Test Papers product portfolio.

Contents

Qualitative Filter Papers

Our qualitative filter papers are recommended for use in general analytical methods which determine or identify particular constitutes of a mixture regardless of the amount present. Qualitative filter papers are often used in routine separation work that still requires high purity and consistent performance with an average ash content of 0.06%

Depending on the Wet Strength, loading capacity, filtration speed and particle retention, Johnson Test Papers Ltd offers a comprehensive range of low Ash Filter Papers for general laboratory work. Even without acid treatment, the extremely pure filter paper grades are made of cellulose fibres with an a-content of nearly 100% according to precise norms.

Our paper can be supplied as rolls, sheets or discs and covers all requirements for qualitative analysis no matter what the filtration task may be.

- Qualitative Analysis
- Made from refined pulp and linters > 95% alpha cellulose content
- Low Ash Content of 0.06%
- Untreated
- Consistent Performance
- Custom Cut
- Bulk Packaging

Standard Qualitative Filter Papers

Standard Qualitative Filter Papers are used for low gravity, or even quadrant-folded application. Standard Filter Papers have a higher level of a- cellulose than other filter papers, this means that it will weaken when the paper has become introduced to water. We do not recommend Standard Filter Papers if wet handling or vacuum work is necessary. In routine quadrant-folded applications the underline strength of standard (untreated) grades does not present an issue.

Grade	Whatman Equivalent	Speed	Thickness (mm)	Pore Size (µM)	Weight (g/m²)	Filtration Speed (sec)	Burst Strength (kg/cm²)
301	= No.5	Very Slow Filtering	0.14	2-3	84	180	> 0.30
302	= No.3	Medium Filtering	0.3	12-16	150	65	3.90
303	= No.2	Medium Filtering	0.16	5-8	87	50	> 0.10
304	= No.1	Medium Filtering	0.16	5-13	73	88	1.95
305	= No.4	Fast Filtering	0.20	12-15	84	10	> 0.30

Wet-strengthened Qualitative Filter Papers

Wet-strengthened filter papers are manufactured from a majority of alpha-cellulose. The smooth surface allow a fibre free filtration. They feature a high wet strength and can also be used in the filtration of strong alkaline or acid solutions. Due to their high mechanical strength , they are suited to applications where the residue is removed from the filter, for example with a spatula or jet of water.

Grade	Whatman Equivalent	Speed	Thickness (mm)	Pore Size (µM)	Weight (g/m²)	Filtration Speed (sec*)	Burst Strength (kg/cm²)
322	= No.93	Fast Filtration	0.15	10-20	64	50	1.45
323	= No.91	Fast Filtration	0.09	8-10	75	50	1.45
324	= No.113	Fast, creped	0.43	20	130	50	1.45
325	= No.114	Very Fast Filtration	0.17	17-30	73	22	1.25

Circles, Folded Filter and Sheets forms with various sizes are available.
Other qualitative grades available upon demand. Please contact us for further information.

Quantitative Filter Papers

Johnson Test Papers offers a series of extremely high purity, acid washed filter papers designed for a wide range of critical analytical procedures such as gravimetric analysis.

The tough, smooth surface of these filters makes it easy to recover precipitates, rendering them particularly suitable for Buchner Filtration. Our Ashless grades are made of 100% cotton linters with an Ash content of 0.007% which is important to avoid false test results during subsequent analysis. The Ashless hardened grades are made of pure cellulose with a a-cellulose content of almost 100% making them suitable for a wide range of critical filtration procedures. All Quantitative grades are manufactured in a strictly controlled environment that ensures high uniformity and high purity from filter to filter.

Johnson Test Papers offers a full line of excellent quantitative filters ranging from papers with an open fibre structure for the filtration of coarse and voluminous precipitates to papers with a very tight fibre matrix for the capture of very fine grained precipitates.

- Quantitative Analysis
- Low Ash content 0.007%(Acid wash treated)
- High wet strength
- Consistent performance Hardened grades available
- Custom cut
- Made of 100% cotton linters

Ashless Filter Papers

These standard Ashless grades are very pure filters suitable for routine quantitative gravimetric techniques and in the preparation of samples for use in analysis involving instrumental techniques. Johnson Test Papers offers a complete range of Ashless Quantitative Cellulose Filter Papers with a choice of pore size, filtration speeds, and filter thickness's. They are available in different filter sizes from small circle formats to large sheets. We can also make custom sized filters to meet your specific needs.

