



## Comparative evaluation of membrane characteristics between long-term operation and accelerated test

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### ABSTRACT

In view of the maintenance and management, currently, there are insufficient diagnosis methods and guidelines of membrane filtration process applied in various water treatment facilities, which may judge the performance decrease due to the membrane property change. Despite the above situation, membrane has been continuously developed. Especially, since PVDF-material membrane, which is mostly applied nowadays, is hydrophobic, it tends to be conditioned by various additives. In this study, accelerated test was conducted for confirming the loss of C=O peak that affects the hydrophilicity, among the chemical structures of various additives, and filtration performance decrease. This study compares and evaluates the membrane property and performance between membrane of accelerated test and the membrane which is operated for long term of 3 years. In order to increase the reliability of accelerated test, attributable factors are enumerated.

*Keywords:* Membrane; Membrane properties; Accelerated test; Long-term operation

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