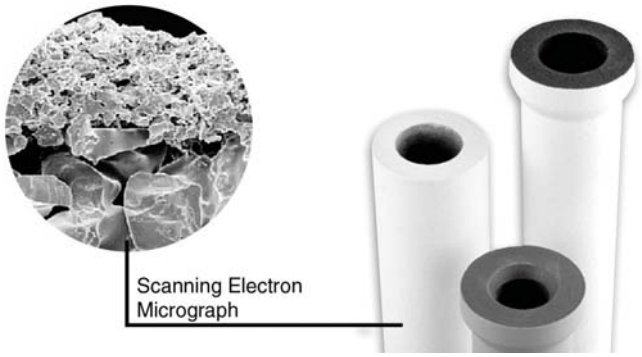
Pall Corporation

Pall Dia-Schumalith®
Filter Elements

Description

Pall **Dia-Schumalith** filter elements are successfully used as backwashable surface filters for particle separation from hot gases and aggressive liquids. They are made from a coarse porous support body of silicon carbide ceramically bonded with a fine filtering membrane.

Different membranes are available depending on field of application and demanded filtration efficiency. The combination of support body and membrane guarantees a low differential pressure at high filtration fineness and an excellent cleaning performance. **Dia-Schumalith** filter elements are especially used in the field of hot gas filtration due to its outstanding resistance to temperature changes.



Applications

- Backwashable surface filters for liquids
  - Catalyst recovery from reaction solutions, eg production of hydrogen peroxide and caprolactam
- Backwashable surface filters for gases
  - Fluid Catalytic Cracking processes (FCC)
  - Incineration processes, e.g PFBC of coal, radioactive contaminated waste
  - Gasification processes IGCC, e.g of coal, biomass, waste
  - Finest filtration of water vapour

Chemical Resistance[2]

Dia-Schumalith filter elements are resistant against acids, saline solutions and organic solvents, liquid or gaseous. They are not resistant to Hydrofluoric acid. **Dia-Schumalith** filter elements are resistant up to pH 10 in the alkaline range.

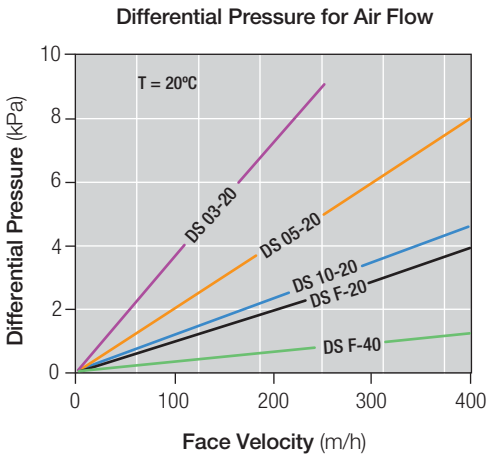
[2] As end use conditions can vary, it is the users responsibility to verify compatibility with their specific use conditions.