Grade	Whatman Equivalent	Speed	Thickness (mm)	Pore Size (µM)	Weight (g/m²)	Filtration Speed (sec*)	Burst Strength (kg/cm²)
351	= No.42	Very Slow Filtering	0.14	2-3	84	180	> 0.20
352	= No.40	Medium Filtering	0.16	5-8	84	50	> 0.20
353	= No.43	Medium Fast filtering	0.17	8-12	84	20	< 0.20
354	= No.41	Fast Filtering	0.18	12-15	84	10	> 0.20

Hardened Ashless Filter Papers

These wet strengthened hard filter papers are manufactured from refined pulp and linters and have a low ash content of <0.01%. These specially treated hardened ashless grades are available for critical quantitative analytical techniques requiring increased wet-strength and handling capacity. These high purity filter papers have a tough, smooth surface free of loose fibres and are ideal for a range of critical filtration procedures such as collecting wet precipitates in pressure filtrations or in Buchner funnels in gravimetric analysis of samples . The smooth surface of the filter allows the recovery of most precipitates without the fibres adhering to them. Due to their high mechanical strength in wet conditions they are particularly suited for applications, where the residue is removed from the filter.

Grade	Whatman Equivalent	Speed	Thickness (mm)	Pore Size (µM)	Weight (g/m²)	Filtration Speed (sec*)	Burst Strength (kg/cm²)
371	= No.50	Slow	0.25	7-9	80	180	>0.3
372	= No.52	Medium	0.27	8-12	80	50	>0.3
373	= No.54	Fast	0.29	12-16	80	10	>0.3

Circles, Folded Filter and Sheets forms with various sizes are available.
Other quantitative grades available upon demand. Please contact us for further information.

Blotting, Chromatography and Electrophoresis Papers, Blotting Membranes

Johnson Test Papers offer a complete line of high quality chromatography, electrophoresis and blotting papers. These papers are made of high purity cotton linters, with no additives to prevent contamination transfer, and produced in a wide range of absorption levels for optimal wicking, drying and blotting. The raw materials used give these papers perfect structure and regularity in the distribution and position of the fibres, allowing perfect uniformity of the physical properties of each grade.

They are suitable for chromatographic analysis and sample preparation and also for blotting methods with gel (Southern, Northern and Western Blots). Johnson Test Papers complete its offer with popular cellulose nitrate blotting membranes which has an excellent affinity for proteins, high blocking ability, and compatibility with a vast variety of detection methods.

- Uniform absorption
- Consistency across sheet
- High purity
- Custom cut

Chromatography Papers

Grade	Weight (g/m^2)	Thickness (mm)	Capillary Rose (mm/30 min)	Absorption
60CF 1	90	0.19	93	Medium Fast
60CF 2	125	0.24	93	Medium Fast
60CF 3	150	0.32	145	Fast
60CF 4	195	0.35	115	Fast
60CF 5	200	0.41	145	Fast
60CF 6	320	0.90	240	Very Fast

Various sheet sizes available. Please contact for more information.

Blotting Papers

Grade	Weight (g/m^2)	Thickness (mm)	Capillary Rose (mm/10 min)
70BF 1	195	0.35	70
70BF 2	250	0.50	75
70BF 3	330	0.76	130
70BF 4	550	1.30	160

Various sheet sizes available. Please contact for more information.

Blotting Membranes

Grade	Pore Size (µM)	Size
Cellulose Nitrate	0.22	300 mm x 3 m
Cellulose Nitrate	0.45	300 mm x 3m

Microfibre Filters

Johnson Test Papers offers a wide range of binder-free glass and quartz microfibre filters dedicated for environmental analyses in water or air control. Glass and quartz microfibre filters meet the highest requirements for applications including determination of suspended solids in water, PM 10 air monitoring, emission control at high temperature.

- 100% pure borosilicate glass
- Large load capacity
- Long shelf life
- Very high chemical purity
- High permeability to air
- Chemical resistance
- Brilliant white colour

Glass Fibre Filters

Johnson Test Papers offers a full range of glass microfibre filters. These filters are made with 100% borosilicate micro-glass fibres and are binder free. They are chemically resistant towards most organic and inorganic solvents (except HF) as well as acids and alkaline solutions of high concentration. They resist temperatures up to 500°C. Due to their very fine fibres, combined with good permeability they are particularly suitable for micro-filtration. They are non-hygroscopic and biologically inert. They can be used in various fields, especially when fine fast filtration and high loading capacity is required. Applications for Johnson Test Papers glass microfibres include environmental analysis for water, wastewater, testing of soils, air pollution and monitoring, research and process biochemistry, and gravimetric analysis involving ignition of samples. Johnson Test Papers glass microfibre filters are also found in the filtration of hot gases and liquids, and in pre-filtration.

