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FILTRATION

Ashless Filter papers for qualitative analysis

General Purpose Filter papers for qualitative analysis

Ashless Filter papers for quantitative analysis

Ashless Hardened Filter papers for quantitative analysis

Hardened Low Ash Filter papers for quantitative analysis

CHM® Ashless Filter papers for qualitative analysis

These filter papers are used for qualitative analysis. Qualitative filters are made of refined pulp and linters with an alpha-cellulose content of virtually 100%, which gives them a number of diverse filtration properties. The ash content of this filter paper is not reduced by post-treatment. Qualitative filter papers are available as sheets, discs and folded filters.

F1001 GRADE - Medium Filtration

The most widely used filter paper in the CHM range. Medium retention and flow rate. This grade covers a wide range of laboratory applications and is frequently used for clarifying liquids. Traditionally the grade is used in qualitative analytical separations for routine laboratory work, rapid filtration of fine precipitates such as lead sulphate, calcium oxalate (hot) and calcium carbonate. In agriculture, it is used for soil analysis and seed testing procedures. In the food industry, Grade F1001 is used for numerous routine techniques to separate solid foodstuffs from associated liquid or extracting liquid and is widely used in education for teaching simple qualitative analytical separations. In air pollution monitoring, using circles or rolls, atmospheric dust is collected from an airflow and the stain-intensity measured photometrically. For gas detection, the paper is impregnated with a chromogenic reagent and colour formation quantified by optical reflectance. F1001 circle sizes available from 25 to 650mm diameter. Sheets and strips also available.

F1002 GRADE - Medium Slow Filtration

Slightly more retentive than No. F1001 and therefore with a moderate to slow filtration speed. More retentive and absorbent than No. F1001. In addition to general filtration this grade F1002 is used, for example, monitoring specific contaminants in the atmosphere, filtration of fine precipitates, soil testing, often used as folded filter in an analytical funnel.



Technical Specifications

GRADE	Properties	Weight g/m ²	Thickness µm	Retention range µm	Ash content %
F1001	Medium	85	190	10 - 13	<0.06
F1002	Medium-Slow	85	180	7 - 9	<0.06
F1003	Medium-Slow/Thick	200	320	5 - 7	<0.06
F1004	Very fast	85	210	20-25	<0.06
F1005	Very Slow	85	170	3 - 5	<0.06
F1006	Slow	80	150	2 - 4	<0.06

Order Information

GRADE Dia. (mm)	F1001	F1002	F1003	F1004	F1005	F1006
Standard Grades Circles (100/box)						
42,5	F1001-042	F1002-042	F1003-042	F1004-042	F1005-042	F1006-042
47	F1001-047	F1002-047	F1003-047	F1004-047	F1005-047	F1006-047
55	F1001-055	F1002-055	F1003-055	F1004-055	F1005-055	F1006-055
70	F1001-070	F1002-070	F1003-070	F1004-070	F1005-070	F1006-070
90	F1001-090	F1002-090	F1003-090	F1004-090	F1005-090	F1006-090
110	F1001-110	F1002-110	F1003-110	F1004-110	F1005-110	F1006-110
125	F1001-125	F1002-125	F1003-125	F1004-125	F1005-125	F1006-125
150	F1001-150	F1002-150	F1003-150	F1004-150	F1005-150	F1006-150
185	F1001-185	F1002-185	F1003-185	F1004-185	F1005-185	F1006-185
240	F1001-240	F1002-240	F1003-240	F1004-240	F1005-240	F1006-240
320	F1001-320	F1002-320	F1003-320	F1004-320	F1005-320	F1006-320
GRADE Size (mm)	F1001	F1002	F1003	F1004	F1005	F1006
Standard Grades Sheets (100/pack)						
460x570	F1001-460570	F1002-460570	F1003-460570	F1004-460570	F1005-460570	F1006-460570

You have to add an F at the end of the reference for Folded Circles Filter (e.g. if you need: Grade F1001, diameter 150mm, folded format, the ref is F1001-150F). Without the F the format is flat circle.

Other sizes and packagings are available under request.

F1003 GRADE - Medium Slow Filtration (Thick)

Medium to low rate of filtration with double the thickness comparing with CHM Grade F1001. Fine particle retention and excellent loading capacity. The extra thickness gives increased wet strength and allows a higher solute loading. Preferably used for liquids hard to clarify, essences, oils, tinctures, particularly useful for use in Buechner-funnels.

