Quantitative filter paper

1. Ashless filter paper for quantitative analysis

These GVS filter papers are used for quantitative analysis 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.

Extremely low percentage of ash content (maximum ash content of <0.007%).

DSL45 GRADE – Very fast filtration

Filter paper of very high rate of filtration, wide-pored, soft, spongy structure, extremely low-ash content.

Food industry applications: determination of ash contents and PCB determination in foodstuffs.

Beverage industry applications: processing (ashing) fruit juice samples for photometric determinations (e.g. phosphate).

Environmental analysis: Determination of filterable substances and the residue on ignition (dry weight) for the examination of water, wastewater and sludge (DIN 38 409 part 2).

DFA41 GRADE – Fast filtration

Fast ashless filter paper in the GVS quantitative range together with DSL45.

It is particularly suitable for analytical procedures and tests involving large particles or gelatinous precipitates (e.g. metal hydroxides and sulphides).

It is also used in metal (Pb) tests in water testing analysis, quantitative air pollution analysis, food industry, paper industry, etc.

DME43 GRADE - Medium filtration

Ashless filter paper with medium filtration speed and good retention (between Grade DMS40 and Grade DFA41) of medium and thick particles.

Suitable for gravimetric measurements of gypsum/lime suspensions in power plants.

DME43 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. They are also used for Blaine test in the cement industry (standards UNE 80-112-91 and EN 196-6), and to carry out other chemical analysis on cement.

DMS40 GRADE – Medium-slow filtration

The classic general purpose ashless filter paper with a medium-to-slow filtering rate.

Suitable for typical applications which includes gravimetric analysis for numerous components and for all kind of pre-filtrations.

Used as a primary filter for separating solid matter from aqueous extracts, in tests for fat and oil in water, in general soil analysis, quantitative determination of sediments in milk, as well as in analytical grade clean-up filter for solutions prior to AA spectro-photometry. Suitable for finer precipitates such as hot barium sulphate.

DSL44 GRADE – Slow filtration

A thinner version of DXS42 Grade but with a higher flow rate (twice as fast as DXS42 Grade).

Very fine particles but with lower ash weight per sample

DXS42 GRADE – Very slow filtration

An ashless world standard filter for critical gravimetric analysis. With slow filtering rate and fine particle retention.

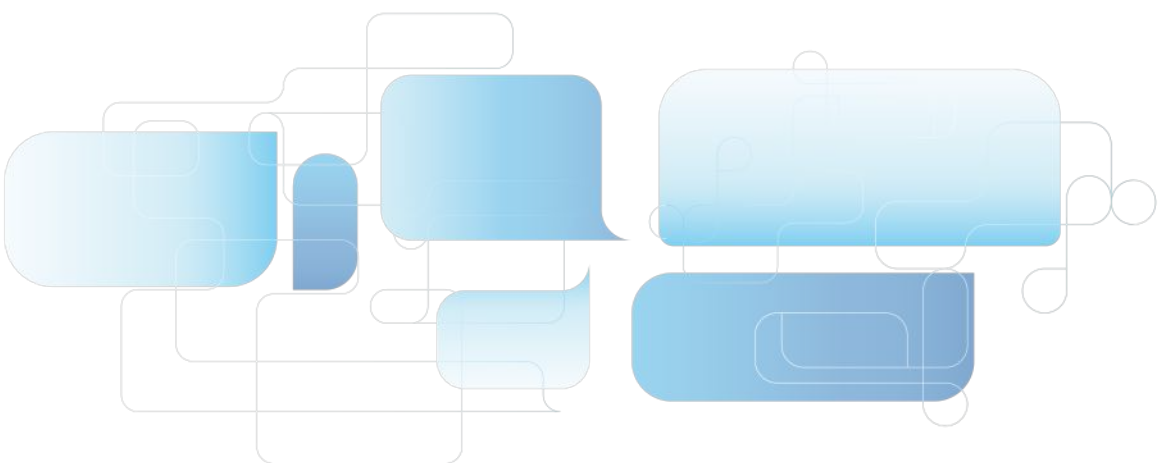
Typical analytical precipitates such as cold barium sulphate, lead sulphate, zinc and nickel sulphides, etc.

Disc and Sheet Membranes

Grade	Applications
DSL45	Filtration of coarse and voluminous precipitates such as iron hydroxide, aluminium hydroxide and chromium hydroxide Silica content determinations in steel and iron Food and beverage analysis
DFA41	Food analysis Soil analysis Determination of metals in water Filtration of lead sulphide, iron sulphide, silver sulphide and alkali carbonates Blaine test in the cement industry (standards UNE 80-112-91 and EN 196-6)
DME43	Filtration of medium size particles Precipitates such as calcium oxalate, magnesium ammonium phosphate, and barium sulphate Blaine test in the cement industry (standards UNE 80-112-91 and EN 196-6)
DMS40	Fine precipitates CaC_2O_4, $PbSO_4$, $BaSO_4$ (precipitates)
DSL44	Filtration of fine precipitates such as barium sulphate and cuprous oxide Soil analysis: measurement of soluble sulphates
DXS42	Critical analytical filtration conditions Fine precipitates Precipitates such as cold barium sulphate, lead sulphate, zinc and nickel sulphides, etc

Technical Specifications

Grade	Filtration Speed	Weight (g/m^2)	Thickness (µm)	Retention Range (µm)	Ash Content (%)
DSL45	Very Fast	85	210	25-30	<0.007
DFA41	Fast	85	190	20-25	<0.007
DME43	Medium	85	180	14-17	<0.007
DMS40	Medium-Slow	85	170	7-9	<0.007
DSL44	Slow	85	160	2-4	<0.007
DXS42	Very Slow	100	160	2-3	<0.007



