



Filtration FAQs

M.G. Newell partners with Scott Labs to offer sheet and lenticular filters to the winery and brewery industry. Scott Laboratories expertise in filtration dates back to the 1940's and covers every stage of filtration. For your benefit, we share a few of their Frequently Asked Questions (FAQs).

What grade filter media should I use?

Filtration is primarily used in winemaking to achieve two goals: to attain an acceptable level of clarity and to improve microbial stability. Consider these goals when selecting your porosity (by micron rating).

The following porosity ranges can be considered a guideline:

>5 μ = rough

1 μ - 5 μ = polish

<1 μ = sanitizing

If the final goal is to filter through a sterile membrane before bottling, one must consider preparation through a rough, polishing and sanitizing grade filter prior to sterile filtration. Depending on the initial state of the wine clarity (quantity and type of solids in suspension), filtration steps can be added or removed to enhance efficiency. In general, selecting media grades from each category will achieve your primary goals of clarity and improved microbial stability.

How much wine can I filter through a 0.45 micron membrane cartridge filter before having to replace it?

The membrane will last as long as it continues to let wine through, while also passing regular integrity testing. The point in which membranes will clog is dependent upon the preparation of the wine (pre-filtration or fining), as well as the constituents of the wine (colloids and gums, for example). Regeneration using forward flushes of warm water (120-135°F/49-57°C), as well as chemical regeneration, can help to increase the longevity and throughput of membranes (or any filter media). Filter regeneration is always more effective when performed before filters are entirely clogged.

What are the effects of fining agents, such as activated carbon and bentonite, on filtration?

Fining agents can be very useful. Some products, however, can also lead to the premature clogging of your depth and surface filter media if they have not been properly settled out and racked off the lees prior to filtration. For example, a relatively small amount of fining lees can immediately clog depth media. Also, products like bentonite and carbon can disable hollow fiber crossflow filters by jamming capillaries. Clean rackings after full settling can help prevent these issues and will help optimize efficiency of filtration.

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My wine filtered easily through my EK filters, but when I started bottling the next week, the wine immediately clogged my membrane. Why?

Depth filtration (sheets, lenticular, DE, etc.) can manage large colloidal proteins much more effectively and help prepare the wine for membrane (surface) filtration. The assistance of depth filtration is optimally effective if done within a 24 hour window of membrane filtration. If not done within this time frame, the colloidal material in the filtrate begins to regroup and can cause surface clogging on your membrane. If you must wait longer than 24 hours, you can alternatively repeat the filtration through the same grade depth filtration media before filtering through the membrane. You may also consider the use of enzymes to mitigate other clogging factors (i.e. pectins and glucans), as well as submitting samples to your laboratory for analysis to help determine strategies to proceed.

Below is a complete listing of sheet and lenticular filters available.

| Seitz Filter Sheets – Scott Laboratories | | |
|---|---------------------------------|---|
| <i>Sheet Grade</i> | <i>Nominal micron retention</i> | <i>Suggested Use</i> |
| EK | 0.45 | Slightly tighter grade for ‘sterile’ bottling filtration |
| KS50 | 0.50 | Yeast sterile bottling filtration |
| KS80 | 0.80 | Beginning grade for “sterile” filtration |
| K100 | 1.0 | Higher polishing clarity filtration of clear wines |
| K200 | 2.0 | Higher polishing clarity filtration of clear wines |
| K300 | 3-4 | Polishing – clear wine filtration |
| K700 | 5-7 | Polishing filtration for retention of yeast and larger micron-sized particles |
| K900 | 9-10 | Polishing filtration for retention of yeast and larger micron-sized particles |

| Seitz Lenticular Depth Filter Modules – Scott Laboratories | | |
|---|---------------------------------|---|
| <i>Item</i> | <i>Nominal micron retention</i> | <i>Suggested Use</i> |
| 12" EK | 0.45 | Fine filtration – microorganism reduction |
| 12" KS50 | 0.50 | Fine filtration – microorganism reduction |
| 12" K100 | 1.0 | Polishing filtration of wine and beer |
| 12" K200 | 2.0 | Polishing filtration of wine and beer |
| 12" K300 | 3-4 | Polishing filtration of wine and beer |
| 12" K700 | 5-7 | Coarse filtration of wine |
| 16" EK | 0.45 | Fine filtration – microorganism reduction |
| 16" KS50 | 0.50 | Fine filtration – microorganism reduction |
| 16" K100 | 1.0 | Polishing filtration of wine and beer |
| 16" K200 | 2.0 | Polishing filtration of wine and beer |
| 16" K300 | 3-4 | Polishing filtration of wine and beer |
| 16" K700 | 5-7 | Coarse filtration of wine |