



# SE RANGE

## TECHNICAL FILTER SHEETS

### For Beverage, Food and Industrial Applications

The SE range of technical filter sheets are characterized by their relatively low density high voids volume and greater absorption capacity. They are specially formulated for the clarification of difficult liquids which would rapidly block other grades of filter sheets. As a result, the SE range finds wide acceptance for the filtration of viscous liquids and liquids containing high level of proteinaceous hazes or semi-solid contaminants.

As with all depth filter sheets the SE range are used to remove particles from liquids, where they give outstanding clarity and stability combined with long sheet life and integrity. The particles are retained using two filtration principles:

1. Surface filtration
2. Depth filtration

The liquid flows through a three-dimensional, asymmetrical fibre network in the depth filter. The solid components are retained using mechanical and electro-kinetic effects. These factors significantly increase the absorption capacity. The purpose of a filtration process is to produce either a liquid (filtrate) or solids (retentate). Depth filtration focuses mainly on the production of liquid filtrate.

#### Material

Filter sheets:

- Cleaned and bleached cellulose
- Natural filter aids (kieselgur and perlites)
- Cationic wet streng

#### SE RANGE

Grade Name	Thickness mm	Basic Weight g/m <sup>2</sup>	Flow rate l/min/m <sup>2</sup> @ 0.3 bar	Ash Content %
SE5	4.1	750	3283	0.0
SE10	3.6	775	2274	0.0
SE15	2.15	685	893	0.0
SE30	3.3	800	2089	19.0
SE35	3.75	1050	565	25.0
SE40	3.8	875	1762	35.0
SE50	2.2	850	410	34.0
SE295	4.2	1200	365	40.0

#### Chemical Resistance

Substance	Concentration [%]	Resistance T = 20 °C	Resistance T = 80 °C
NaOH	1	r	r
NaOH	2	r	lr
HCl	5	r	lr
HNO <sub>3</sub>	5	r	lr
H <sub>2</sub> SO <sub>4</sub>	10	r	lr
Acetic acid	Conc.	r	r
Citric acid	10	r	r
Peracetic acid	0.1	r	r
Butanol	80	r	r
Ethanol	80	r	r

r = resistant; lr = limitation in resistance

Please contact Carlson directly for other chemicals.

## Formats

SE range of filter sheets are available in all customary sizes, which means they can be installed in any commercially available sheet filter. Furthermore, any available filter sheet grade is available as a lenticular module.

## Handling

Depth filter sheets are used in sheets filters. When inserting the filter sheets must be handled with care to eliminate distortion or abrasion. Never use a damaged filter sheet. To ensure correct use, place the smooth side of the filter sheet against the filtration plate (ie downstream). The rough side of the filter sheet faces the liquid to be filtered (i.e upstream). Prior to first filtration it is recommended, where possible, to pre-rinse with 50l/m<sup>2</sup> of clean water at 1.25 times the flow rate. During pre-rinsing check for leakage, re-tighten to eliminate if necessary. A pressure difference between the inlet and outlet is required to allow flow. The filters are exhausted when the differential pressure exceeds a given value (1-2.5 bar, depending upon porosity and application). With certain application's it is possible for the filter sheets to be regenerated. Please refer to the special instructions for the handling of depth filter sheets.

The sheets can be sterilized with hot water (85°C) or inline steam (125°C). The water should be softened and free from impurities. Steam should be free of foreign particles and impurities.

## Conformity for Filter Sheets

Carlson filter sheets comply with the requirements of Regulation 1935/2004/EC of the European Parliament on materials and articles intended to come into contact with food, BfR Recommendation CH XXXVI/1, CFR 21 176.170 and US Food and Chemical Codex standards as applicable.

All products are made according to the rules of Quality Management System EN ISO 9001 and GMP Directive (EC) No 2023/2006.

Carlson filter sheets are KOSHER certified. The sheets contain no live organisms or animal based extracts and therefore can also be used for HALAL certified foodstuffs.

We certify that Carlson filter sheets do not contain any of the following materials, either within the raw material composition or added as processing aids:

- Allergens (as listed in EU Directives 2000/13/EC and 2006/142/EC)
- Genetically Modified Organisms
- Alcohol
- Solvents
- VOC (Volatile Organic Chlorides)
- Melamine formaldehyde
- Silicone
- Glass fibre
- Asbestos
- Nanomaterials

All wood pulps used in Carlson filter sheets come from sustainable resources and are FSC certified

## Packaging

The SE range of filter sheets of all standard sizes are hygienically shrink-wrapped and packed in cardboard boxes. Special packaging (non-standard sizes or unboxed) is available upon request.

## Storage Period and Conditions

The sheets must be stored in their original packaging in a place which is dry, cool and free from strong odours. We recommend that the sheets are used within 5 years of the date of manufacture.

## DISPOSAL

USED UNDER THE CORRECT CONDITIONS THE CARLSON RANGE OF SE FILTER SHEETS HAVE NO KNOWN NEGATIVE EFFECTS AND CAN BE DISPOSED OF THROUGH NORMAL ROUTE, OBSERVING LOCAL AND OFFICIAL REGULATIONS. CONSULT MSDS FOR FURTHER INFORMATION.