Decreasing wall shear stress in hydromixture flow after deflocculant application

Beata Jaworska-Jozwiak, author

Abstrak

ABSTRACT
The aim of the paper is to present the influence of selected deflocculants on decreasing the hydromixture viscosity and as a consequence decreasing the wall shear stresses in a flowing medium. Adding deflocculants to improve the conditions encountered in a pipeline
during the hydromixture flow is called chemical processing. The experimental studies presented in the article were performed for a hydromixture with a mass concentration of 20% and 43% consisting mostly of solids with the averaged diameter equal to 45.5 μm. The measurements were performed for varied doses of deflocculants in three proportions in a wide range of shear rates. The results of experiments have confirmed that the influence of the deflocculant on the wall shear stress is complex as there is an opposing phenomenon strongly depending on the doses of deflocculant samples. The results of the experiments are discussed and major conclusions are drawn.