F1004 GRADE - Fast Filtration

Very high rate of filtration with excellent retention of coarse precipitates such as metal hydroxides and sulphides, or gelatinous substances. Preferably used for as a rapid filter for various organic metal precipitates, routine cleanup of biological fluids, food industry analysis, air pollution monitoring (high rates and the fine particles collection is not critical).

F1005 GRADE - Slow filtration

Lowest rate of filtration in the CHM qualitative range and maximum degree of fine particle filtration. Most efficient filtration of smallest particles. Preferably used as clarifying filter for cloudy suspensions and for water and soil analysis. Particularly in difficult filtration conditions and extra fine-grained precipitates, barium sulphate, cuprous oxide, often specified for clarification of wine.

F1006 GRADE - Slow Filtration.

Similar particle retention as Grade F1005 with higher filtration speed. Often used for boiler water analysis.

CHM® General Purpose Filter papers for qualitative analysis

These general purpose filters have a high Wet Strengthened. They are made of high-purity cotton linters and other vegetable fibres. These filter papers have fast or very fast filtration rates, and are particularly useful in filtering coarse precipitates or relatively straightforward substances. These filters are not recommended for Kjeldahl.

F1091 GRADE - Very fast filtration

Creped surface. Thick Creped filter paper with medium flow rate. For general laboratory use in less-critical analyses. Used around the world in laboratories to assay sugar cane or beet. The fruit is mashed and further analyzed according to the aluminium sulfur method.

F1093 GRADE - Fast filtration

Smooth Grade F1093 is a General Purpose filter paper for qualitative analysis. This wet strengthened paper is used for general filtration and sample preparation in the food sector, sugar processing plants, hospitals, educational and research centres, colleges, universities and labs (with a very high usage and less critical analysis), etc.

F1113 GRADE - ExtraFast filtration. Thick

High particle retention and extremely high loading capacity. Preferably used for filtration of gelatine, resins solutions and other viscous liquids, such as syrups, oils, essences and fats. The folded format enables greater volumes to be dealt with at atmospheric pressures.



Technical Specifications

GRADE	Properties	Weight g/m ²	Thickness µm	Retention range µm	Ash content %
F1091	Very Fast. Crepped. Thick	64	165	34-42	n/a
F1093	Very Fast.	80	180	35-40	n/a
F1113	Extra-Fast. Thick	160	470	60-65	n/a

Order Information

GRADE Dia. (mm)	F1091	F1093 Standard Grades Circles (100/box)	F1113
42,5	F1091-042	----	----
47	F1091-047	----	----
50	F1091-050	----	----
55	F1091-055	F1093-055	F1113-055
70	F1091-070	F1093-070	F1113-070
90	F1091-090	F1093-090	F1113-090
110	F1091-110	F1093-110	F1113-110
125	F1091-125	F1093-125	F1113-125
150	F1091-150	F1093-150	F1113-150
185	F1091-185	F1093-185	F1113-185
200	F1091-200	F1093-200	F1113-200
240	F1091-240	F1093-240	F1113-240
320	F1091-320	F1093-320	F1113-320
400	F1091-400	F1093-400	F1113-400
500	F1091-500	F1093-500	F1113-500
650	F1091-650	F1093-650	F1113-650
GRADE Size (mm)	F1091	F1093 Standard Grades Sheets (100/box)	F1113
460 x 570	F1091-460570	F1093-460570	F1113-460570

Other sizes and packagings are available under request.

CHM® Ashless Filter papers for quantitative analysis

These CHM filter papers are used for quantitative analyses and designed for preparation of samples and gravimetric analysis. They are made of refined pulp and linters with virtually 100% of alpha-cellulose content. These filter papers are guaranteed free of possible residual acids used in some production methods. Another main feature is the extremely low percentage of ash content (maximum ash content of 0.007%). Chemiton offers you two groups of ashless filter papers for quantitative analyses. They are suitable for Buechner funnels and for filtration under pressure.

F2040 GRADE – Medium Slow filtration

The classic general purpose ashless filter paper with a medium-to-slow filtering rate. Suitable for typical applications include gravimetric analysis for numerous components and for pre-filtrations of all kinds. Preferably used for as a primary filter for separating solid matter from aqueous extracts, various tests for fat and oil in water, in general soil analysis, quantitative determination of sediments in milk, as an analytical grade clean-up filter for solutions prior to AA spectro- photometry. Suitable for finer precipitates, such as hot barium sulphate.

