FILTRATION INDEX

Some Factors that Affect Filtration

1. Particle size and configuration
2. Viscosity (alcohol, glycerin, sugar and organic acids increase it)
3. Surface tension (it decreases when alcohol level increases)

Equipment and solutions required

- Stainless steel filter.
- Stainless steel membrane holder with a diameter of 0.25 mm.
- Nylon (n 66) or cellulose nitrate membrane of 25mm x 0.65 microns (Sartorious 11305-25N).
- 500 ml graduated test cylinder
- Timer
- Carbonic gas tube.
- Thermometer

Procedure

Work pressure: 2 bar (30 psi)

1. To filter use a cellulose nitrate membrane with a porosity of 0.65 microns and a diameter of 25mm.
2. Take the 500 ml sample to 20ºC +/- 2ºC in a graduated cylinder. Introduce the sample into the filter with 2 kg of pressure. Maintain a constant pressure.
3. Begin filtrating and record the time needed (in seconds) to filter the first 200 ml. This value is T1.
4. Without stopping the filtration or the timer, record the time needed to filter a total of 400 ml. This is T2.

Result expressions:

IC = (T2 – T1) x 1.66

Where:
T1: is the time (sec) needed for the filtration of the first 200 ml.
T2: is the time (sec) needed for the filtration of 400 ml.
1.66: is the factor to express the filtration times in seconds. It must be multiplied by 1.66 or else the value will be expressed in centesimal minute.