Assessment of leaching from Construction & Demolition Waste concrete

Construction and demolition waste features two very important properties when considering its management options: the large amounts, and the low environmental hazardousness. Therefore, concrete waste can be recycled relatively easily: most common end-of-life option is utilization as unbound aggregates in road sub-bases, where it substitutes for natural aggregates such as gravel and crushed rocks.

However, leaching of heavy metals may occur in such uncontrolled environmental conditions, and become a limiting factor for utilization. Therefore, proper assessment of leaching is crucial. Different approaches exist, often implying unrealistic or not relevant conditions if compared to real life utilization scenarios.

A modified version of the CEN/TS 14405 column percolation test has been implemented on four crushed concrete samples, with the purpose of analysing the release of chromium, one of the elements of biggest concern. Main differences from the standard test include particles size, non saturated conditions and downflow intermittent watering.

The results of these experiments will be utilized to assess the actual potential for soil and groundwater pollution in a broader perspective.

General information
State: Published
Organisations: Department of Environmental Engineering, Residual Resource Engineering
Contributors: Butera, S., Christensen, T. H., Astrup, T.
Number of pages: 5
Publication date: 2012

Host publication information
Title of host publication: WASCON 2012 Conference proceedings
Publisher: ISCOWA
Editors: Arm, M., Vandecasteele, C., Heynen, J., Suer, P., Lind, B.
Keywords: leaching, Concrete, Columns, Construction and demolition waste, Chromium
Source: dtu
Source-ID: u::4480
Research output: Research - peer-review » Article in proceedings – Annual report year: 2012