

BelKraft - World Class 4 Stage Ceramic Water Filter Candle

History: In 1835 Queen Victoria recognized the health dangers in drinking water and commissioned Doulton of England to produce a drinking water filter for the Royal household. By 1901 Henry Doulton had been knighted, and his company honoured by authorizing it to use the word ROYAL in reference to its products. The efficiency of domestic Doulton water filters has been widely extended over the years to meet the demands of increasingly sophisticated uses. Doulton ceramic water filters are now in use in over 150 countries.



BelKraft in business since 1965 with expertise in surgical stainless steel, teamed up with Doulton of England to custom produce the 'Full Spectrum' cartridge. The housings are either food grade polypropylene or surgical stainless steel with a full 50 year warranty.



A Closer Look Inside



The skeleton of a diatom magnified 2,400 times using a scanning electron microscope

KIESELGUHR CERAMIC - STAGE ONE

Doulton ceramic is made from Kieselguhr Diatomaceous Earth and fired to above 1000 degrees Celsius. Over 80,000 overlapping pores make up each element. This feature provides absolute mechanical filtration with a 99.999% rejection of bacteria and cysts. Bacteria and any other foreign particles as small as 0.2 of a micron are trapped on the outside of the element while the water passes through the ceramic wall to the inside of the element.

WHY BACTERIOSTATIC? - STAGE TWO

This simply means self sterilizing. The entire ceramic wall is impregnated with oligodynamic silver. Silver has been long proven as a disinfectant, which insures that bacteria trapped in the ceramic's pores are killed thereby eliminating any threat of bacteria colonization.

THE CORE - STAGES THREE AND FOUR

Inside the Ceramic shell is a post carbon block filter, which is manufactured by combining a zeolite metal ion reduction medium with carbon to form a tightly packed matrix. This post filter provides two key features; Chemical Reduction (chlorine, pesticides, solvents, etc.) and Heavy Metal Reduction (lead, iron, aluminium, etc.) Medical authorities are now identifying heavy metals as key players in the degradation of mental health in humans.



Key Features

ELIMINATES BACTERIA - Cholera, Typhoid, Salmonella, Serratia, E. Coli, Fecal Coliform, Etc.

Eliminates Cryptosporidium, Parvum and Gardia Lambia Cysts (Beaver Fever)

Sub-Micron Particulate Filtration removing chlorine and chemicals

Quickly and Easily Cleaned for Prolonged Life and Outstanding Economics

Self Sterilization Bacteriostatic

Cannot "Plug Up" Internally

No Tools Required to Service

Allows the free flow of calcium and natural minerals to keep the water alkaline balanced.

Shuts down when cartridge has expired

Doulton holds Certification, Accreditation, or Membership with the following Agencies:

ISO 9002 Quality Standard

National Sanitation Foundation standards 42 and 53

Environmental Protection Agency (EPA)

Water Quality Association

Department of Health (Toronto, Canada)

Spectrum Labs (Minneapolis, USA)

Water Research Council (UK)

British 5750 Quality Standard

England's Water Research council (WRc) Performance Standards

California Department of Health

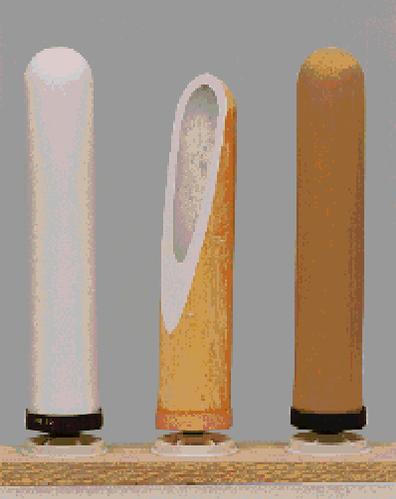
Over 50 Independent Laboratories Worldwide

