

Seitz IR series depth filter sheets were developed to meet the production needs and requirements of the distilled spirits industry.

Description

A visually bright finished product free from visible particles is one of the main objectives of spirits filtration. Components (C_{12-16} fatty acid esters, terpenes, proteins or their complex compounds with metals and/or phenols) of some spirits may precipitate if calcium ion levels are too high. Magnesium may also cause precipitations in tannin containing spirits like whisky and brandy. Standard filter sheets contain small quantities of these extractable ions from the raw materials. IR Series filter sheets undergo a proprietary treatment that results in extremely low levels of extractable ions making them the ideal solution for distilled spirits applications.

Features	Benefits
Homogenous and consistent media, available in multiple grades	<ul style="list-style-type: none"> Suitable for a variety of applications Proven performance
A combination of surface, depth and adsorptive filtration	<ul style="list-style-type: none"> High solids retention Very good permeability Excellent filtrate quality
Proprietary treatment which results in extremely low levels of extractable ions (calcium, magnesium, iron, aluminum)	<ul style="list-style-type: none"> Reduced risk of precipitate in distilled spirits High economic efficiency due to a long service life
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® IR Series Depth Filter Sheets For Distilled Spirits Filtration



Seitz IR Series Filter Sheets

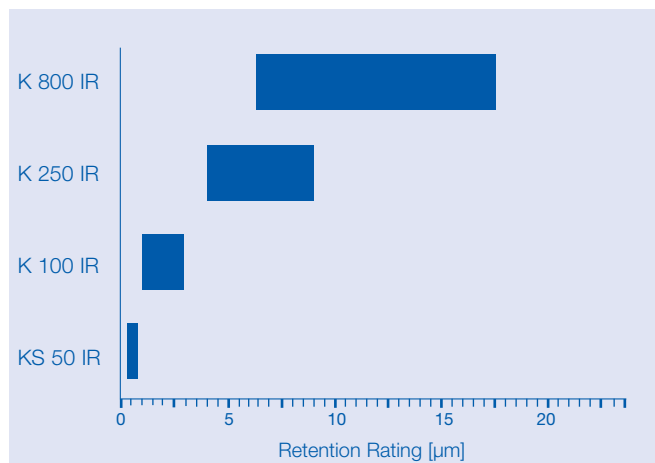
Main Constituents

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

Applications

Grade	Application
KS 50 IR	Polishing filtration in white spirits
K 100 IR	Chill filtration of white spirits
K 250 IR	Chill filtration of tannin containing spirits or white spirits high in fatty acids
K 800 IR	Particle removal

Relative Retention Rating¹



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

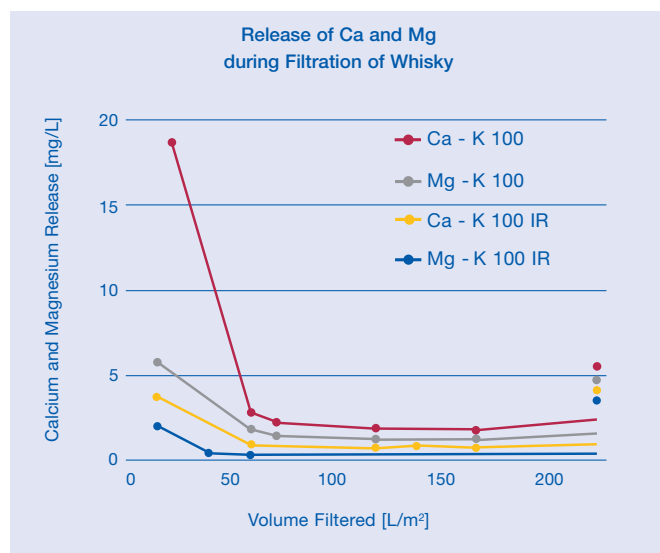
Characterization

Grade	Mass per Unit Area g/m ²	Thickness mm	Ash %	Water Permeability ² L/m ² /min (gal/ft ² /min)
KS 50 IR	1350	3.7	46	93 (2.3)
K 100 IR	1400	4.3	51	187 (4.6)
K 250 IR	1250	4.0	46	510 (12.5)
K 800 IR	1250	4.1	46	1275 (31.4)

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).

The diagram below illustrates the release of calcium and magnesium from the comparable standard filter sheet K100 and K100 IR into whisky during filtration.



The following total calcium and magnesium release per m² filter sheet at a flow velocity of 500 L/m²/h (12.3 gal/ft²/h) was calculated during this filtration run:

Sheet	Calcium mg/m ² (%)	Magnesium mg/m ² (%)
K 100 ³	667 (100)	192 (100)
K 100 IR	146 (22)	68 (35)

³The K 100 is the comparable standard sheet to the K 100 IR with regard to retention rate and throughput.

General Instructions for Use

The use of ion-reduced water (deionized water) is highly recommended for the reconstitution of distillates to single strength.

To prevent dilution upon installation, a water rinse is not recommended for sheet filters used in the spirits industry. Product circulation for 10 to 15 minutes back to the feed tank helps to distribute ions extracted at the beginning of filtration to the entire batch reducing the overall risk of precipitation.

Filtration Guidelines⁴

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)
Particle filtration of brown spirits	500 – 700 (12.3 – 17.2)
Particle filtration white spirits	700 – 900 (17.2 – 22.1)
Chill filtration of brown spirits and white spirits high in fatty acids	250 – 400 (6.1 – 9.8)
Chill filtration of white spirits	400 – 600 (9.8 – 14.7)

⁴ Please contact Pall for recommendations on your specific filtration process as results may vary by product, pre-filtration and filtration conditions.

For additional operating guidelines, 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")

Other formats are available on request.

Seitz IR series depth filter sheets are also available in SUPRAdisc™ II module configurations. Please contact Pall.