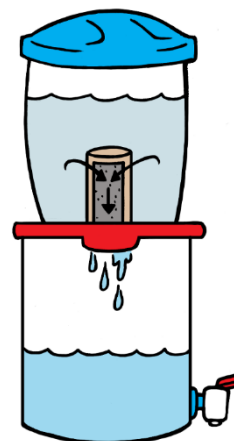


Ceramic Candle Filter

Source Protection	Safe Transportation	Sedimentation	Filtration	Disinfection	Safe Storage
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What is it?

Ceramic candle filters are hollow cylinders made from porous fired clay. Colloidal silver is sometimes painted on the ceramic unit to help with pathogen removal. Water is poured into an upper container and flows through one or more ceramic units to reach a bottom container with a tap. The ceramic units trap pathogens and other particles, and the bottom container provides safe storage for the treated water.



Performance

Microbiological Effectiveness:

Parameter	Effectiveness
Bacteria	Very Effective (>99%)
Viruses	Effective (>90%)
Protozoa	Very Effective (>99%)
Helminths	Very Effective*

*Assumption based on pathogen size

Other Parameters

Effective at removing turbidity and colour.

Source Water Requirements

Turbid water (>50 NTU) should be settled or strained before filtering.

Capacity

Flow rate of 0.14 L/hour for filters with one ceramic candle, 0.23 L/hour for two ceramic candles.

Lifespan

Up to three years—generally six months to one year.

Ease of Use & Acceptability

Operation & Maintenance

The user pours water into the filter. Water moves through the ceramic candle by gravity. The lower container, tap, and lid need regular cleaning. When flow rate becomes slow, the user gently scrubs the ceramic surface to clean it.

Repair & Replacement

Ceramic units must be replaced every 6–12 months, or whenever users observe visible cracks or unexpected increases in flow rate. The entire filter should be replaced or repaired if the seal between the ceramic unit and the container is damaged.

User Considerations & Preferences

Filters may be of variable quality depending on the manufacturer. Small cracks can occur in the ceramic that are not visible but reduce treatment effectiveness. A good supply chain is needed to help users find replacement ceramic units every 6–2 months.

Feasibility

Availability

Produced by different manufacturers around the world. A small factory or kiln and previous experience with ceramics is required for local production. Often, candles are imported and filters are assembled locally.

Cost

Varies, often around US\$15–30 for filter; replacement costs for ceramic candles average US\$4.50/year.

Size & Weight

Ceramic candles vary in size and weight. Most are around 5–15 cm long and 3–8 cm in diameter. Total filter size depends on the type of containers used.

More Information

Details and references: www.hwts.info/products-technologies/a48a2cee/ceramic-candle-filter

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