Report Number - 0561D-020194 - revision 1

from: Spectrum Labs Inc., 301 West County Road E2, New Brighton, MN 55112

Table 1

Analyte	EPA Method	Method Detection Limit (mg/L)	EPA Action Level (mg/L)
Lead	239.2	0.001	0.015



Conclusions

The BelKraft undercounter drinking water treatment system containing a 'Full Spectrum' filter cartridge was found to be very effective at removing lead from the spiked challenge water. Calculated contaminant reduction percentages were 97 percent or greater in both the high and low pH and alkalinity lead reduction evaluations throughout the entire 720 gallon test. Since the BelKraft undercounter drinking water treatment system does not contain a flow monitoring device, this set of laboratory results would establish a capacity rating of 600 gallons for lead reduction claims based on the current requirements for compliance under NSF Standard Number 53 for units tested to 120 percent of capacity.

Re: Official Listings
Standards 42 and 53
BELKRAFT WATER FILTERS made by Doulton

It is my pleasure to confirm your Company's Official Listings for NSF Standards 42 and 53.

As an NSF (National Sanitation Foundation) Listed Company, you are responsible for compliance with all NSF requirements for Certification services. Please note that your Listed products must bear the NSF Mark unless specifically exempted by policy. The NSF Mark is used with your Company's Listed products that are manufactured after this Official Listing date.

It is a pleasure serving you and we appreciate your continued support. Sincerely,

original signed by:

Connie L. Berry
Manager, Certification Records

STAND ALONE CARBON SYSTEMS: Many cheap filtration systems are nothing more than simple cartridges with granulated or powdered carbon (GAC) stuffed inside them. Powdered carbon cartridges are prone to channeling inside the cartridge, as water will always try to find the path of least resistance. Powdered felt pads are probably the least effective in removing contaminants as they become clogged with the finer particulate matter found in most water supplies if not used in conjunction with a high quality pre-filter. Stand alone GAC filters are widely used to clean up bad tastes and odours, but one thing GAC cannot do is absorb bacteria. Unfortunately, bacteria will be physically trapped, along with the dirt in the carbon if it is packed into a cartridge. **This is a highly undesirable condition.**

BACTERIA: The major problem associated with carbon in any form is bacterial contamination. Wet activated carbon, richly infused with trapped organic matter, provides an ideal breeding ground for bacteria. High bacterial levels occur when the carbon is fully saturated and then let to stand [e.g., overnight]. As the water temperature inside the carbon cartridge rises, bacteria breeding escalates. Silver impregnated GAC does reduce the amount of bacterial growth that occurs, but even the silver can be overcome by the increased rate of growth. Granulated Carbon cannot hold onto bacteria, so when water flow is reintroduced a highly contaminated sample can be output. Bacteria gets into the GAC filter in the first place because disinfection at the water treatment plant does not guarantee the destruction of all bacteria. It is for this reason that many health officials consider GAC filters to be a potential health hazard. The EPA has concluded that carbon filters of any type, even those impregnated with silver show *no significant bacteria reduction effect* on drinking water. It is specifically for this reason that the BelKraft ceramic ensures physical removal of bacteria by the ceramic wall before the water is allowed to come into contact with the inner stage carbon element. The **BelKraft 'Full spectrum'** candle then also uses silver to control bacteria growth on the outer wall of the candle.

BACTERIOSTATIC: The interpretation of this term is widely misused by the filter industry. A device may call itself *bacteriostatic* if it inhibits the further growth of bacteria within itself. That is to say that it safeguards itself from becoming a breeding ground for bacteria while water flow is stopped. The use of silver in a carbon filter will accomplish this, **but** it does not mean that the device will kill all or any bacteria flowing through the filter while in use. **Bacteria should never be able to come in contact with carbon.**

For this reason the BelKraft 'Full Spectrum' cartridges uses silver impregnated ceramic and a solid carbon block inner core for chemical and heavy metal removal. By far the simplest and most effective method of purification on the market.