Grade	Whatman Equivalent	Speed	Thickness (mm)	Pore Size (µM)	Weight (g/m²)	Filtration Speed (sec)	Burst Strength (Kg/cm)²
50A	= GFA	Fast, high loading	0.26	1.6	52	60	20
50B	= GFB	Medium / Fast, very high loading	0.70	1.0	143	200	50
50C	= GFC	Medium / Fast, very high loading	0.26	1.2	52	100	20
50D	= GFD	Slow, very high loading	0.53	2.7	120	30	20
50AH	= 934 AH	Fast	0.28	1.5	65	60	20

Quartz Microfibre Filters - binder free

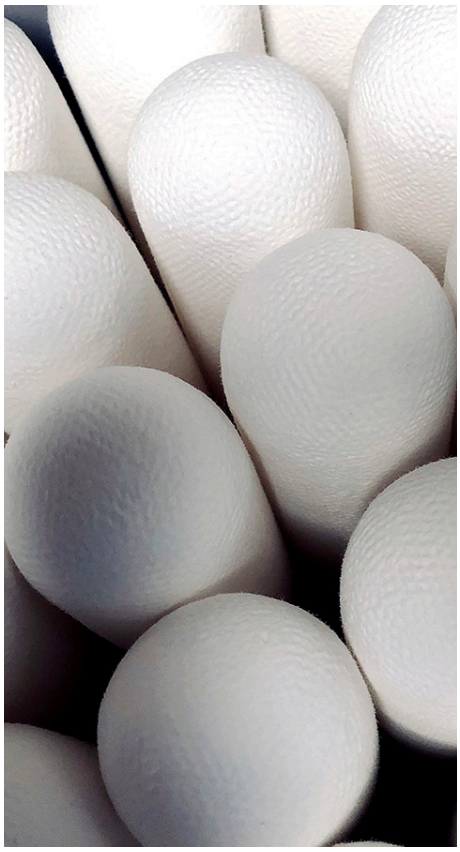
Johnson Test Papers offers extremely pure 100% quartz filters with temperature stability up to 900°C which makes these filters ideal for use in applications like hot stack measurements. The heat conditioned QF889 grade is the first choice when the highest level of purity is required like for trace element analysis. QF890 is recommended for PM10 monitoring according to EPA standards and ISO 23210.

Grade	Efficiency (%)	Weight (g/m²)	Temperature (° C)	Pressure Drop (mbar)
QF889	99.95	85	900	51.5
QF890	99.95	85	900	51.5

Extraction Thimbles

Johnson Test Papers offers an extensive range of extraction thimbles available in both cellulose and glass fibre and in a variety of dimensions. We also offer cellulose thimbles specifically sized for automated extraction equipment.

Johnson Test Papers cellulose extraction thimbles are widely used in Soxhlet extraction equipment, a technique for the analysis of fats or pesticides in food and soil materials. Cellulose thimbles are also used for crude oil sampling to determine amounts of oil in oil water slurries. Glass microfibre extraction thimbles are used for high-temperature applications such as analysis of smoke stack gases for environmental monitoring or when solvents incompatible with cellulose thimbles are needed.



Cellulose Extraction Thimbles

Johnson Test Papers offers an extensive range of cellulose extraction thimbles. They are available in a variety of dimensions for optimisation of retention, rigidity and wet or dry strength. Our thimbles are known for their purity and consistent high quality - made with 100% high pure cotton linters fibres. Cellulose thimbles are high quality sample reservoirs for quality control, research and analytical applications, where solvent extraction of solids and semi-solids must be carried out. They are suitable for all extractors systems but are widely used in Soxhlet extraction units and provide a safe, convenient and efficient method of solvent extraction of semi-solids and solids. Soxhlet extraction is a technique widely used for analysis of fats and pesticides in food and soil specimens and in many other procedures that involve a solid-liquid extraction. It provides a safe method of extraction with toxic and other noxious solvents. Our thimbles are also used in air and waste gas analysis especially in cold stack air monitoring for collecting solid particles (dust).