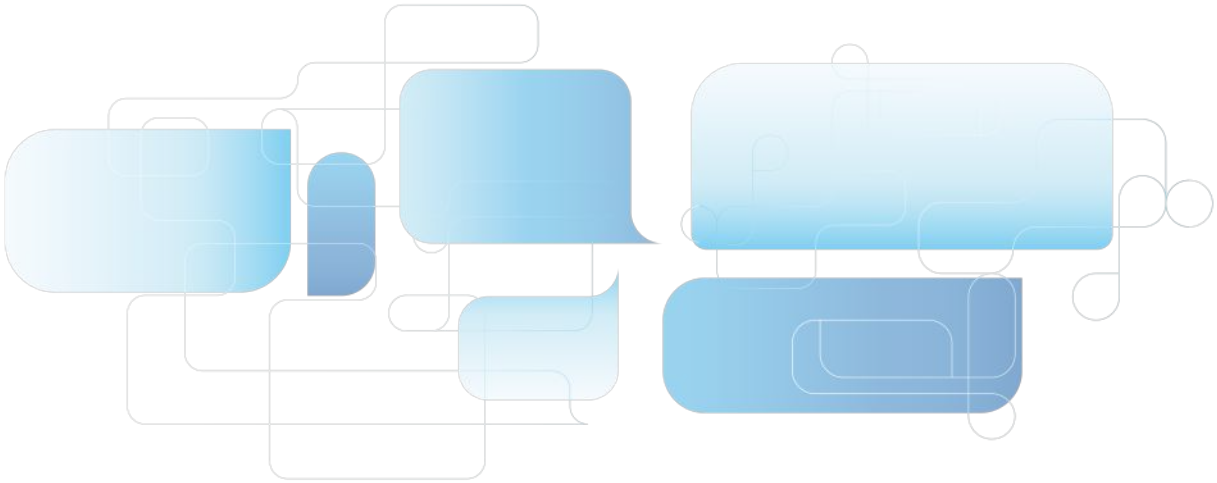
Disc and Sheet Membranes

Ordering information

Diameter (mm)	DSL45	DFA41	DME43	DMS40	DSL44	DXS42
			100 Circles/Box			
37	FP037DSL45QANC01	-	-	-	-	-
42.5	FP042DSL45QANC01	FP042DFA41QANC01	FP042DME43QANC01	FP042DMS40QANC01	FP042DSL44QANC01	FP042DXS42QANC01
47	FP047DSL45QANC01	FP047DFA41QANC01	FP047DME43QANC01	FP047DMS40QANC01	FP047DSL44QANC01	FP047DXS42QANC01
55	FP055DSL45QANC01	FP055DFA41QANC01	FP055DME43QANC01	FP055DMS40QANC01	FP055DSL44QANC01	FP055DXS42QANC01
70	FP070DSL45QANC01	FP070DFA41QANC01	FP070DME43QANC01	FP070DMS40QANC01	FP070DSL44QANC01	FP070DXS42QANC01
90	FP090DSL45QANC01	FP090DFA41QANC01	FP090DME43QANC01	FP090DMS40QANC01	FP090DSL44QANC01	FP090DXS42QANC01
110	FP110DSL45QANC01	FP110DFA41QANC01	FP110DME43QANC01	FP110DMS40QANC01	FP110DSL44QANC01	FP110DXS42QANC01
125	FP125DSL45QANC01	FP125DFA41QANC01	FP125DME43QANC01	FP125DMS40QANC01	FP125DSL44QANC01	FP125DXS42QANC01
150	FP150DSL45QANC01	FP150DFA41QANC01	FP150DME43QANC01	FP150DMS40QANC01	FP150DSL44QANC01	FP150DXS42QANC01
185	FP185DSL45QANC01	FP185DFA41QANC01	FP185DME43QANC01	FP185DMS40QANC01	FP185DSL44QANC01	FP185DXS42QANC01
240	FP240DSL45QANC01	FP240DFA41QANC01	FP240DME43QANC01	FP240DMS40QANC01	FP240DSL44QANC01	FP240DXS42QANC01
320	FP320DSL45QANC01	FP320DFA41QANC01	FP320DME43QANC01	FP320DMS40QANC01	FP320DSL44QANC01	FP320DXS42QANC01

Equivalence Table

GVS	Filtration Speed	Equivalent 1	Equivalent 2	Equivalent 3	Equivalent 4
DSL45	Very fast	-	589/1	640we	388
DFA41	Fast	41	589/2	640w	389
DME43	Medium	43	589/5	640m	392
DMS40	Medium-slow	40	589/6	640md	390
DSL44	Slow	44	589/3	640d	391
DXS42	Very slow	42	-	640de	393



Quantitative filter paper

2. Ashless hardened filter paper for quantitative analysis

Ashless hardened Filter papers are acid hardened which reduce 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 a series of washes in demineralised water come, which increase the strength of the paper, therefore making them particularly suitable for Büchner filter funnels and a wide range of critical analytical filtration operations.

Through this process, a maximum ash content of <0.006% is attained, which means that no contaminants are introduced when filtering. Also, full compliance with international standards on this subject is achieved.

Thanks to the hardened texture, they are often used when the analist must recover the precipitates retained on the filter surface.

DF541 GRADE - Fast filtration

Hardened ashless filter paper with a fast flow rate. Preferably used for the 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/alkaline solutions during gravimetric analysis.

DF540 GRADE – Medium filtration

Hardened ashless filter paper with medium retention and flow rate.

Extremely strong and pure. With a hard surface, it 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 alkalinized solutions, pressure filtration.

DF542 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.

Grade	Applications
DF541	Food analysis Fibre detection in pet food Filtration of coarse flocculent and bulky precipitates (as aluminium, chromium or hydroxides of iron, bismuth, cobalt, sulphides of copper, various organic metal precipitates, etc.) Gravimetric analysis of gelatinous precipitates in acid/alkaline solutions
DF540	Filtration of fine crystalline precipitates Gravimetric analysis of metals in acid/alkaline solutions
DF542	Filtration of very fine precipitates Gravimetric metal determinations

Technical Specifications

GVS	Filtration Speed	Weight (g/m^2)	Thickness (µm)	Retention Range (µm)	Ash Content (%)
DF541	Fast	84	170	20-25	<0.006
DF540	Medium	84	160	7-12	<0.006
DF542	Slow	95	150	2-4	<0.006

