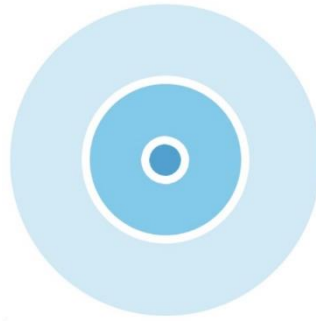
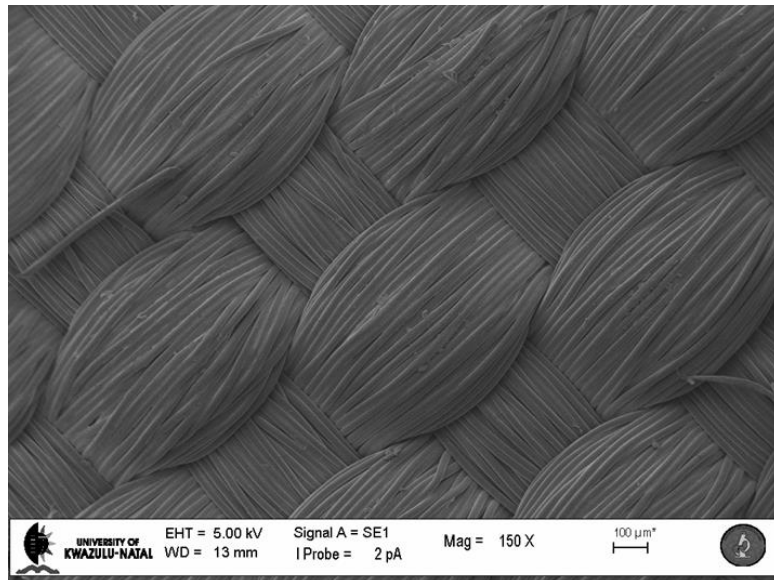




O3 Water Filtration Textile

The Core Technology

- The basis of the O3 Water Filtration Textile is a unique woven polyester microfiltration membranes developed and produced in South Africa.



- The *apparent* pore size of clean membranes is 1 µm to 3 µm. However once filtration commences, the fouling layer removes particles < 1 µm



Feed turbidity > 300 NTU, product turbidity < 0.8 NTU

- Major advantages over conventional polymeric membranes, when considering applications in developing economies:

- ✓ **extremely robust membrane**, not destroyed by mechanical stresses or drying (most polymeric membranes are destroyed if allowed to dry out, or if the surface is scratched)
- ✓ **can be very easily cleaned** without exotic chemicals
- ✓ **inexpensive**
- Expected lifespan ~ 3 to 4 years

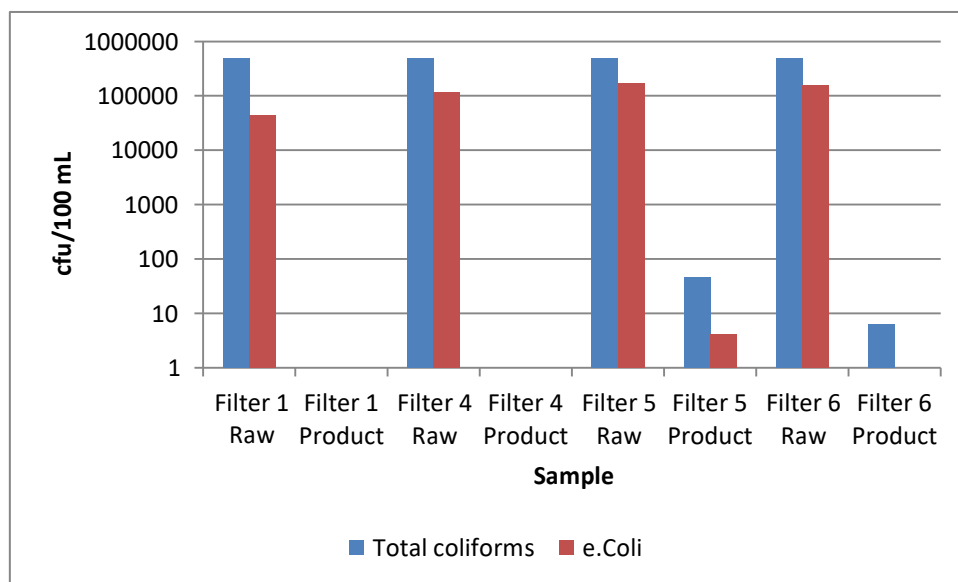
Product Quality

The O3 Water Filtration Textile is aimed at surface waters that are contaminated with suspended material, colloids and pathogens. These are typically the contaminants in most un-serviced areas of South Africa and sub-Saharan Africa.

It will not remove dissolved contaminants, e.g. nitrates, arsenic etc. However, these could be removed with suitable resins after the product tap.

The ability of the O3 Water Filtration Textile to remove *E. coli* was independently tested by the CSIR (Stellenbosch), and accredited WHO Water Laboratory.

Four units were fed with highly contaminated water. The figure below shows the quality of the product from the units. For reference: a 'normal' river may have *E. coli* counts in the tens to hundreds and a 'bad' river will have counts in the thousands. In the above test, the units were fed with contaminated water that contained *E.coli* ranging from ~ 90 000 to about 120 000 – the equivalent of what one could find in sewage. As can be seen, the performance of the technology in removing pathogens is remarkable.



Perceived advantages over current POU systems being marketed internationally

- **Very high flowrates.** The O3 Textile will produce ~ 20 L in an hour on a clean membrane, decreasing to ~ 15 L in an hour after two weeks. By comparison, ceramic filters will produce ~ 1 L to 2 L per hour.
- **Product quality that meets all WHO standards,** and that does not decrease with usage
- **Very easy to clean** (simple brushing)
- **No chemical addition** (except for the disinfectant)
- **Extremely robust technology**
- **Economically very attractive** when the lifespan and performance of the unit is considered