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AUNGSIRI KLINMALEE : COMPARISON OF LEACHING  
CONCENTRATIONS OF CHROMIUM FROM SOLIDIFIED SLUDGE IN SEA,  
BRACKISH AND FRESH WATER. THESIS ADVISORS : NIPAPUN  
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In this study, the compressive strengths and the chromium-leaching concentrations from the tannery industrial sludge solidified by type I portland cement were studied. For leaching test, seawater, brackish water, and fresh water were used as leachants. The sludge content was tested at 55%, 65% and 75%, and the curing time was at 3, 7 and 14 days.

The results of this research were analyzed using ANOVA. The results showed that the compressive strength decreased with the increment of sludge content; and it increased with the increment of curing time. When the leaching of chromium from solidified sludge was studied, the results showed that for seawater, there were no proper sludge content and curing time that gave the compressive strength and chromium-leaching concentration that met the Department of Industrial Works Standard. The suitable sludge content and curing time for brackish water were 55% and 7 days. For freshwater, the most appropriate conditions were 55% of sludge content and 3 days curing time. The results of this research also indicated that the mean differences of chromium-leaching concentrations from the three types of leachants, seawater, brackish water, and freshwater, were significantly different. Chromium-leaching concentrations, from high to low, were found in seawater, brackish water and fresh water, respectively. The yielding results were probably due to the type of portland cement used which was not suitable for the saline condition. Thus, if the disposal of solidified waste near the coastal area is necessary, the type V portland cement should be used.