

## ROLE OF RECYCLED SLUDGE AGE IN COAGULATION OF COLORED WATER

JOLANTA GUMIŃSKA, MARCIN KŁOS

**Abstract:** All multifunctional units combine flocculation and sedimentation to improve efficiency of treatment process. The characteristic feature of the unit is a contact of raw water with previously generated flocs which enhances flocculation by increasing interparticle collisions and sorption ability of flocs. On the basis of the authors' experience it was stated that in spite of significant differences between the procedure of conventional treatment and treatment in multifunctional units, an optimum coagulant dose is determined in jar testing which is commonly used for conventional treatment. The influence of sludge recirculation is not taken into consideration resulting in reagent overdosing. In this paper the results of the research on coagulation with post-coagulation sludge recirculation in aspect of sludge age are presented. It was stated that for the tested water, sludge recirculation may result in significant lowering of optimum alum doses provided that a proper degree of fresh sludge recirculation is applied.