

Seitz® FA Series Depth Filter Sheets For Filtration of Fruit Juices

Seitz FA series depth filter sheets were developed to meet the production needs and requirements of the fruit juice industry and associated applications requiring thermoacidophilic bacteria (TAB) spore control.

Description

The FA filter sheets combine the process mechanisms of surface filtration, depth filtration and adsorption to fulfill the specific requirements of fruit juice, juice concentrate and ingredient manufacturers.

FA filter sheets are available in multiple grades suitable for polishing, clarification and microbial reduction.



Seitz FA Series Filter Sheets

Features	Benefits
Homogenous and consistent media, available in four grades	<ul style="list-style-type: none"> Suitable for all juice and concentrate applications Proven performance Reliable microbial reduction with tighter grades
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.

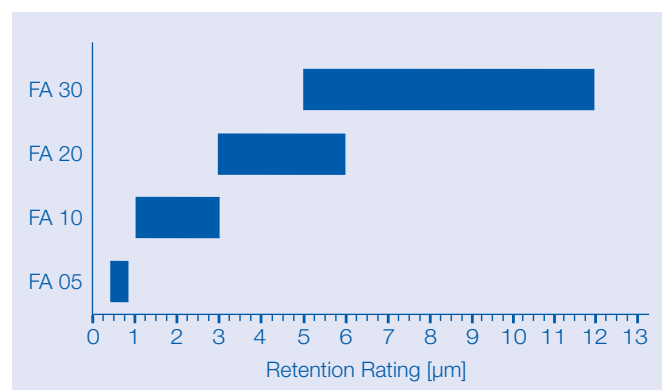
Main Constituents

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

Applications

Grade	Application
FA 05	Reduction of microorganisms prior to storage of fruit juices and concentrates or prior to final bottling
FA 10	Polishing filtration of clear fruit juices prior to bottling, to achieve brilliant products, especially for apple juice filtration
FA 20	Polishing filtration prior to bottling, when high throughputs are required
FA 30	Clarifying filtration of colored juices such as red/black currant or cherry juice; clarifying filtration of apple juice

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)
FA 05	1350	3.7	46	95 (2.3)
FA 10	1350	3.7	46	146 (3.6)
FA 20	1250	4.0	46	510 (12.5)
FA 30	1250	4.2	46	780 (18.9)

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

FA 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.

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

For achieving optimal filtrate quality, the following flow velocities and differential pressures should not be exceeded:

Grade	Flow Velocity L/m ² /h (gal/ft ² /h)	Maximum Differential Pressure bar (psi)
FA 05	500 (12.3)	1.5 (21.8)
FA 10	850 (20.9)	3 (43.5)
FA 20	850 (20.9)	3 (43.5)
FA 30	850 (20.9)	3 (43.5)

As the filtrate quality can be impacted by the filtration flow rate, the following table provides further guidelines for sheet selection and flux rate for apple juice concentrate.

Application	Grade	Flow Velocity for Concentrate L/m ² /h (gal/ft ² /h)	Flow Velocity for Half Concentrate L/m ² /h (gal/ft ² /h)
Filtration prior to concentration	FA 10	200-250 (4.9-6)	400-500 (9.8-12.3)
Microbial reduction (low bacterial load)	FA 05	200-250 (4.9-6)	400-500 (9.8-12.3)
Microbial reduction (high bacterial load)	FA 05	175-200 (4.3-4.9)	350-400 (8.6-9.8)

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")



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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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