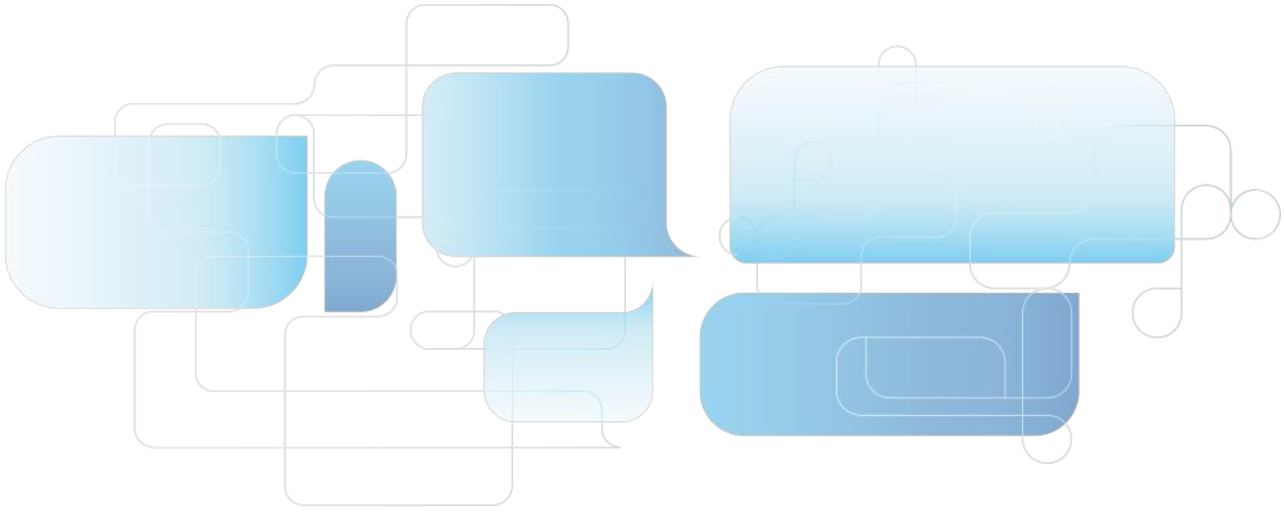
Disc and Sheet Membranes

Ordering information

Diameter (mm)	DF541	DF540	DF542
	1000 Circles/Box		
25	FP025DF541QANC01	FP025DF540QANC01	FP025DF542QANC01
	100 Circles/Box		
40.5	FP040DF541QANC01	FP040DF540QANC01	FP040DF542QANC01
42.5	FP042DF541QANC01	FP042DF540QANC01	FP042DF542QANC01
47	FP047DF541QANC01	FP047DF540QANC01	FP047DF542QANC01
55	FP055DF541QANC01	FP055DF540QANC01	FP055DF542QANC01
70	FP070DF541QANC01	FP070DF540QANC01	FP070DF542QANC01
90	FP090DF541QANC01	FP090DF540QANC01	FP090DF542QANC01
110	FP110DF541QANC01	FP110DF540QANC01	FP110DF542QANC01
125	FP125DF541QANC01	FP125DF540QANC01	FP125DF542QANC01
150	FP150DF541QANC01	FP150DF540QANC01	FP150DF542QANC01
185	FP185DF541QANC01	FP185DF540QANC01	FP185DF542QANC01
240	FP240DF541QANC01	FP240DF540QANC01	FP240DF542QANC01
320	FP320DF541QANC01	FP320DF540QANC01	FP320DF542QANC01

Equivalence Table

GVS	Filtration Speed	Equivalent 1	Equivalent 2	Equivalent 3	Equivalent 4
DF541	Fast	541	1505	1640w	1388
DF540	Medium	540	1506	1640m	1392
DF542	Slow	542	1507	1640de	1391



Qualitative filter paper

1. Ashless hardened filter paper for qualitative analysis

These filter papers are used for qualitative analysis. Qualitative filters are made of refined pulp and pure cotton linters with an alpha-cellulose content of nearly 100%, which gives them a number of diverse filtration properties.

The ash content of less than 0.06% is not reduced by post-treatment. Qualitative filter papers are available in sheets, discs and folded filters.

DXF04 GRADE - Very fast filtration

Very high rate of filtration with excellent retention of coarse precipitates such as metal hydroxides and sulphides or gelatinous substances.

Preferably used as 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).

DME07 GRADE - Fast filtration

A standard grade filter used for a wide variety of analytical routine applications in different industries These cellulose filters are used in qualitative analytical techniques to determine and identify materials. Pre-pleated qualitative filters are also available, which give improved flow rate and increased loading capacity compared to equivalent flat filters.

DME01 GRADE - Medium filtration

The most widely used filter paper in the GVS range.

Medium retention and flow rate. This grade covers a wide range of laboratory applications and is frequently used for clarifying liquids. Traditionally this grade is used in qualitative analytical separations for routine laboratory work as well as 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 DME01 is used for numerous routine techniques to separate solid foodstuffs from associated liquid or extracting liquid.

It is widely used in education for teaching simple qualitative analytical separations.

In air pollution monitoring, using circles or rolls, atmospheric dust is collected from airflow and the stain-intensity measured photometrically.

For gas detection, the paper is impregnated with a chromogenic reagent and color formation quantified by optical reflectance.

DMS02 GRADE - Medium-slow filtration

Slightly more retentive and absorbent than Grade DME01 and therefore with a moderate to slow filtration speed.

In addition to general filtration this grade DMS02 is used for monitoring specific contaminants in the atmosphere, filtration of fine precipitates, soil testing, it is often used as a folded filter in an analytical funnel.

DMS03 GRADE - Medium-slow filtration (thick)

Medium to low rate of filtration with double the thickness comparing with GVS Grade DME01 .

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.

DNS06 GRADE - Slow filtration

Similar particle retention as Grade DXS05 with higher filtration speed.

Often used for boiler water analysis.

DXS05 GRADE - Very slow filtration

Lowest rate of filtration in the GVS qualitative range and maximum degree of fine particle filtration or retention.

Preferably used as a clarifying filter for cloudy suspensions and water and soil analysis. Particularly used in difficult filtration conditions and extra fine-grained precipitates such as barium sulphate, cupreous oxide, often specified for clarification of wine.

