

# TECHNICAL INFORMATION

## High Performance XE Filter range

**The Carlson XE range of products comprises a comprehensive series of high performance filter sheets designed to meet the needs of a range of specialist applications.**

All filter sheets within the XE range are formulated with several important benefits in mind:

All XE filter sheets incorporate an advanced blend of selected and processed bleached cellulose fibres combined with non-hazardous filter-aids and approved resins to produce filter media with superior filtration capabilities in conjunction with excellent wet and dry handling characteristics.

All the raw materials used in the manufacture of XE products are carefully selected and monitored to ensure their compatibility with beverages and food products.

All XE products are made to the same carefully controlled thickness specification so that the different grades can be used in the same filter press configuration and seal thickness.

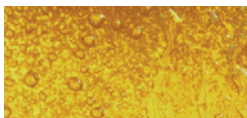
Edge leakage is reduced to a minimum because of the special XE filter sheet formulation and processing conditions.

XE filtration sheets are widely used in the filtration of products where they give outstanding clarity and stability combined with long sheet life and integrity.

Typical applications of the XE range include spirits, wines, beers and lagers where long life, sterility, stability and clarity are essential. Similarly, XE products have found wide acceptance in the filtration of syrups for soft drinks, gelatines and cosmetics, plus a diverse spread of chemical and pharmaceutical intermediates and final products.

### Typical particle retention values of XE range (um)

| GRADE   | MIN  | RANGE | MAX |
|---------|------|-------|-----|
| XE1700H | 0.1  | 0.2   | 0.3 |
| XE1200H | 0.2  | 0.2   | 0.4 |
| XE900H  | 0.4  | 0.1   | 0.5 |
| XE675H  | 0.4  | 0.2   | 0.6 |
| XE400H  | 0.5  | 0.3   | 0.8 |
| XE280H  | 0.5  | 1     | 1.5 |
| XE200H  | 1.5  | 1     | 2.5 |
| XE150H  | 3    | 4     | 7   |
| XE90H   | 4    | 5     | 9   |
| XE80H   | 5    | 5     | 10  |
| XE70H   | 5    | 7     | 12  |
| XE50H   | 6    | 9     | 15  |
| XE20H   | 8    | 12    | 20  |
| XE10H   | 9    | 13    | 22  |
| XE5     | 10.5 | 14.5  | 25  |



## Physical Data

| Test properties<br>units | Basic weight<br>g/m <sup>2</sup> | Thickness<br>mm | % Ash Content<br>% weight (g) | Flow rate                         |                                     |
|--------------------------|----------------------------------|-----------------|-------------------------------|-----------------------------------|-------------------------------------|
|                          |                                  |                 |                               | litres/min/m <sup>2</sup> @ 1 bar | litres/min/m <sup>2</sup> @ 0.3 bar |
| XE1700H                  | 1450                             | 3.80            | 50                            | 24                                |                                     |
| XE1200H                  | 1400                             | 3.80            | 50                            | 47                                |                                     |
| XE900H                   | 1375                             | 3.75            | 50                            | 60                                |                                     |
| XE675H                   | 1375                             | 3.75            | 50                            | 80                                |                                     |
| XE400H                   | 1325                             | 3.75            | 44                            | 150                               |                                     |
| XE280H                   | 1290                             | 3.75            | 44                            | 193                               |                                     |
| XE200H                   | 1265                             | 3.75            | 42                            | 270                               |                                     |
| XE150H                   | 1235                             | 3.75            | 42                            | 373                               |                                     |
| XE90H                    | 1190                             | 3.75            | 42                            | 448                               |                                     |
| XE70H                    | 1140                             | 3.75            | 38                            | 600                               |                                     |
| XE50H                    | 1150                             | 3.75            | 38                            | 685                               |                                     |
| XE20H                    | 1050                             | 3.75            | 25                            | 1098                              |                                     |
| XE10H                    | 1040                             | 3.75            | 18                            | 1308                              |                                     |
| XE5                      | 790                              | 3.60            | 1                             |                                   | 2280                                |

- The following figures are nominal values, for specifications contact your representative.

## Instructions for correct use

When inserting into the filter press handle the filter sheets with care to eliminate distortion or abrasion. Never use a damaged filter sheet.

### Insertion of depth filter sheets

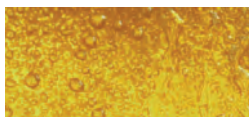
To ensure correct use place the smooth side of the filter sheet against the filtration plate (i.e downstream). The rough side of the filter sheet faces the liquid to be filtered (i.e upstream).

### Filter preparation

Prior to the first filtration it is recommended where possible to pre-rinse the closed filter with approximately 50 litres of water per m<sup>2</sup> at 1.25 times the flow rate. During pre-rinsing check for leakage, re-tighten to eliminate if necessary.

### Sterilisation

Carlson range of XE filter sheets may be sterilised with saturated steam or hot water. The pressed filter pack has to be loosened slightly to ensure that the steam has entirely sterilised the system. Final pressure should only be applied to the filter package once the entire filter has cooled down.



### Sterilisation with steam:

|                |  |
|----------------|--|
| Steam quality: | Steam has to be free of foreign particles and impurities |
| Temperature:   | max 134 <sup>0</sup> c (saturated steam)                 |
| Duration       | 20minutes  |

### Sterilisation with hot water:

|                |  |
|----------------|--|
| Water quality: | The water should be softened and be free of impurities |
| Temperature:   | 80-85 <sup>0</sup> c                                   |
| Duration:      | 20 minutes   |



### Sheet flushing

The Carlson range of XE filter sheets can be forward and back washed using softened water to extend the life and reduce the costs of filtration. This is, however, very much dependent upon the application and filtration conditions.

### Regeneration procedure:

|               |   |
|---------------|---|
| Cold rinsing: | in direction of filtration for approximately 5-10 minutes               |
| Temperature   | 15-20 <sup>0</sup> c  |
| Hot rinsing:  | forward or reverse direction of filtration for approximately 10 minutes |
| Temperature   | 60-80 <sup>0</sup> c  |

### Safety and 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.

### Storage

Store in a place which is dry, cool and free from strong odours.

### Forms of supply

XE range of filter sheets are available in all customary sizes, hygienically shrink-wrapped and packed in cardboard boxes. Special formats are available on request.

### Remarks

All Carlson Filtration Ltd filter sheets are manufactured in accordance with BfR recommendation XXXV1/1 (regulations regarding paper and board designed for contact with foodstuffs) and EC Regulation No 1935/2004 (materials and articles intended to come into contact with food).

All our products are made according to the rules of Quality Management System EN ISO 9001:2008

We provide information and advice to the best of our knowledge. This information cannot be binding in every case on account of the variety of applications, work methods and operating conditions. We, therefore, cannot assume liability for improper use.



**Van Borselen b.v.**

Argonstraat 66  
2718SN Zoetermeer

Tel.: +31 (0)79 34 12 314

Fax.: +31 (0)79 34 12 892

Email: [info@vanborselen.nl](mailto:info@vanborselen.nl)

Web: [www.vanborselen.nl](http://www.vanborselen.nl)