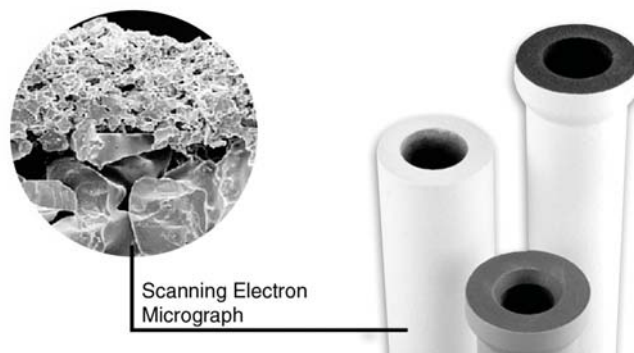


Pall Dia-Schumalith® Filter Elements

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 Resistance²

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.

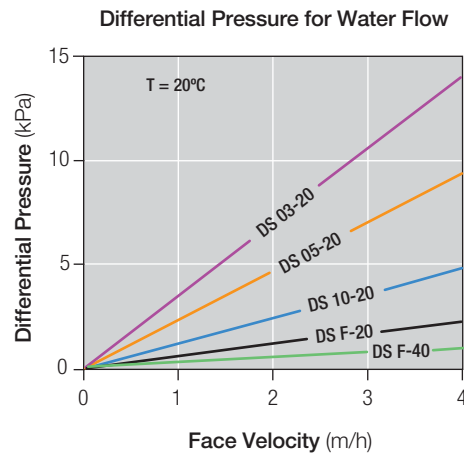
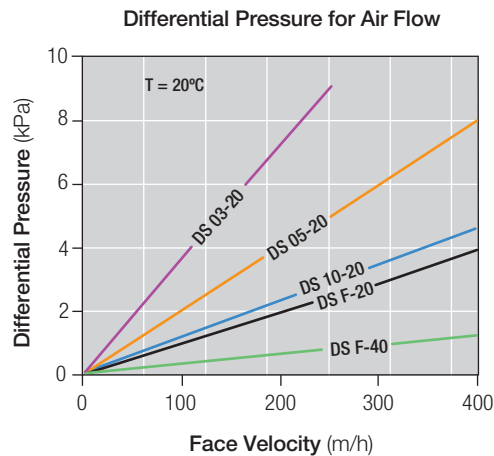
² As end use conditions can vary, it is the users responsibility to verify compatibility with their specific use conditions.

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 ₂ O ₃ fibers / SiC Grains	Al ₂ O ₃ fibers / SiC Grains
Porosity Support Material	38 %	38 %	38 %	38 %	38 %
Material Density	1.85 g/cm ³	1.85 g/cm ³	1.85 g/cm ³	1.85 g/cm ³	1.85 g/cm ³
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.

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