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Abstrak

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THE EFFECTIVENESS OF THE THICKNESS OF ACTIVE CHARCOAL AND ZEOLITE MEDIA IN REDUCE THE HARDNESS LEVELS IN THE UTILIZATION OF WASTE WATER INTO CLEAN WATER IN PT ALFA POLIMER INDONESIA

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Wastewater from the polymer industry WWTP is planned to be reused for watering plants and washing vehicles. Utilization of waste water is carried out by processing it according to the quality of clean water. The results of the hardness inspection in June 511mg/L still exceed the clean water quality standard based on PMK No 32 of 2017 500mg/L. The purpose of the study was to determine the effectiveness of the thickness of activated charcoal and zeolite media in reducing the level of hardness in the utilization of wastewater into clean water at PT Alfa Polimer Indonesia. This type of research is a pure experiment with a pretest posttest without control research design. Population of all Wastewater in PT Alfa Polimer Indonesia; a sample of some of the wastewater taken from the population, the sampling technique is grab sampling, the sample size is 36 samples of 21.6 L. Data collection tools are hardness tester kits, thermometers, and pH meters. Data collection techniques carried out hardness checks, temperature and pH measurements. The results of the study - the average level of hardness after treatment with variation A 142.8mg/L, variation B 224.9mg/L, variation C 339mg/L. The percentage of decrease in hardness of variations A 77%, B 65%, C 46%, there is a significant difference between various thicknesses of activated charcoal - zeolite media on hardness, all variations of activated charcoal and zeolite media thickness are effective in reducing hardness. Suggestions can be used variations of activated charcoal and zeolite ratios of 50:50, 75:25, and 25:75 to reduce the level of hardness.

REFERENCES : 32 (2000-2020)
KEYWORD : Wastewater, Hardness, Polymer Industry, charcoal filter, zeolite