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EFFICIENCY OF FILTERS WITH DIFFERENT FILTERING MATERIALS: COMPARATIVE STUDY IN WATER TREATMENT

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Abstract

In order to accomplish the water quality standards required for a specific use, the continental surface water is treated through a sequence of operations and unit processes. The treatment technological flowsheets carry out, partially or totally, the removal of various pollutants, every treatment step being used for improving one or more qualitative parameter. The treatment scheme is specific to water source type and water use. One of the basic operations for water treatment is the filtration, which is influenced by a series of parameters.

The present paper aims at identifying the influence of the granular filtering material on the removal of solids in suspensions that are found in water in concentrations between 5 – 50 mg/L.

In order to accomplish the experimental program, the studies were carried out using three types of filtering materials with various shapes of granular particles, respectively: quartz sand, perlite and anthracite. Using this types of materials were constituted Granular filters with different thicknesses of the filtering layer were used at different water flow rates.

The type of granular filtering material with the highest degree of retention of solids was identified and recommended for large scale application.

Key words: filter materials, filtration, potable water, water's mechanical treatment

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