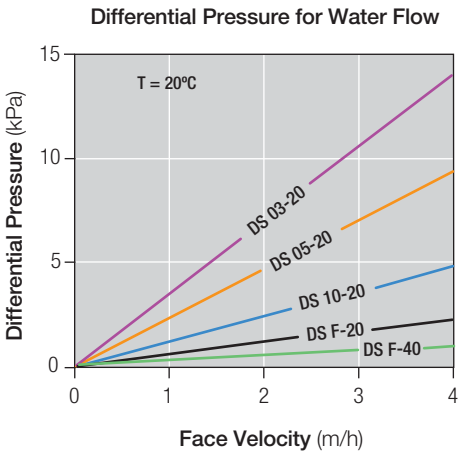
Technical Information

Dia-Schumalith (DS)	03-20	05-20	10-20	F-20	F-40
Filtration Grade for Liquids	0.5 µm	0.7 µm	<1 µm	2.5 µm	2.5 µm
Filtration Grade for Gases	<0.3 µm	<0.3 µm	0.3 µm	0.5 µm	0.5 µm
Support Material	SL 20	SL 20	SL 20	SL 20	SL 20
Membrane Type	DIA 03	DIA 05	DIA 10	DIA F	DIA F
Membrane Material	Mullite Grains	Mullite Grains	Mullite Grains	Al_2O_3 fibers / SiC Grains	Al_2O_3 fibers / SiC Grains
Porosity Support Material	38 %	38 %	38 %	38 %	38 %
Material Density	1.85 g/cm³	1.85 g/cm³	1.85 g/cm³	1.85 g/cm³	1.85 g/cm³
Specific Permeability	15 $10^{-13}m^2$	25 $10^{-13}m^2$	55 $10^{-13}m^2$	65 $10^{-13}m^2$	15 $10^{-13}m^2$
Bending Strength (O-Ring Compression)	>20 MPa	>20 MPa	>20 MPa	>20 MPa	>15 MPa
Maximum Temperature Resistance[1]	1000 °C	1000 °C	1000 °C	1000 °C	1000 °C
Hot Gas Filtration Oxidizing Atmosphere	750 °C	750 °C	750 °C	750 °C	750 °C
Hot Gas Filtration Reducing Atmosphere	600 °C	600 °C	600 °C	600 °C	600 °C
Expansion Co-efficient (25 -1000 °C)	5.0 10^{-6}/K	5.0 10^{-6}/K	5.0 10^{-6}/K	5.0 10^{-6}/K	5.0 10^{-6}/K
Thermal Conductivity (200 °C)	2.5 W/m K	2.5 W/m K	2.5 W/m K	2.5 W/m K	2.5 W/m K
Dimensions (Do / Di)	60 / 40 mm	60 / 40 mm	60 / 40 mm	50 / 20 mm	60 / 30 mm

[1] depending upon operating conditions.

Flow vs Differential Pressure





General Information

- Special care has to be paid to the sealing when installing filter elements.
- Ceramic elements are to be handled with care.
- The filter elements should not be cut to any other length as cutting may damage the surface membrane.
- Elements can be glued using commercial or special ceramic glues.
- Careful consideration should be taken regarding operating temperatures and chemical resistance.

Ordering Information

Part Number	Dia-Schumalith	Type	Do / Di (mm)	Length (mm)	Area (m^2)	Weight (kg)
89451821	Cylinder	F-20	50 / 20	135	0.02	0.5
89452051		03-20	50 / 20	135	0.02	0.5
88269600		03-20	60 / 40	1,000	0.18	3.0
88270700		10-20	60 / 40	1,000	0.18	3.0
88276200		03-20	70 / 40	1,000	0.22	4.8
88276300		05-20	70 / 40	1,000	0.22	4.8
88276400		10-20	70 / 40	1,000	0.22	4.8
88276500		F-40	70 / 40	1,000	0.22	4.8
88269700	Candle	03-20 KK [3]	60 / 40	1,000	0.18	3.0
88270700		10-20 KK [3]	60 / 40	1,000	0.18	3.0
88284500		03-20 KK [3]	60 / 40	1,500	0.27	4.5
88270200		05-20 KK [3]	60 / 40	1,500	0.27	4.5
88286600		10-20 KK [3]	60 / 40	1,500	0.27	4.5
88222065		10-20 KK [3] pin	60 / 40	1,522	0.27	4.6
89580605		10-20 KK [3] pin	60 / 40	2,000	0.37	6.0
89580596		10-20 KK [3] pin	60 / 40	2,500	0.46	7.5

[3] Semispherical head

Please contact Pall for enquiries relating to dimensions not specified above.

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Pall Corporation has offices and plants throughout the world. For Pall representatives in your area, please go to www.pall.com/corporate_contact.asp

Please contact Pall Corporation for product applicability to specific National legislation and/or Regional Regulatory requirements for water and food contact use.

Because of technological developments related to the products, systems, and/or services described herein, the data and procedures are subject to change without notice. Please consult your Pall representative or visit www.pall.com to verify that this information remains valid.

Filtration. Separation. Solution.SM

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