Glass Fibre Extraction Thimbles

Johnson Test Papers offers an extensive range of high purity borosilicate glass fibre extraction thimbles without inorganic binder and in a variety of dimensions. They are completely free from binders and additives and have the same properties as filters made of this same material i.e. chemical stability, maximum temperature use of up to 500°C, high permeability against the passing of air, good load capacity and retention of particles and stability in weight. They are used in aggressive solvent extractions when the solvent is incompatible with cellulose thimbles. All of these properties above make them very appropriate for the use in controls of emission at high temperature, pre filtration of gases in analysers and gravimetric analysis of dust in gases. Our glass fibre extraction thimbles are also very well suited for smoke stack gas monitoring because of their very high particle retention of 0.7micron and typical thickness of 2.0mm. They are also used for the analysis of pesticide residues, dust analysis in hot exhaust gases and analysis of oil and grease in solid waste. These thimbles are available in a wide range of sizes to suit your application and fit standard soxhlet extractors.

Grade	Internal Diameter (mm)	Thimble Height (mm)	Wall Thickness (mm)	Ash Content	Temperature (°C)	Penetration % DOP (0.3 µm)
8 Cellulose	+/- 0.5	+/- 0.5	1.5 +/- 0.5	< 0.1	-	-
9 Glass Fibre	+/- 0.5	+/- 0.5	2 +/- 0.5	-	500 max	<0.002

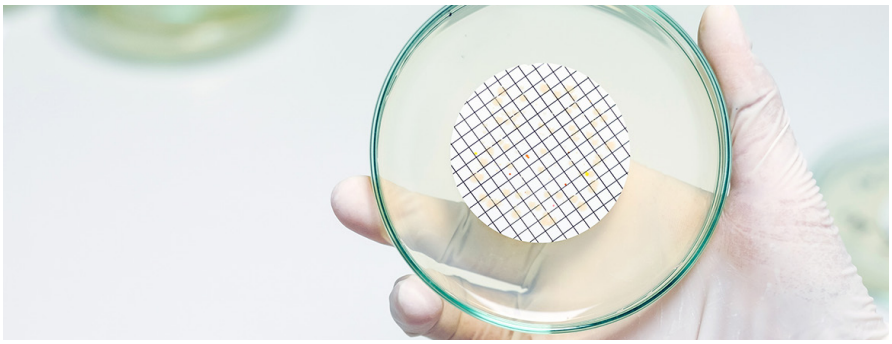
Various sizes available

Micro Filtration

Microfiltration is a type of physical filtration process where a contaminated fluid is passed through a special pore-sized membrane to separate micro-organisms and suspended particles from process liquid. Microfiltration usually serves as a pre-treatment for other separation processes such as ultra-filtration, and a post-treatment for granular media filtration. Membranes enable a very convenient, fast and economical separation and also often used as a neutral sample support for further analysis.

Johnson Test Papers offers a complete line of microfiltration products for laboratory applications including membranes and syringe filters.

- Wide variety of polymer and pore sizes available
- High lot-to-lot reliability for consistent filtration quality
- Various filter diameters and pack sizes available on demand



Sterile Membrane Filters

Johnson Test Papers offers gridded sterile membranes packed individually specifically designed to save time when performing colony counting and microbiological quality control. These membranes are available in a 47 mm ready-to-use standard size and support optimum colony growth.

Polymer	Grid Colour	Pore Size (µM)	Diameter
Cellulose Nitrate (CN)	White	0.22	47
Cellulose Nitrate (CN)	White	0.45	47
Mixed Cellulose Esters (MCE)	White/Black	0.22	47
Mixed Cellulose Esters (MCE)	White/Black	0.45	47

Non-Sterile Membrane Filters

Johnson Test Papers supplies a wide range of plain white non-sterile microfiltration membranes used to collect or remove particles and microorganisms from various organic solvents and aqueous solutions. Sold by pack of 100 filters.

Polymer	Pore Size (µM)	Diameter
Cellulose Acetate (CA)	0.22	47
Cellulose Acetate (CA)	0.45	47
Cellulose Nitrate (CN)	0.22	47
Cellulose Nitrate (CN)	0.45	47
Mixed Cellulose Esters (MCE)	0.22	47
Mixed Cellulose Esters (MCE)	0.45	47
Nylon	0.22	47
Nylon	0.45	47
PTFE	0.22	47
PTFE	0.45	47
Regenerated Cellulose (RC)	0.22	47
Regenerated Cellulose (RC)	0.45	47

Syringe Filters

Johnson Test Papers offers a wide variety of syringe filters for convenient sample preparation and fluid sterilisation. Cellulose Acetate (CA) and Polyether Sulphone (PES) membranes are ideal for samples containing proteins and generally recommended for aqueous solutions filtration. Nylon (NY), PTFE and Regenerated Cellulose (RC) membranes are recommended for organic solvents filtration. Glass fibre prefilter and a cellulose acetate membrane are recommended for highly loaded aqueous solutions.