Disc and Sheet Membranes

Grade	Applications
DXF04	Coarse and gelatinous precipitates such as iron hydroxide, aluminium hydroxide and chromium hydroxide Silica determination in steel and iron analysis Food analysis Monitoring of air pollution when the collection of fine particles is not critical Routine clean-up of biological fluids or organic extracts
DME07	Filtration of a wide range of routine laboratory applications Food analysis. Determination of fat content Beverage analysis. Removal of carbon dioxide and turbidity from beer and other beverages
DME01	Filtration of a wide range of routine laboratory applications for medium retention Filtration of fine precipitates such as lead sulphate, calcium oxalate, calcium carbonate and other metal sulphates Soil analysis and seed testing Food analysis Education Used in the beer and malt control quality production according to EBC.
DMS02	Monitoring specific contaminants in the atmosphere Filtration of fine precipitates such as lead dioxide, calcium fluoride, nickel sulphide and zinc sulphide Soil analysis
DMS03	Particularly useful for use in Büchner funnels Preferably used for liquids hard to clarify, essences, oils and tinctures
DNS06	Filtration of very fine crystalline precipitates Beverage analysis. Sample preparation and removal of carbon dioxide for beverages Monitoring specific contaminants in the atmosphere Soil analysis
DXS05	Filtration in very difficult conditions Filtration for extra fine-grained precipitates such as barium sulphate, cupreous oxide often specified usedfor clarification of wine

Technical Specifications

GVS	Filtration Speed	Weight (g/m^2)	Thickness (µm)	Retention Range (µm)	Ash Content (%)
DXF04	Very fast	84	190-230	12-15	<0.06
DME07	Fast	84	190-230	8-12	<0.06
DME01	Medium	84	160-190	7-11	<0.06
DMS02	Medium-Slow	97	190	5-8	<0.06
DMS03	Medium-Slow/Thick	200	320	5-7	<0.06
DXS05	Very Slow	80	170	1-2	<0.06

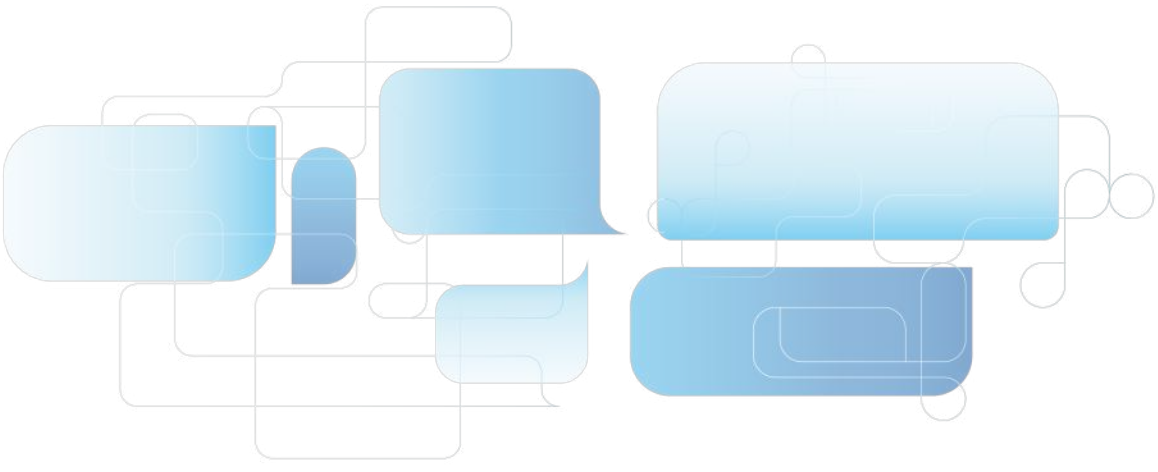
Ordering information

Diameter (mm)	DXF04	DME07	DME01	DMS02	DMS03	DNS06	DXS05
			100 Circles/Box				
37	FP037DXF04QALC00	FP037DME07QALC01	FP037DME01QALC01	-	FP037DMS03QLTC01	-	-
42.5	FP042DXF04QALC01	FP042DME07QALC01	FP042DME01QALC01	FP042DMS02QALC01	FP042DMS03QLTC01	-	FP042DXS05QALC01
47	FP047DXF04QALC01	FP047DME07QALC01	FP047DME01QALC01	FP047DMS02QALC01	FP047DMS03QLTC01	-	FP047DXS05QALC01
55	FP055DXF04QALC01	FP055DME07QALC01	FP055DME01QALC01	FP055DMS02QALC01	FP055DMS03QLTC01	-	FP055DXS05QALC01
70	FP070DXF04QALC01	FP070DME07QALC01	FP070DME01QALC01	FP070DMS02QALC01	FP070DMS03QLTC01	-	FP070DXS05QALC01
90	FP090DXF04QALC01	FP090DME07QALC01	FP090DME01QALC01	FP090DMS02QALC01	FP090DMS03QLTC01	-	FP090DXS05QALC01
110	FP110DXF04QALC01	FP110DME07QALC01	FP110DME01QALC01	FP110DMS02QALC01	FP110DMS03QLTC01	-	FP110DXS05QALC01
125	FP125DXF04QALC01	FP125DME07QALC01	FP125DME01QALC01	FP125DMS02QALC01	FP125DMS03QLTC01	-	FP125DXS05QALC01
150	FP150DXF04QALC01	FP150DME07QALC01	FP150DME01QALC01	FP150DMS02QALC01	FP150DMS03QLTC01	-	FP150DXS05QALC01
185	FP185DXF04QALC01	FP185DME07QALC01	FP185DME01QALC01	FP185DMS02QALC01	FP185DMS03QLTC01	FP185DNS06QALC0F	FP185DXS05QALC01
240	FP240DXF04QALC01	FP240DME07QALC01	FP240DME01QALC01	FP240DMS02QALC01	FP240DMS03QLTC01	-	FP240DXS05QALC01
320	FP320DXF04QALC01	FP320DME07QALC01	FP320DME01QALC01	FP320DMS02QALC01	FP320DMS03QLTC01	-	FP320DXS05QALC01

Note: for folded format or other sizes packaging, please contact local representatives.

