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**Characterization of Coal Fly Ash Leaching in Relation to Long
Term Release Behavior and Judgment of its Use in Construction**

Applications

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Abstract

The current state of test development in relation to coal fly ash characterization for regulatory judgment of beneficial use is addressed. This covers the current activities in CEN (CEN/TC 292 Waste, CEN/TC 292 WG8 Waste from the Extractive Industry, CEN/TC 345 Soil, CEN TC 351 Construction Products), ISO (ISO TC 190 Soil) and US-EPA (SW 846).

The testing needs are placed in perspective to the questions to be answered in case of beneficial use of coal fly ash in different construction applications. It is clear that the single step tests used most commonly are unsuitable to answer the question that needs to be answered. The new tools do provide the necessary answers. Based on a proper characterization simplified tests are sufficient for quality control purposes. Historic data can often be placed in perspective to the more elaborate test data, thus providing an insight in the limitations of such methods as stand alone tools.

The aspects of data comparability, consistency of measurements, selection of critical components, the development of criteria and the statistical evaluation of data, is addressed.

The LeachXS database already contains a fair amount of coal ash data from a variety of sources, which can be used as a benchmark for coal fly ash characterization. US-EPA is finishing studies on a wide range of coal combustion residues, which will be made available in 2010. As far as the basic data is concerned this will be realized through LeachXS Lite™, a free version derived from LeachXS™ containing all public domain data.

The modelling capabilities of LeachXS™ applied to Israeli coal fly ashes will be addressed in a second presentation.