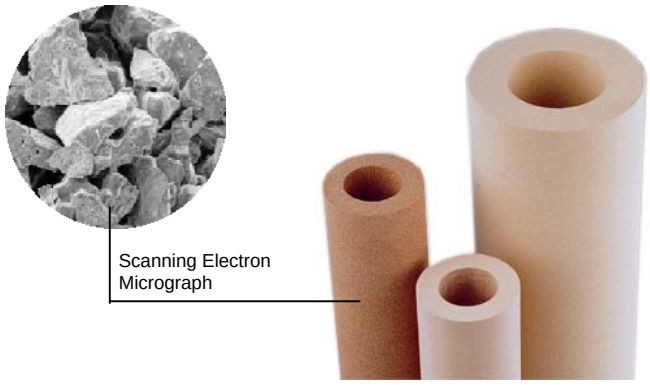
Pall Corporation

SCHUMATHERM™
Products Information



1. General Material Description

SCHUMATHERM filter elements are a high-quality porous fireclay ceramic. This material is distinguished by its good chemical and thermal resistance. Therefore cylinders or tiles made of SCHUMATHERM filter ceramic can be used for a large variety of applications as long as special process conditions do not require other process specific materials. One main application for SCHUMATHERM filter cylinders is the use as support material for precoat filtration. The surface structure and the high permeability of SCHUMATHERM builds an ideal support for the precoat.

2. Fields of Applications

SCHUMATHERM (ST)	**Examples**
Precoat filter for liquids	▪ Filtration of beer, water, glucose syrup; beer yeast recovery
Particle filter for gases	▪ Coarse filter for biogas
Diffuser	▪ Aeration of potable water (e.g. de-acidification)
Fluidization	▪ Hot fluidized bed processes; ash transportation; conveying of red. iron slurry

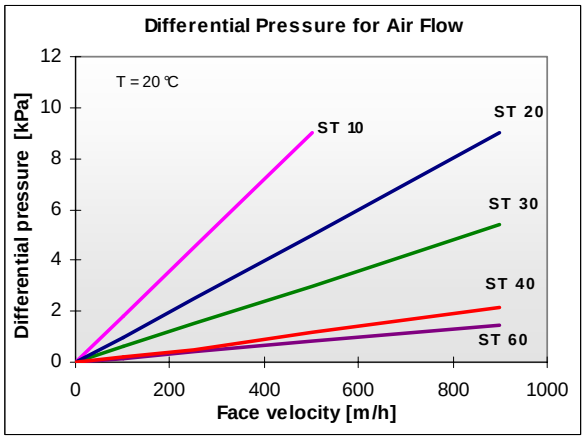
Further applications possible.

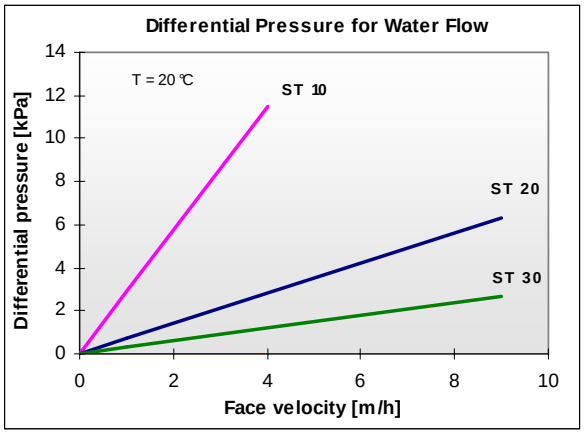
3. Physical Properties

SCHUMATHERM (ST)	**Unit**	**10**	**20**	**30**	**40**	**60**
Filtration fineness for liquids	µm	2.5	15	30	40	50
Filtration fineness for gases	µm	1.5	3	6	8	10
Porosity	%	40	40	35	35	35
Material density	g/cm³	1.5	1.5	1.5	1.5	1.5
Specific permeability [1]	10^{-13}m²	45	75	125	310	470
Bending strength [2]	MPa	> 12	> 10	> 9	> 9	> 8
Bursting pressure	bar	> 30	> 25	> 20	> 20	> 15
Max. temperature resistance [3]	°C	800	800	800	800	700
Thermal expansion coefficient (25 - 800°C)	10^{-6}/K	5.8	5.8	5.8	5.8	5.8
Dimensions Do / Di	mm	70 / 40	70 / 40	70 / 40	70 / 40	70 / 40

[1] = calculated from differential pressure AIR, [2] = O-ring strength, compression, [3] = depending on operating conditions

4. Differential Pressure Diagram





The physical data are valid for the dimensions listed in table „Physical Properties“.

5. Chemical Resistance

SCHUMATHERM filter ceramic is resistant against acids, saline solutions and organic solvents, liquid or gaseous. It is not resist to hydrofluoric acid. SCHUMATHERM filter ceramic is resistant up to pH 10 in the alkaline range.

6. Standard Dimensions

	Type	Do / Di [mm]	Length [mm]	Area [m²]	Weight [kg]
Cylinder	10, 20, 40, 60	70 / 40	500	0.11	2.0
Cylinder	20, 30	120 / 70	500	0.19	5.6
Cylinder	10, 20, 40, 60	70 / 40	1000	0.22	4.0
Tile	20, 30	L x W: 500 x 500	H: 30	0.25	11.3

Special dimensions and special products on request.

7. General Information

- SCHUMATHERM filter ceramic can be utilised in the food and beverage industry in accordance with the German Foodstuffs and Consumer Goods Act and according to the European Directive 89/109/EEC – referring to directives 2002/72/EC and / or 84/500/EEC and their amendments, as appropriate.
- SCHUMATHERM filter ceramicis approved for the utilization in drinking water according to German regulations DVGW W270 and the KTW recommendation.
- SCHUMATHERM filter ceramic can be machined using hard metal tools.
- Ceramic elements are to be handled with care.
- Elements can be glued using commercial or special ceramic glues. Careful consideration should be taken regarding operating temperature and chemical resistance.

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