F2041 GRADE – Fast filtration

Fast ashless filter paper in the CHM quantitative range. It is particularly suitable for analytical procedures and tests involving large particles or gelatinous precipitates (e.g metal hydroxides and sulphides). Also used in metal (Pb) tests in water testing analysis, quantitative air pollution analysis, food industry, paper industry, etc.

Order Information

GRADE Dia. (mm)	F2040	F2041	F2042	F2043	F2044	F2045
	<i>Ashless Grades Circles (100/box)</i>					
12,5	----	----	----	F2043-012 (*)	----	----
47	F2040-047	F2041-047	F2042-047	F2043-047	F2044-047	F2045-047
55	F2040-055	F2041-055	F2042-055	F2043-055	F2044-055	F2045-055
70	F2040-070	F2041-070	F2042-070	F2043-070	F2044-070	F2045-070
90	F2040-090	F2041-090	F2042-090	F2043-090	F2044-090	F2045-090
110	F2040-110	F2041-110	F2042-110	F2043-110	F2044-110	F2045-110
125	F2040-125	F2041-125	F2042-125	F2043-125	F2044-125	F2045-125
150	F2040-150	F2041-150	F2042-150	F2043-150	F2044-150	F2045-150
185	F2040-185	F2041-185	F2042-185	F2043-185	F2044-185	F2045-185
240	F2040-240	F2041-240	F2042-240	F2043-240	F2044-240	F2045-240

Size (mm) *Ashless Grades Sheets (100/box)*

460 x 570	F2040-460570	F2041-460570	F2042-460570	F2043-460570	F2044-460570	F2045-460570
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* Packs of 1000 circles

Technical Specifications

GRADE	Properties	Weight g/m ²	Thickness µm	Retention range µm	Ash content %
F2040	Medium-Slow	80	170	7 - 9	<0.007
F2041	Fast	80	190	20 - 25	<0.007
F2042	Very Slow	100	160	2 - 3	<0.007
F2043	Medium	80	180	14 - 17	<0.007
F2044	Slow	80	160	2 - 4	<0.007
F2045	Very fast	80	210	25 - 30	<0.01

F2042 GRADE – Very Slow filtration

An ashless world standard filter for critical gravimetric analysis. With a slow filtering rate and fine particle retention. Typical analytical precipitates such as cold barium sulphate, lead sulphate, zinc and nickel sulphides, etc. Using the methods of gravimetry, photometry, colorimetry and precipitation in drinking and waste water treatments it is suitable for testing for chemical elements and for some radioactive substances.

F2043 GRADE - Medium Fast filtration

Ashless filter with medium filtration speed and good retention (between GRADE F2040 and GRADE F2041) of medium and thick particles. Suitable for Gravimetric measurements of gypsum/lime suspensions in power plants. F2043 GRADE is particularly applied in metallurgical industry laboratories for metal tests. Typical applications include foodstuffs analysis; soil analysis; particle collection in air pollution monitoring, COD and TOC determination, inorganic analysis in the construction, mining and steel industries, for the Blaine test in the cement industry for ascertaining how fine the cement is (standards UNE 80-112-91 and EN 196-6), and for carrying out other chemical analyses on cement.

F2044 GRADE – Slow filtration

Thin version of No. F2042 but with higher flow rate (twice as fast as No. F2042). Very fine particles but with lower ash weight per sample.

F2045 GRADE – Fast filtration

Filter paper of very high rate of filtration, wide-pored, soft, spongy structure, extremely low-ash content. For applications like: Food industry: determination of ash contents in foodstuffs, PCB determination in foodstuffs; Beverage industry: Processing (ashing) fruit juice samples for photometric determinations (e.g. phosphate); Environmental analysis: Determination of filterable substances and the residue on ignition (dry weight) according to the German Standard Methods for the examination of water, waste water and sludge (DIN 38 409 part 2)



CHM® Ashless Hardened Filter papers for quantitative analysis

Hardened Ashless Filter papers are acid hardened which reduces the ash content to an extremely low level. These filters are produced by a complex, elaborate washing process under stringently controlled conditions. Firstly, acid washing is arranged. Then comes a series of washes in demineralised water, which increase the strength of the paper, thus making them particularly suitable for Buechner filter funnels and for a wide range of critical analytical filtration operations. Through this process, a maximum ash content of 0.007% is attained, which means that no contaminants are introduced when filtering, and also that full compliance with international standards on this subject is achieved.

