



XE RANGE

DEPTH FILTER SHEETS

For Beverage, Food and Industrial Applications

Depth filter sheets are used to remove particles from liquids, where they give outstanding clarity and stability combined with long sheet life and integrity. For effective depth filtration a sheet depth of 2.5-4.5mm is required. 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:

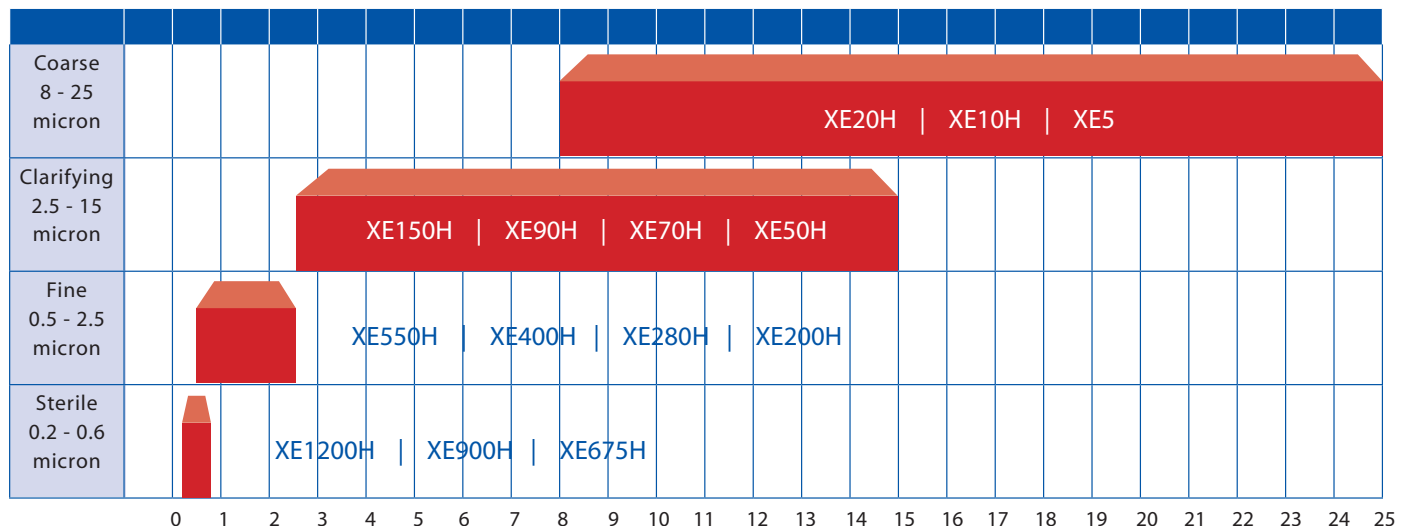
- Purified and bleached cellulose
- Natural filter aids (kieselgur and perlites)
- Cationic wet strength agent

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Grade Name	Thickness mm	GSM	Water flow l/min/m ² @ 1.0 bar	Ash Content %
XE5	3.6	790	2280*	0.0
XE10H	3.75	1040	1242	18.0
XE20H	3.75	1050	1043	25.0
XE50H	3.75	1150	651	38.0
XE70H	3.75	1140	570	38.0
XE90H	3.75	1190	425	42.0
XE150H	3.75	1235	354	42.0
XE200H	3.75	1265	257	42.0
XE280H	3.75	1290	183	44.0
XE400H	3.75	1325	143	44.0
XE550H	3.50	1325	106	39.0
XE675H	3.75	1375	76	50.0
XE900H	3.75	1375	57	50.0
XE1200H	3.75	1450	46	50.0

* @ 0.3 bar

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Micron rating from 0.2 - 25

Chemical Resistance

Substance	Concentration [%]	Resistance T = 20 °C	Resistance T = 80 °C
NaOH	1	r	r
	2	r	lr
HCl	5	r	lr
HNO ₃	5	r	lr
H ₂ SO ₄	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

XE 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/m² 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, FDA 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 XE 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 XE 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