Equivalence Table

GVS	Filtration Speed	Equivalent 1	Equivalent 2	Equivalent 3	Equivalent 4
DXF04	Very fast	4	604	1670/617	288
DME07	Fast	-	597	-	289
DME01	Medium	1	593/595	616/615	292
DMS02	Medium-slow	2	-	616md	292a
DMS03	Medium/thick	3	591	618	3 S/h
DXS05	Very slow	5	602eh	619de	293



Qualitative filter paper

2. General-purpose qualitative filter paper

These general-purpose filters have a high wet strengthened.

They are made of high-purity cotton linters and other virgin fibers. These filter papers have either fast or very fast filtration rates, and are particularly useful in filtering coarse precipitates or relatively straightforward substances.

DME93 GRADE - Very fast filtration

Smooth Grade DME93 is a general-purpose filter paper for qualitative analysis.

This wet strengthened paper is used for general filtration and sample preparation for food, sugar processing plants, hospitals, educational and research centres, colleges, universities and labs (with a very high usage and less critical analysis), etc.

DXF55 GRADE - Very fast filtration

General-purpose filter paper, smooth and similar to DME93 with less weight.

DXF13 GRADE - Extra-fast filtration. Thick

High particle retention and extremely high loading capacity.

Preferably used for filtration of gelatine, resin solutions and other viscous liquids, such as syrups, oils, essences and fats.

The folded format enables bigger volumes to be dealt at atmospheric pressures.

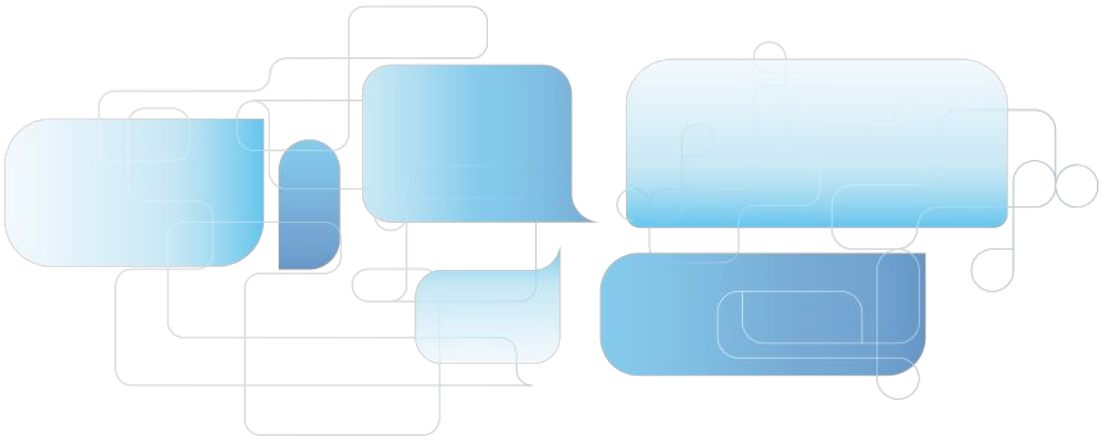
DME91 GRADE - Very fast filtration. Crêped

Crêped surface filter paper with a very fast 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 sulphur method.

Grade	Applications
DME93	General filtration and sample preparation in different kind of laboratories General filtration and sample preparation in food and sugar processing plants
DXF55	General-purpose filtration
DXF13	Filtration of gelatines, resin solutions and other viscous liquids such as syrups, dense oils, essences and fats
DME91	Determination of sucrose in the sugar cane or beet



Disc and Sheet Membranes

Technical Specifications

GVS	Filtration Speed	Weight (g/m^2)	Thickness (µm)	Retention Range (µm)	Ash Content (%)
DME93	Very Fast	80	170	43-48	<0.1
DXF55	Very Fast	65	145	6-9	<0.1
DXF13	Extra-Fast/Thick	160	470	60-68	<0.1
DME91	Very Fast/Crêped	65	160	34-42	<0.1

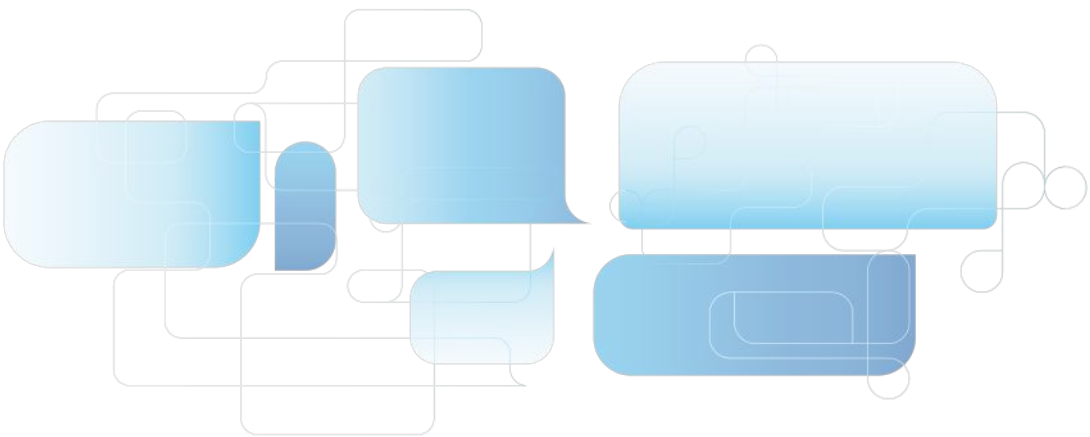
Ordering information

Diameter(mm)	DME93	DXF55	DXF13	DME91
		100 Circles/Box		
42.5	FP042DME93QALC01	-	-	FP042DME91QALC01
47	FP047DME93QALC01	-	-	FP047DME91QALC01
55	FP055DME93QALC01	-	-	FP055DME91QALC01
70	FP070DME93QALC01	-	-	FP070DME91QALC01
90	FP090DME93QALC01	-	-	FP090DME91QALC01
110	FP110DME93QALC01	FP110DXF55CREC01	-	FP110DME91QALC01
125	FP125DME93QALC01	FP125DXF55CREC01	-	FP125DME91QALC01
130	-	FP130DXF55CREC01	-	-
150	FP150DME93QALC01	FP150DXF55CREC01	-	FP150DME91QALC01
185	FP185DME93QALC01	FP185DXF55CREC01	-	FP185DME91QALC01
200	-	FP200DXF55CREC01	-	-
240	FP240DME93QALC01	FP240DXF55CREC01	FP240DXF13QALC0F	FP240DME91QALC01
250	-	FP250DXF55CREC01	-	-
270	-	FP270DXF55CREC01	-	-
300	-	FP300DXF55CREC01	-	-
320	FP320DME93QALC01	FP320DXF55CREC01	-	FP320DME91QALC01

Note: for folded format or other sizes packaging, please contact local representatives.