Syringe filters are used for numerous pharmaceutical, environmental, biotechnology, food/beverage, and agricultural industries. They can be used for filtration of suspended matter from liquid samples or gases. Our syringe filters accommodate a variety of sample matrices for demanding sample preparation and microfiltration applications, such as: sample clarification, filtration of solvents used for chromatography applications, sterile filtration, sterile venting and medical applications such as filtration of biological samples, tissue cultures, proteins and nucleic acids.

- Wide variety of membranes, pore size and diameters
- High lot-to-lot reliability and reproducibility for consistent filtration quality
- Sterile packaging available
- High quality housing construction and welding to prevent any leaking

Polymer	Diameter (mm)	Filtration area (cm^2)	Pore Size (µM)	Held-up Volume (µL)	Housing	Sterile/Non-sterile
Mixed Cellulose Ester (MCE)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
Mixed Cellulose Ester (MCE)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
Polyethersulfone (PES)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
Polyethersulfone (PES)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
Cellulose Acetate (CA)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
Cellulose Acetate (CA)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
Nylon (Polyamide)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
Nylon (Polyamide)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
PVDF	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
PVDF	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
PVDF-D (Hydrophobic)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
PVDF-D (Hydrophobic)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
PTFE-H (Hydrophilic)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
PTFE-H (Hydrophilic)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile
PTFE-D (Hydrophobic)	13mm	1.09	0.22/0.45	<20	PP	Sterile/Non-sterile
PTFE-D (Hydrophobic)	25mm	4.08	0.22/0.45	<100	PP	Sterile/Non-sterile

All syringe filter are available in packs of 100 pcs.
All 25 mm syringe filters available with a glass fibre prefilter (Combi Syringe Filter)

Cross Reference Chart

Conversion charts are provided to guide you in selecting the Johnson Test Papers grade that is most closely equivalent to your current brand of filter paper. Please note that grade comparisons between manufacturers are approximations based upon generally accepted industry practices. No two grades from different manufacturers are exact matches in terms of physical properties. For additional assistance in interpreting cross-references, or if you need further data, please contact customer service.

Standard Qualitative Filter Papers

Johnson	Whatman	MN	Advantec	CHM	Fioroni	Hahnemuhle	Sartorius
304	1	615	-	F1001	601	595	292
303	2	616md	231	F1002	113	597	292a
302	3	618	131	F1003	1103	593	2S/h
305	4	617	1	F1004	111	604	288
301	5	619	235	F1005	115	602h	293

Wet-strengthened Qualitative Filter Papers

Johnson	Whatman	MN	Advantec	CHM	Fioroni	Hahnemuhle	Sartorius
321	93	612	-	F1093	600	0859	3m/n
322	93	615	-	F1093	600	0859	3m/n
323	91	620	101	F1091	1591	610	602/N
324	113	601	-	F1113	302	520bll	-
325	114	713	-	F1114	122	1450nf	-

Ashless Quantitative Filter Papers

Johnson	Whatman	MN	Advantec	CHM	Fioroni	Hahnemuhle	Sartorius
352	40	640m	5B	F2040	13	589/5	390
354	41	640w	5A	F2041	11	589/1	389
351	42	640d	-	F2042	15	589/3	391
353	43	640md	3	F2043	12	589/2 589/4	392

Wet-strengthened Ashless Quantitative Filter Papers

Johnson	Whatman	MN	Advantec	CHM	Fioroni	Hahnemuhle	Sartorius
371	50/542	640de	4A	F2142	155	1575	1391
372	52/540	616	-	F2140	153	1574	1392
373	54/541	-	-	F2141	151	1573	1388

Microfibre Filters

Johnson	Whatman	MN	Advantec	CHM	Fioroni	Hahnemuhle	Sartorius
50A	GFA	GF-1	GA-55	GF1	259	GF 50	GMF1
50B	GFB	GF-2	GB-140	GF2	260	GF 51	GMF2
50C	GFC	GF-3	GC-50	GF3	261	GF 52	GMF3
50D	GFD	-	GD-120	GF4	262	GF 53	GMF4
50AH	934 AH	-	-	-	-	-	-

You'll find our
Cross Reference Chart
on the inside back cover.

You'll find
all of our products online at
www.johnsontestpapers.com

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