

# 1. Development of Wastewater Treatment Method Using Membrane Filtration

Masao Konishi, Kenji Hagimori, Kenzo Mizuhara,  
Shigeru Kameda, Haruo Takano

The development of method using by the membrane filtration characterized with restraint of charge of polymer-coagulant to the environment and space-saving of facility carried out. For the purpose of applying the membrane filtration system to the treatment of the construction work drainage, laboratory tests and demonstration tests were performed upon the artificial and real wastewater. As the result, filtration trouble due to the cement adheres and plugging by the clay component on the membrane surface, were occurred. It were clarified that pre-neutralization treatment was effective for the former case, and it could be eliminated by the technique of combination usage with inorganic flocculating agent for the latter case. It was results in that permeate flux and SS was got about 15m/d and below 25mg/l respectively for the actual wastewater.

Furthermore, practical implement manufactured on the basis of test's results, established the practical treatment performance that permeate flux was about 7.5m/d and SS was 1~2mg/l or less to the construction drainage.

**Key words** : tunnel, wastewater treatment, membrane filtration, dynamic layer, SS