Technical Specifications					
GRADE	Properties	Weight g/m ²	Thickness µm	Retention range µm	Ash content %
F2140	Medium	80	160	7 - 12	0,006
F2141	Very fast	80	170	20 - 25	0,006
F2142	Slow	80	150	2 - 4	0,006

F2140 GRADE – Medium Fast Filtration

Hardened ashless filter paper with medium retention and flow rate. Extremely strong and pure. With a hard surface is recommended for filtering medium-sized precipitates such as most metal sulphides. High chemical resistance. Used in the gravimetric analysis of metals in acid and slightly alkalized solutions, pressure filtration

F2141 GRADE - Fast Filtration

Hardened ashless filter paper with fast flow rate. Preferably used in filtration of coarse-flocculent and bulky precipitates (as aluminium, chromium or hydroxides of iron, bismuth, cobalt, sulphides of copper, various organic metal precipitates, etc.) and gelatinous precipitates in acid/alkali solutions during gravimetric analysis.

F2142 GRADE - Slow Filtration

Hardened ashless filter paper with high retention and slow flow rate. High chemical resistance. Often used for filtering very fine precipitates and in gravimetric metal determinations.



Order Information

GRADE	F2140	F2141	F2142	F2050	F2052	F2054
Dia. (mm)	Hardened Ashless (100/box)			Hardened Low Ash (100/box)		
42,5	----	----	----	F2050-042	F2052-042	F2054-042
47	----	----	----	F2050-047	F2052-047	F2054-047
55	----	----	----	F2050-055	F2052-055	F2054-055
70	F2140-070	F2141-070	F2142-070	F2050-070	F2052-070	F2054-070
90	F2140-090	F2141-090	F2142-090	F2050-090	F2052-090	F2054-090
110	F2140-110	F2141-110	F2142-110	F2050-110	F2052-110	F2054-110
125	F2140-125	F2141-125	F2142-125	F2050-125	F2052-125	F2054-125
150	F2140-150	F2141-150	F2142-150	F2050-150	F2052-150	F2054-150
185	F2140-185	F2141-185	F2142-185	F2050-185	F2052-185	F2054-185
200	----	----	----	F2050-200	F2052-200	F2054-200
240	F2140-240	F2141-240	F2142-240	F2050-240	F2052-240	F2054-240
320	----	----	----	F2050-241	F2052-241	F2054-241
Size (mm)	Hardened Ashless (100/box)			Hardened Low Ash (100/box)		
460 x 570	----	----	----	F2050-460570	F2052-460570	F2054-460570

CHM® Hardened Low Ash Filter papers for quantitative analysis

These filters, made from cotton linters fibre, are put through a washing process and treated with strong acids, and then baths in demineralized water, to produce high wet strength (makes them appropriate for filtering in low pressure or vacuum conditions) and chemical resistance (makes them suitable to work with acids or alkaline solutions in moderate concentrations). A very low ash-content filter with a 0.06% (the maximum ash contents of these filters is intermediate between CHM qualitative grades and ashless quantitative grades), very smooth surface, it makes easy to recover the whole of the precipitate after the filtration which is particularly indicated for Buchner filtrations.

F2050 GRADE – Slow Filtration

It is the thinnest CHM filter with slow filtering rate, with excellent retention of very fine particles, such as barium sulphate, zinc sulphide, etc. Hardened and glazed surface makes this paper suitable for use in the electrical industry in carriers of electrical components or boards.

F2052 GRADE - Medium Fast Filtration

General purpose hardened filter paper with medium-rate filtering, with good retention of medium particles, such as calcium oxalate and metal sulphides. Suitable for various tests on the intake of atmospheric pollution (sulphur oxides, ammonia gases, etc.) and also for the microbiological analysis of water.

They are used in fat extraction equipment as well in the oilseed and food industries, and in a large number of routine analytic procedures. Ask for our 3 pieces filter funnels.

F2054 GRADE - Fast Filtration

The fastest filter paper in the range. Suitable for filtering coarse, gelatinous or dense liquids. Good load capacity.



Technical Specifications

GRADE	Properties	Weight g/m ²	Thickness µm	Retention range µm	Ash content %
F2050	Slow	90	180	3 - 4	<0.06
F2052	Medium-Fast	90	190	7 - 8	<0.06
F2054	Fast	90	200	20 - 25	<0.06



Glass Microfibre Filters

Quartz Microfibre Filters

pH indicator papers

Filter Paper in Reams