

**PENGARUH GRADIEN KECEPATAN DAN SRT (*Solid Retention Time*) TERHADAP  
SVI (*Sludge Volume Index*)**

**PADA PENGOLAHAN BIOLOGI LUMPUR AKTIF**

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**ABSTRACT**

*The objective of biological treatment activated sludge is to remove or reduce the concentration of organic compounds with bacteria. One of the factor successfully activated sludge is the floc formed with low SVI range (50-100 ml/g). Floc formation in aeration tank are affected by velocity gradient and Solid Retention Time. The objective of research is to know the affect of velocity gradient and Solid Retention Time to SVI and concentration of COD effluent.*

*This research use reactor which consist of aeration tank (volume 5 liter) and clarifier tank (2,5 liter). Wastewater is artificial, which contain glucose liquid and concentration of COD is 1062,5 mg/l. As independent variable are Solid Retention Time (0-5), (5-10), (10-15), (15-20), (20-25) day and (20-60), (60-100), (100-140), (140-180) second<sup>1</sup>.*

*The result of research are the best SVI occur at SRT 10-15 day and 60-100 second<sup>1</sup>. At velocity gradient above 100 resulting high SVI because of deflocculation. High SVI at SRT 0-5 day may be because of low production of biopolymer. Deflocculation. And long SRT resulting high concentration of COD effluent*

*Key words: activated sludge, SRT, velocity gradient, SVI, COD*