

Politeknik Kesehatan Kemenkes Bandung

Sarjana Terapan Sanitasi Lingkungan

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ABSTRAK

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**“PERBEDAAN PANJANG *PLATE SETTLER* TERHADAP PENURUNAN
KADAR *TOTAL SUSPENDED SOLIDS* (TSS) PADA LIMBAH CAIR DI PT.
PAPYRUS SAKTI PAPER MILL TAHUN 2021”**

x + 89 halaman + 10 tabel + 6 gambar + 5 Lampiran

Pencemaran air diakibatkan dari industri membuang sisa produksi ke lingkungan dengan kadar diatas baku mutu. Parameter limbah cair industri kertas yang perlu diperhatikan menurut Permen LH No. 5 Tahun 2014 adalah COD (*Chemical Oxygen Demand*), BOD (*Biological Oxygen Demand*), TSS (*Total Suspended Solids*) dan pH. TSS terdiri dari lumpur dan pasir halus serta bakteri-bakteri yang sudah mati atau jasad- jasad renik. Tujuan umum penelitian ini yaitu menganalisis pengaruh perbedaan panjang *plate settler* terhadap kadar TSS pada limbah cair. Jenis penelitian yang digunakan yaitu eksperimen lapangan dengan metode *pretest posttest without control*. Hasil penelitian menunjukkan penurunan kandungan TSS menggunakan variasi panjang *plate settler* yang paling tertinggi yaitu dengan panjang 50 cm diperoleh 35 mg/l dengan kandungan awal TSS 120 mg/l. Persentase rata-rata penurunan untuk variasi panjang *plate settler* 30 cm yaitu 42,1 %, panjang *plate settler* 40 cm 52,0 % dan untuk variasi 50 cm diperoleh hasil 69,1 %. Penurunan tersebut dikarenakan semakin panjang *plate settler* maka akan mengefektifkan proses pengendapannya. Hasil uji *one way anova* $0,000 < 0,005$ maka dikategorikan terdapat adanya perbedaan pada setiap variasi panjang *plate settler*. *Plate settler* perlu dilakukannya pemeliharaan pada *reactor* maupun *plate settler* yaitu dengan membersihkan *plate* maupun bak *reactor* agar endapan TSS tidak menempel ataupun menumpuk, pembuatan bak *reactor* dengan desain *clarifier* dan penambahan jumlah *plate* dengan jarak yang semakin kecil akan menjadi semakin efektif terhadap penurunan TSS.

DAFTAR PUSTAKA : (2008 - 2021)

KATA KUNCI : Air Limbah, TSS, Variasi Panjang *Plate Settler*

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ABSTRACT

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**"THE DIFFERENCE IN THE LENGTH OF PLATE SETTLER AGAINST
THE DECREASE IN TOTAL SUSPENDED SOLIDS (TSS) LEVELS IN
LIQUID WASTE AT PT. PAPYRUS SAKTI PAPER MILL IN 2021"**

x + 89 pages + 10 tables + 6 images + 5 Attachments

Water pollution caused by industry throws the rest of production into the environment with levels above quality standards. The parameters of paper industry liquid waste that need to be considered according to Permen LH No. 5 of 2014 are COD (Chemical Oxygen Demand), BOD (Biological Oxygen Demand), TSS (Total Suspended Solids) and pH. TSS consists of mud and fine sand as well as dead bacteria or trace bodies. The general goal of the study was to analyze the effect of differences in plate settler length on TSS levels in liquid waste. The type of research used is field experiments with pretest posttest methods without control. The results showed a decrease in TSS content using the highest variation in settler plate length, which is 50 cm long obtained 35 mg / lt with the initial content of TSS 120 mg / lt. The average percentage decrease for the 30 cm settler plate length variation is 42.1%, the settler plate length of 40 cm is 52.0% and for the 50 cm variation obtained a yield of 69.1%. The decrease is due to the longer the settler plate will streamline the deposition process. The results of the one way anova test of $0.000 < 0.005$ are categorized as differences in each variation in the length of the settler plate. Plate settler needs to be maintained on reactors and plate settlers, namely by cleaning plates and reactor tubs so that TSS deposits do not stick or accumulate, the manufacture of reactor tubs with clarifier design and the addition of the number of plates with increasingly smaller distances will become more effective against the decline of TSS.

REFERENCES : (2008 - 2021)

KEYWORDS : Waste water, TSS, Long Variations of Settler Plates