

FLUORIDE: Testing for fluoride was based on 20-30ppm of the ion in the influent aqueous solution at a flow rate of no more than 3 gpm (11 lpm) per cubic foot of media. Results of < 1ppm of the fluoride ion in the effluent were typical for the media (>95% reduction). Under optimum conditions, effluent concentrations of less than 50 ppb were readily achieved (>99.75% reduction).

ARSENIC: This product uniquely targets the entire family of arsenic oxide anions as well as the arsenic cations.

REPLACEMENT:

Under normal conditions it is recommended that each set of two **PF-2™** elements be replaced after 1,000 gallons (3,785 liters). The **Royal Berkey®** system is about 3.25 gallons (12.3 liters) therefore the **PF-2™** filters should be replaced after 1,000/3.25 (3,785/12.3) or 307 refills. If the system is refilled about one time per day, the **PF-2™**s should be replaced after 10 months, if the system is refilled about twice per day, the **PF-2™**s should be replaced about every five months). Actual capacity is dependent on the presence of other competing contaminants in the source water. High levels of fluoride, arsenic and heavy metals may reduce the capacity and efficiency of the elements.

NOTES:

1) **Do not** boil this element.

2) **PF-2™** elements reduce filtration flow rate by 15-20%.

3) The media used in the **PF-2™** filter elements contains high-grade activated aluminum oxide, which currently is the most efficient media available for extracting fluoride from water. Below are the results we obtained when testing the **PF-2™** elements (the water was not pre-filtered through the **Black Berkey®** elements). The reduction over time is due to additional residual process dust being washed free from the **PF-2™** elements as the system is used. To give a scale for comparison purposes we include test results from a national brand toothpaste and water boiled in an aluminum pan.

- National brand toothpaste 52.878 ppm aluminum
- Water boiled in an aluminum pan for five minutes: 2.791 ppm aluminum
- **PF2™** after conditioning (5 cycles): .178 ppm aluminum
- **PF2™** after 10 Cycles: .037 ppm aluminum
- **PF2™** after 20 Cycles: .029 ppm aluminum

While the above results indicate that the residual process dust adds a minute amount of aluminum to the water, the **Black Berkey®** purification elements reduce aluminum from the water. We tested water that naturally contained .320ppm aluminum and filtered it through the combination of the **Black Berkey®** and the post conditioned **PF-2™** filtration elements (5 cycles). The results showed a net reduction in aluminum contamination (Raw influent: .320ppm - Effluent after passing through the **Black Berkey®** and **PF-2™** elements: .232ppm). In other words the **Black Berkey®** elements removed more aluminum from the water than was added by the **PF-2™** elements.