Equivalence Table

GVS	Filtration Speed	Equivalent 1	Equivalent 2	Equivalent 3	Equivalent 4
DME93	Very fast	93	860	617	4b
DXF55	Very fast	-	-	-	3m/N
DXF13	Extra-fast/Thick	-	3144L	-	-
DME91	Very fast/Crêped	91	0856	-	601/N



Special Filter Papers

1. Filter paper with diatomaceous

Filter paper with low filtration speed. Made with a mixture of cellulose fibers and diatomaceous soils (diatomaceous algae), the main property is its microporous structure, up to 0.5 µm.

The land production process begins with open pit mining. Subsequently, a drying phase follows and it is subjected to high temperatures to eliminate any remaining residue. Finally, it is crushed for industrial use.

This filter paper combines excellent retention of very fine or semi-colloidal particles with a faster filtration speed than any slow filtration cellulose filter paper.

Applications

- Filtration of samples for spectrophotometric analysis
- Clay samples
- Separation of samples with Cu oxides
- Protein samples

Technical Specifications

GVS	Filtration Speed	Weight (g/m^2)	Thickness (µm)
DMS60	Slow	140	320

Ordering information

Diameter(mm)	Product Code	Quanity/Box
150	FP150DMS60KSLG0F	100
185	FP185DMS60KSLG0F	100
240	FP240DMS60KSLG0F	100

Equivalence Table

GVS	Filtration Speed	Equivalent 1	Equivalent 2
DMS60	Slow	287	MN660

Glass microfiber filters

GVS offers a wide range of glass microfiber filters made of 100% borosilicate glass fibers with and without binders. The depth structure of the filter's large surface area, provides an outstanding impurity retention capacity combined with a low filter resistance. Glass fiber filters adsorb the finest particles down to 1 µm from liquids and <1 µm in air and gases (even aerosols with this particle diameter are separated), as the electrostatic interaction between the glass fibers and gases is better than between glass fibers and liquids. Temperature resistant up to 500°C (in the case of organic binders up to 180°C).

1. Glass microfiber filters without binders

DFAFA GRADE (1.6 µm)

Particularly suited for atmospheric pollution controls, intake controls and ozone level measurements.

This product is used in testing with algae in water, for general water controls and waste water analysis.

Its use for filtering solvents in high-resolution laboratories is recommended.

DAM10 GRADE (1.0 µm)

It is mainly used in membrane pre-filtration and for biochemical assays.

Suitable for filtration of large sample volumes.

DMEFC GRADE (1.2 µm)

This is the most suitable filter to test for solids in suspension in water in accordance with the parameters set by the EN-872:2005 European regulation and American Standard Methods norm 2540D. In general, it is suitable for any work in water control or wastewater analysis, including clarification processes.

Within biochemical tests, it is very useful for analysing carbohydrates, cellular cultures, etc.

DAM27 GRADE (2.7 µm)

The most widespread use of this filter is in membrane pre-filtering.

Its high particle retention ensures that the sample is properly clarified before passing through surface filters (membrane filters).

DSLFF GRADE (0.7 µm)

This is the filter with the highest retention performance of the range. It is particularly suited to filter samples and solvents for HPLC, being this pre-filtration the most important for ensuring the success of the test. It is also suitable for biochemical tests, such as clarifications, protein filtrations, cellular cultures, etc.

DFAAH GRADE (1.5 µm)

Suitable for atmospheric pollution control, particularly in testing for air intake levels. It is also appropriate for wastewater controls, testing for solids in suspension, dissolved solids and volatile matter in accordance with the parameters set by the American Standard Methods norm 2540D.

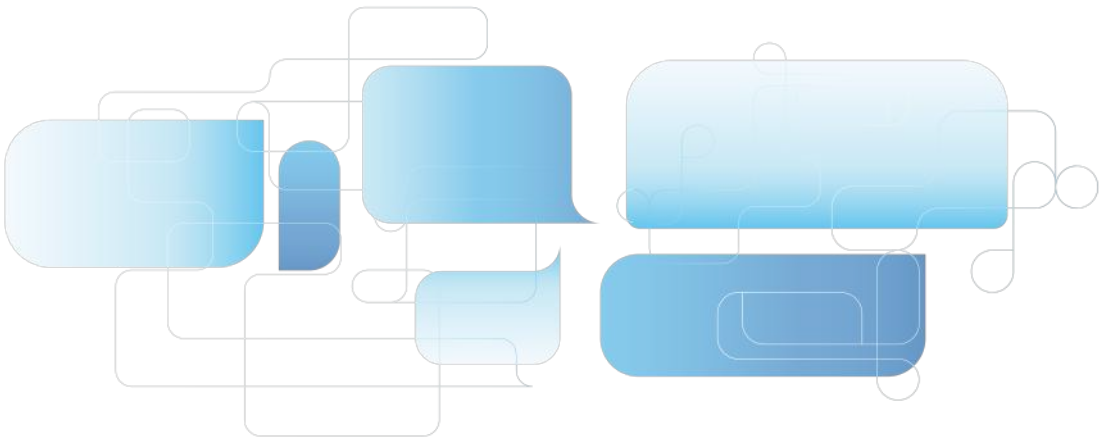
It is also suitable for cellular cultures.

