



## Filter Sheets

# Immer

Filtration process is a separation technique aiming to obtain chemical, physical and microbiological stability of the filtrate. This goal, in the beverage industry, *must* be achieved respecting the organoleptic characteristics of the product to be filtered. The knowledge and the correct use of the depth filtration process allow enhancing the product's characteristics by taking away those rough sensations that could cover the more delicate ones.

Beverage filtration is therefore not just a simple separation mechanism; in wine (as well as in vinegar, fruit juice etc.) aroma, tonality and intensity of the color are components that, if "ill-treated", would result in a poor product and so in a lower price range. Filtering without stressing and impoverishing the original product is possible today with the new line of **IMMER Filter-sheets**. They are the result of an attentive project where:

- Sieving and Adsorption mechanisms do act aiming specifically to the unstable fraction of the product.
- The filtering medium is manufactured with a calibrated and asymmetric structure with a high empty/full ratio which is equal or over 80% of the available volume.
- Cellulose particles do incorporate the other filtering aids in one single and stable body.
- Filtration of food beverages do require selected raw materials; for this reason, their chemical and physical characteristics are tested before, during the process and finally on the finished product in order to guarantee the final user with maximum safety and best performances.
- The available range of products allows for an accurate choice of type and size of the filter-sheet best fitted for a given technological goal.
- The traceability of the product is guaranteed by strict Quality Control procedures.

### Technical characteristics

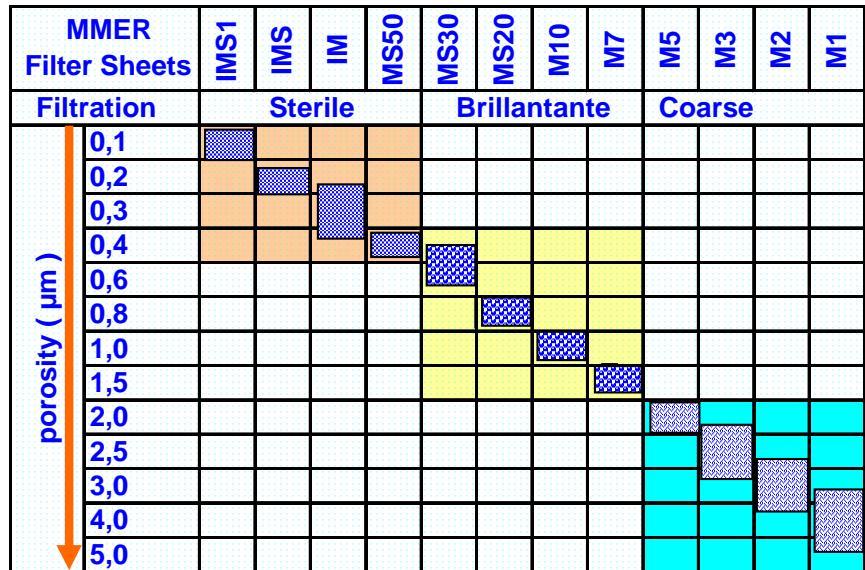
**IMMER** filter-sheets are the result of a balanced relation between selected raw materials that are carefully processed, aiming to offer the following advantages:

- "Fraction Filtration" with retention of the unstable fraction, mainly in the depth of the sheet's body, thanks to its asymmetric structure and to its high empty/full ratio; in this way, we avoid the inconvenient that may be caused by the accumulation of the dirt on the surface, accumulation that would result in a reduction of the specific permeability of the filter-sheet, modifying also its retention capability and causing its early blocking.
- Respect of color and other compound in solution thanks to the balanced Zeta Potential which acts mainly on unstable fractions improving, besides the product's stability, also its filterability in consideration of possible further filtrations such as membrane filtration.
- Superior mechanical resistance for a consistent quality of filtration even at increasing or varying pressure; with this, dripping problems are also reduced as well as the transfer of undesired substances into the filtrate. Furthermore, this characteristic will make the removal of the exhausted sheets easier, avoiding rupture and pulping of the sheet itself.
- Definite and safe micro-biological retention of yeast, bacteria and mold for sterilizing sheets thanks to the high LRV (Logarithmic Reduction Value).
- Practically irrelevant ion transfer thanks to the purity of the raw materials employed.
- A complete range of filter-sheets for beverage filtration (coarse, polishing and sterile filtration), available in several different sizes.
- Consistent quality.

A general characteristic of the filtering media is the relation between the yield and the retention grade, where one is in inverse proportion to the other.

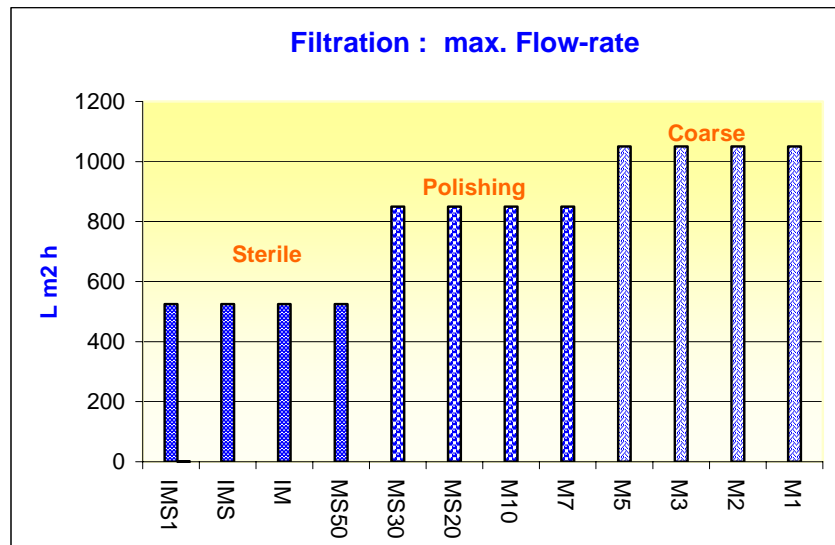
As an example, the table to the right reports a diagram showing such relation.

**IMMER Filter-Sheets** do perform with high yields and a consistent quality of filtration.



Permeability of filter sheets is higher in coarser types and lower in sterile ones. This difference, considering the range of **IMMER** filter sheets, is higher than 1: 30 when we compare IMS1 to M1; **IMMER**'s range is able to satisfy the most different applications.

For wine filtration we recommend the flux shown in the diagram, based on the different applications.



IMMER Filter sheets	LRV
IMS1	>9
IMS	>8,3
IM	>6,8
MS50	>6.1

**IMMER Filter Sheets** of sterile type are characterized by a high LRV (Logarithmic Reduction Value) in reference to yeast and bacteria. The table shown to the left refers to lactic bacteria. This characteristic allows for their use also as a final filter.