

ABSTRACT

Wirosaban Hospital Solid Waste Incinerator (HSWI) ash is the waste generated from the combustion of solid waste infeksius using incinerator with a temperature of 800-1200 ° C and produce a bottom ash or bottom ash. Waste incinerator ash is included in the class of hazardous and toxic waste (B3) which can contaminate the surrounding environment so it needs special management. This study aims to determine the effect of the use of ash as a substitute for the manufacture of concrete roof tiles, and immobilization capabilities of each variation of the concrete tile.

Study research taken for heavy metal test parameters Pb, Cr, and Cd. With the method of the TCLP (Toxicity Characteristic Leaching Procedure). In addition, to determine the quality of flexibility strength, impermeability in concrete tile and optimal presentation additional waste in the establishment of concrete tile with a substitute most of the sand and add ashes. One of the alternatives that can be done such as solidification with variation 0%, 10%, 15%, 20%, and 25% waste incinerator ash in concrete roof tiles.

Based on these test results, the TCLP test obtained optimum presentation in the immobilization of heavy metals by 99% Pb, 99% Cr, and Cd is 56%. Levels of heavy metals contained in Pb from 0.27-0.39 mg/l, Cr 0.13-0.65 mg/l and Cd 0.016-0.022 mg/l still below the quality standard PP 101 in 2014. In the flexibility strength concrete roof tile obtained a variation of 20% as the optimum variation of 90kg, and for impermeability test obtained relatively good results in the addition of 0-20% variation.

Keywords : HSWI, TCLP, Flexibility Strength, Impermeability