

# OPERATING COST ANALYSIS OF CONTINUOUS MODE ELECTROLYTIC DEFLUORIDATION PROCESS

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## ABSTRACT

One of the major challenges faced by mankind today is to provide clean water to a vast majority of the population around the world. The need for clean water is particularly critical in increased resource demand scenario. In the present work, the design of electrolytic defluoridation unit based on continuous mode has been given taking into account the design criteria well suited for the school located in Seoni district of Madhya Pradesh, India. It appears to be a promising alternative for the treatment and will go long way towards providing safe drinking water in the fluoride affected areas of the developing countries. The recurring cost for the treatment worked out for electrolytic defluoridation demonstration plant is Rs. 7.75 per 1000 L of treated water which is much cheaper than the treatment cost by any other defluoridation system available in the market. What is needed is a simple scalable system using the locally available material for the treatment of raw water to render the same fit for human consumption. The present system provides a technically simple, cost-effective and reliable community drinking water purification system for supplying drinking water.

**KEYWORDS:** Aluminium electrodes, Coagulant, Continuous process, Electrolytic defluoridation, Water treatment.