

Seitz HS series depth filter sheets were developed to meet the production needs and requirements of the food and beverage industry for various products such as beer, gelatin or enzymes.

Description

From the selection and quality control of raw materials to application of the latest production technologies, the HS filter sheets meet the highest quality standards. The high stability of HS sheets enables long production runs of aqueous and higher viscous fluids at low and high temperatures.

HS filter sheets are available in multiple grades suitable for microbial reduction and applications requiring fine, clarifying and coarse filtration.

Features	Benefits
Homogenous and consistent media, available in multiple grades	<ul style="list-style-type: none"> Suitable for a variety of applications Proven performance Reliable microbial reduction with tighter grades
Media stability due to high wet strength	<ul style="list-style-type: none"> Easy to remove after use, especially with sticky fluids High economic efficiency due to a long service life
A combination of surface, depth and adsorptive filtration	<ul style="list-style-type: none"> High solids retention Very good permeability Excellent filtrate quality
Each individual filter sheet is laser etched with the sheet grade, batch number and production date.	<ul style="list-style-type: none"> Full traceability

Quality

- Filter sheets produced in a controlled environment
- Manufactured according to ISO 9001:2008 certified Quality Management System

Food Contact Compliance

Please refer to the Pall website www.pall.com/foodandbev for a Declaration of Compliance to specific National Legislation and/or Regional Regulatory requirements for food contact use.

Seitz® HS Series Depth Filter Sheets

For Applications Requiring High Stability



Seitz HS Series Filter Sheets

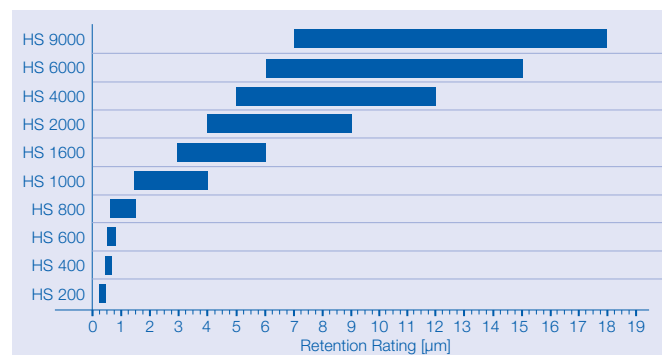
Main Constituents

Cellulose, diatomaceous earth (DE, Kieselguhr), perlite.

Applications

Grade	Application
HS 200 HS 400 HS 600 HS 800	Fine filtration of beer for bacteria and yeast removal Microorganism reduction in enzymes
HS 1000 HS 1600 HS 2000	Filtration of beer for microorganism reduction and DE trap filtration Polishing filtration of thick broth gelatin Fine filtration of enzymes Clarification of thin broth gelatin
HS 4000 HS 6000	Prefiltration of beer for microorganism reduction and particle removal Clarification of thin broth gelatin and enzymes
HS 9000	Coarse filtration of enzymes

Relative Retention Rating¹



¹ Effective removal performance of filter sheets is dependent on process conditions.

Characterization

Grade	Mass per Unit Area g/m ²	Thickness mm	Ash %	Water Permeability ² L/m ² /min (gal/ft ² /min)
HS 200	1400	3.8	52	60 (1.5)
HS 400	1380	3.9	49	100 (2.5)
HS 600	1360	3.8	48	140 (3.4)
HS 800	1320	3.8	49	175 (4.3)
HS 1000	1280	3.8	48	230 (5.7)
HS 1600	1240	3.7	48	275 (6.8)
HS 2000	1220	3.8	48	400 (9.8)
HS 4000	1200	3.9	46	550 (13.5)
HS 6000	1180	4.2	46	850 (20.9)
HS 9000	1080	4.2	46	1550 (38.1)

These figures have been determined in accordance with in-house test methods and the methods of the Technical/Analytical Work Group within the European Depth Filtration Association.

²The permeability was measured under test conditions with clean water at 20 °C (68 °F) and a ΔP of 1 bar (14.5 psi).

Regeneration

HS series filter sheets may be rinsed with clean water (in the forward or reverse³ direction) to increase throughput and to optimize economic efficiency. Optimal regeneration of filter sheets installed in a plate and frame filter may be achieved with serial rinses of warm water followed by hot water. An example protocol is shown below.

1. Rinse with warm water (60 °C / 140 °F) for 15 minutes
2. Rinse with hot water (70 – 80 °C / 158 – 176 °F) for 8 – 10 minutes

The rinse flow rate should be equivalent to the filtration flow rate with a back pressure of 0.5 – 1 bar (7.2 – 14.5 psi).

³When rinsing in the reverse flow direction it is critical to control particulate and microbial levels in the rinse water so that the filtrate side of the sheet is not contaminated. Water used for reverse flow flushes should be particle-free, and if the filter will not be sterilized prior to re-use the water should be free of microbes. Backwashing should be in a diagonal direction from outlet to inlet in a plate and frame filter.



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Sterilization and Sanitization

Method	Temperature °C (°F)	Maximum Differential Pressure bar (psi)	Time ⁴ / Cycle min
Steam	125 (257)	0.5 (7.2)	20
Hot Water	90 (194)	1 (14.5)	30

⁴The actual time required may vary as a function of the process conditions.

Filtration Guidelines⁵

As the filtrate quality can be impacted by the filtration flow rate, the following table provides guidelines for flux rate.

Application	Flow Velocity L/m ² /h (gal/ft ² /h)	Maximum Differential Pressure bar (psi)
Beer clarification	150-300 (3.7-7.4)	2.5 (36.3)
Microbial reduction in beer	100-200 (2.5-4.9)	1.5 (21.8)
Thin broth gelatin clarification	300-500 (7.4-12.3)	3 (43.5)
Thick broth gelatin polishing	50-60 (1.2-1.5)	3 (43.5)
Enzyme microbial reduction	525 (12.9)	1.5 (21.8)
Enzyme polishing	525 (12.9)	3 (43.5)

⁵Please contact Pall for recommendations on your specific filtration process as results may vary by product, pre-filtration and filtration conditions.

For additional operating guidelines, including rinsing of sheets prior to use, please refer to instructions provided by Pall.

Available Sheet Formats

Rectangular Sheets

400 mm x 400 mm (15.8" x 15.8")
600 mm x 612 mm (23.6" x 24.1")

Folded Sheets

800 mm x 1625 mm (31.5" x 63.9")
1003 mm x 2016 mm (39.5" x 79.3")
1205 mm x 2420 mm (47.4" x 95.3")

Other formats are available on request.

Seitz HS series filter sheets are also available in SUPRApak™ module configurations. Please contact Pall.

Visit us on the Web at www.pall.com/foodandbev

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

Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

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