

TEST CERTIFICATE
DOULTON STERASYL CANDLE

Object

To assess the performance capability of a Doulton Sterasyl candle to remove *Salmonella* from a contaminated water supply. *Salmonella* are significant waterborne pathogens, and have been found in recent studies to be difficult bacterial test organisms to be removed by filtration.

Protocol

The test was designed to give a severe intensive challenge over a significant volume of throughput.

Water conditions - dechlorinated mains water spiked as follows:-

Minimum challenge - 1.86×10^6 cfu/100ml.
Mean Challenge (Geometric) - 4.73×10^6 cfu/100ml.(4731628)
Cultured organisms for use as a bacterial challenge were prepared as per the US EPA protocol
Temperature - $20 \pm 2^\circ\text{C}$.
TOC - Approx 2 mg/l.
Turbidity - Low.
Cycle Time - 3 mins on, 12 off, stagnation overnight.

Results

| Day | Influent (cfu/100ml) | Effluent (cfu/100ml) | % Removal efficiency |
|-----|----------------------|----------------------|----------------------|
| 1 | 6000000 | <1 | 99.999983 |
| 2 | 7000000 | <1 | 99.999986 |
| 3 | 11000000 | 92 | 99.99916 |
| 4 | 1863636 | <1 | 99.999946 |
| 5 | 2754545 | 4 | 99.99985 |

Conclusions

Based on the above result the Doulton Sterasyl candles are capable of removing *Salmonella* from a contaminated source to an efficiency of >99.999%.

The average efficiency over the test was 99.99979%.

signed



Date 8th May 1997