Disc and Sheet Membranes

Grade	Applications
DFAFA	Atmospheric pollution controls, intake controls and ozone level measurements Filtration for algae in water, foodstuff analysis, bacteria cultures, proteins
DAM10	Used in membrane pre-filtration Biochemical assays Suitable for filtration of large volumes
DMEFC	Determination of suspended soils in water in accordance with European regulations Clarification and monitoring water and wastewater analysis Analysis of carbohydrates, cellular cultures in biochemical tests where cellulose fiber is an inconvenience
DAM27	Used as a membrane pre-filter Determination of contaminants in fats according to LMBG
DSLFF	Highest retention performance of the range Filtration of samples and solvents prior to HPLC Biochemical assays and clarifications of protein solutions
DFAAH	Filtration of suspended solids in water, wastewater analysis Total suspended solids analysis Atmospheric pollution control It is also suitable for cellular cultures

Technical Specifications

GVS	Retention Range (µm)	Weight (g/m^2)	Thickness (µm)	Retention Drop(*) (%)	Binder
DFAFA	1.6	52	260	99.998	NO
DAM10	1.0	143	700	99.998	NO
DMEFC	1.2	53	260	99.998	NO
DAM27	2.7	120	530	99.998	NO
DSLFF	0.7	75	450	99.998	NO
DFAAH	1.5	65	280	99.998	NO

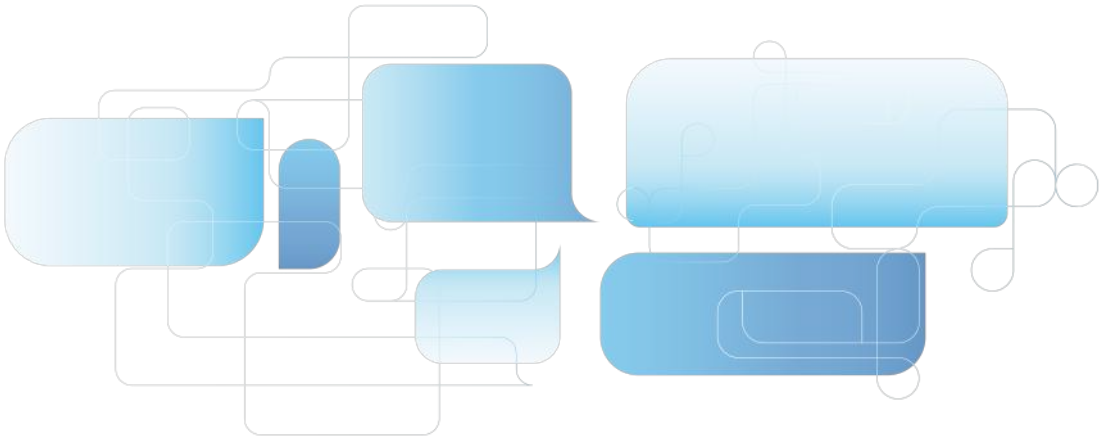


Ordering information

Diameter (mm)	DFAFA	DAM10	DMEFC	DAM27	DSLFF	DFAAH
			100 Circles/Box			
21	FP021DFAFAGLFC01	FP021DAM10GLFC01	FP021DMEFCGLFC01	FP021DAM27GLFC01	FP021DSLFFGLFC01	FP021DFAAHGLFC01
25	FP025DFAFAGLFC01	FP025DAM10GLFC01	FP025DMEFCGLFC01	FP025DAM27GLFC01	FP025DSLFFGLFC01	FP025DFAAHGLFC01
37	FP037DFAFAGLFC01	FP037DAM10GLFC01	FP037DMEFCGLFC01	FP037DAM27GLFC01	FP037DSLFFGLFC01	FP037DFAAHGLFC01
47	FP047DFAFAGLFC01	FP047DAM10GLFC01	FP047DMEFCGLFC01	FP047DAM27GLFC01	FP047DSLFFGLFC01	FP047DFAAHGLFC01
50	FP050DFAFAGLFC01	FP050DAM10GLFC01	FP050DMEFCGLFC01	FP050DAM27GLFC01	FP050DSLFFGLFC01	FP050DFAAHGLFC01
55	FP055DFAFAGLFC01	FP055DAM10GLFC01	FP055DMEFCGLFC01	FP055DAM27GLFC01	FP055DSLFFGLFC01	FP055DFAAHGLFC01
70	FP070DFAFAGLFC01	FP070DAM10GLFC01	FP070DMEFCGLFC01	FP070DAM27GLFC01	FP070DSLFFGLFC01	FP070DFAAHGLFC01
90	FP090DFAFAGLFC01	FP090DAM10GLFC01	FP090DMEFCGLFC01	FP090DAM27GLFC01	FP090DSLFFGLFC01	FP090DFAAHGLFC01
110	FP110DFAFAGLFC01	FP110DAM10GLFC01	FP110DMEFCGLFC01	FP110DAM27GLFC01	FP110DSLFFGLFC01	FP110DFAAHGLFC01
125	FP125DFAFAGLFC01	FP125DAM10GLFC01	FP125DMEFCGLFC01	FP125DAM27GLFC01	FP125DSLFFGLFC01	FP125DFAAHGLFC01
150	FP150DFAFAGLFC01	FP150DAM10GLFC01	FP150DMEFCGLFC01	FP150DAM27GLFC01	FP150DSLFFGLFC01	FP150DFAAHGLFC01
240	FP240DFAFAGLFC01	FP240DAM10GLFC01	FP240DMEFCGLFC01	FP240DAM27GLFC01	FP240DSLFFGLFC01	FP240DFAAHGLFC01
Size (mm)	**DFAFA**	**DAM10**	**DMEFC**	**DAM27**	**DSLFF**	**DFAAH**
			100 Sheets/Pack			
203x254	FP203RFAFAGLFC01	FP203RAM10GLFC01	FP203RMEFCGLFC01	FP203RAM27GLFC01	FP203RSLFFGLFC01	FP203RFAAHGLFC01

Equivalence Table

GVS	Equivalent 1	Equivalent 2	Equivalent 3	Equivalent 4
DFAFA	GF-A	GF 50	GF1	MGA
DAM10	GF-B	GF 51	GF2	MGB
DMEFC	GF-C	GF 52	GF3	MCG
DAM27	GF-D	GF 53	GF4	MGD
DSLFF	GF-F	GF 55	GF5	MGF
DFAAH	934-AH	GF 30	GF6	550-HA



2. Glass microfiber filters with binders

These glass microfiber filters are mostly used for monitoring air and gas or as prefilter. They have extreme mechanical and chemical stability because they are manufactured with synthetic binders to ensure that the filter has a defined strength. They have a temperature resistance of up to 180°C.

