APPLICATION OF ELECTROCOAGULATION IRON ELECTRODE PAIRS FOR WATER TREATMENT WITH CONTINUOUS SYSTEM

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Abstract
In this electrocoagulation experiments using water samples originated from the outlet basin taps prasedimentasi PDAM Karang Pilang I, which has a turbidity of 100-130 NTU, then performed the analysis on the two systems are batch and continuous. There are two variations that are used in a batch system that is current and contact time. Strong currents used was 1.2 A, 0.9 A, 0.6 A, and 1.2 A, and the time used is 120, 60, 40 and 30 seconds. In batch experiments showed the best results in a decrease of the strong turbidity currents of 1.2 A in 60 seconds with an efficiency decrease of 68.75% and the efficiency of the color of 69.37% at 1.2 A strong current within 120 seconds. In the analysis selected the best batch of strong currents at 1.2A and operating time of 60 seconds.

The best results on the batch system is used as the basis in determining the continuous system is by using the current of 2 A with a discharge of 15, 16.7, 20, 25, 33.3 min. Based experiments have been carried out which showed the best results in discharge of 33.3 min for turbidity reduction efficiency of 64% and on discharge of 20 min for color reduction of 65.87%. Cost analysis conducted in this process is Rp 140.96 electrocoagulation process and Rp 220 if we use a chemical coagulant to the amount of dissolved iron at 6.128 grams per 196 liters of water were processed.

Keywords: Water treatment, electrocoagulation, Iron, Continuous