

Influence of the Operating Temperature on the Flotation Efficiency in DAF Process

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Dissolved air flotation (DAF) is a solid separation method for algae-contained, low-turbidity, low-alkalinity or colored waters that produce low density flocs in water treatment. Moreover, DAF has been effectively used in the treatment of municipal and industrial wastewater containing high suspended solids concentration. The flotation efficiency was affected in bubble size, floc size and other physico-chemical characteristics. Especially, the effect of temperature has to be considered in the DAF process because of the seasonal change in Korea. This paper focused on the temperature changes and flotation tendency in DAF processes. This study on the flotation efficiency was systematically investigated using the extended population balance model including the physical parameters (i.e., the water viscosity and the bubble density) as a function of temperature.