Technical Specifications

GVS	Retention Range (µm)	Weight (g/m^2)	Thickness (µm)	Binder
DAM64	1.0	85	450	YES

Grade	Applications
DAM64	Pre-filtration and clarification for Biopharmaceutical and Food & Beverage industry Filtration in ink industry Brine filtration

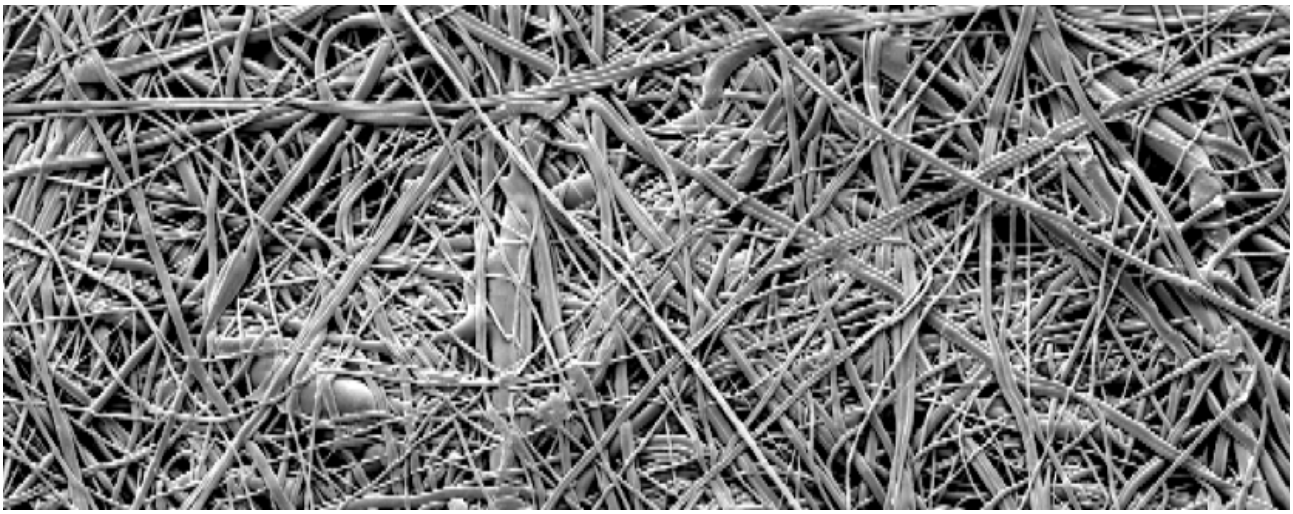
Ordering information

Diameter (mm)	DAM64
100 Circles/Box	
25	FP025DAM64GLFC01
37	FP037DAM64GLFC01
47	FP047DAM64GLFC01
50	FP050DAM64GLFC01
90	FP090DAM64GLFC01
150	FP150DAM64GLFC01

Note: for paper filter roll, please contact local representatives.

Equivalence Table

GVS	Equivalent 1	Equivalent 2
DAM64	GF6	GF6



Quartz microfiber filters

The GVS quartz microfiber filters are made with pure quartz microfibers and are free of binders or additives of any kind. These filters have retention, loading and air permeability features similar to those of the glass microfiber filters. However, since they have greater chemical resistance at high temperatures, they can be used in environments where extreme conditions are present, replacing the glass microfiber filters in such cases.

D0QF1 Standard grade
D0QF2 Very pure filter/very low trace levels of heavy metals

Features

- High-purity quartz microfiber filters (SiO_2) free of binding elements or additives
- Excellent retention levels for very fine particles
- Very high air permeability
- High temperature stability. It is very good up to 900ºC, some loss of their usual properties setting in beyond that point
- Excellent chemical stability with practically no filter-mass losses through chemical reactions under extreme conditions with the presence of acid gases (HCl, SO_2, SO_3, H2, SO_4, NO and NO_3)

Applications

- Determination of suspended particles on the atmosphere
- Emissions monitoring in industrial chimneys
- Gravimetric determination in gases
- Monitoring the level of heavy metals in atmospheric pollution studies
- Incinerators
- When the temperature of emissions is higher than the temperature that the glass microfiber can beat, it is used quartz microfiber
- Analysis of acid gases
- Microplastic sample preparation and separation before chromatographic analysis

Technical Specifications

Grade	Weight (g/m^2)	Thickness (µm)	Retention Dop (*) (%)	Maximum Temperature (ºC)	Binder
D0QF1	85.0	440	99,998	900	NO
D0QF2	85.0	430	99,998	900	NO

(*) Retention of a Dyoptil Ophtalate fog with 0.3 µm particles

Ordering Information

Diameter (mm)	D0QF1	D0QF2
	25 Circles/Box	
25	FP025D0QF1QUFC01	-
37	FP037D0QF1QUFC01	-
47	FP047D0QF1QUFC01	FP047D0QF2QUFC01
50	FP050D0QF1QUFC01	FP050D0QF2QUFC01
55	FP055D0QF1QUFC01	FP055D0QF2QUFC01
70	FP070D0QF1QUFC01	-
90	FP090D0QF1QUFC01	FP090D0QF2QUFC01
110	FP110D0QF1QUFC01	-
125	FP125D0QF1QUFC01	-
150	FP150D0QF1QUFC01	FP150D0QF2QUFC01
	100 Sheets/Pack	
203X254	FP203R0QF1QUFC01	-

Equivalence Table

GVS	Equivalent 1	Equivalent 2	Equivalent 3	Equivalent 4
D0QF1	QM-A	QF20	QF10	T293
D0QF2	-	-	-	MK360

Trace elements in ppm

Element	D0QF1	D0QF2
Al	50	25
As	0.75	0.2
Cd	1.5	<0.02
Co	1	<0.5
Cr	5	3.5
Cu	1.25	<1

Element	D0QF1	D0QF2
Fe	30	20
Hg	<0.05	<0.025
Mg	25	15
Mn	1.25	1
Na	40	10
Ni	2	0.5

Element	D0QF1	D0QF2
Pb	0.75	0.3
Sb	1.25.	<1
Sn	0.5	<0.5
Tl	2.5	1.5
V	0.5	<0.5
Zn	5	3