

# TECHNICAL INFORMATION

## High absorption NA filter range

The Carlson NA range of filter sheets was the original asbestos-free filter series to be formulated with both low crystalline silica and low  $\alpha$  cristobalite content. All of the Carlson ranges since have been formulated with this philosophy in mind.

Products from the original range are still available for applications where they have gained widespread acceptance and process validation, and for new speciality applications, where criteria such as extra depth, less depth or low adsorption are critical.

Physical Data							
Test properties	Basic weight	Thickness	% Ash Content	Flow rate	Trace Metal Extracts		
units	g/m <sup>2</sup>	mm	% weight (g)	litres/min/m <sup>2</sup>	Ca	Mg	Fe
				@ 1 bar	Max ppm	Max ppm	Max ppm
NA70	1275	3.80	55	238	20.0	2.5	2.0
NA45K	1250	4.00	48	390	5.5	3.0	2.0
NA70K	1250	3.80	54	260	10.0	3.0	2.0

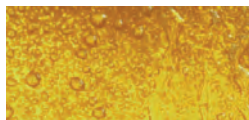
- The above figures are nominal values, for specifications contact your representative.

## Specifically designed 'XE range' for more demanding applications

The filtration of whisk(e)y, either single malt or blended types, after blending is vital to ensure life, stability and good clarity. To this end the removal of hazes and precursors to haze formation, is particularly important. Consequently, the steps used in filtration of different types of whisk(e)y require careful control and correct choice of filter equipment and media.

There are two types of haze and precipitation problems associated with whisk(e)y, which can be broadly classified as chemical and physical.

**Chemical hazes** result from trace metal contamination and the consequent formation of metal complexes with tannin and colouring matter. They can also arise from the water used to reduce whisk(e)y to bottling strength. On dilution whisk(e)y produces a turbid, cloudy appearance which reaches an equilibrium after about 24 hours prior to filtration.



**Physical hazes** and their associated precipitation problems are much more difficult to deal with. These physical hazes require liquid/liquid separation as opposed to the elimination of solid particle particulate matter usually associated with filtration. The liquid phase requiring removal comprises ethereal oils which are complex as they may show up as a haze in bottled product, despite the fact that the bottled product may have been bright at the time of bottling.

To eliminate these factors described Carlson Filtration have developed a range of products specifically for these purposes. As well as whisk(e)y filtration they can be utilised in other spirits that require more demanding filtration.

## Physical Data

Test Properties	Basic Weight	Thickness	% Ash Content	Flow rate		Trace metal Extracts		
				litres/min/m <sup>2</sup> @ 1 bar	litres/min/m <sup>2</sup> @ 0.3 bar	Ca Max ppm	Mg Max ppm	Fe Max ppm
Units	g/m <sup>2</sup>	mm	% Weight (g)					
XE5	790	3.60	1		2280	10.0	1.5	0.7
XEDK	1580	4.20	45	185		5.0	2.5	2.0
XE350K	1580	4.20	46	163		5.0	2.5	2.0
XE405K	1580	4.20	51	140		5.0	2.5	2.0

• The above 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

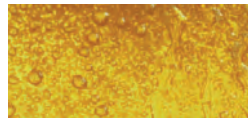
To ensure correct use place the smooth side of the filter sheet against the filtration plate (i.e downstream). The rough side of the filter sheet faces the liquid to be filtered (i.e upstream)

### 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 Speciality 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 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°C (saturated steam)
Duration	20minutes

### Sterilisation with hot water:

Water quality:	The water should be softened and be free of impurities
Temperature:	80-85°C
Duration:	20 minutes

### Sheet flushing

The Carlson range of Speciality 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°C
Hot rinsing;	forward or reverse direction of filtration for approximately 10 minutes
Temperature	60-80°C

### Safety and disposal

Used under the correct conditions the Carlson range of Speciality 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

Speciality 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.

Purity through quality™ since 1923



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