# SOLIDIFICATION/STABILIZATION TECHNOLOGY

Fast & Effective Solution for Contaminated Soil, Sludge or Hazardous Waste









Services & technologies for a better environment

### PRINCIPLE

The solidification and stabilization (S/S) technology prevents or slows down the leachability of harmful compounds from contaminated soils, sediments, and sludge. This treatment technology involves mixing contaminated soil/waste with binding agents (additives), such as cement, asphalt, fly ash or clay, to reduce migration of contaminants into the surrounding environment. Solidification



binds the waste into a compact mass that is less permeable than the original waste. Stabilisation creates physical-chemical bounds between the contaminants and the additives. The reaction fixes the contaminants and makes them less leachable.

Typical objectives of the solidification/ stabilization technology are:

- To transform a hazardous waste into a non-hazardous one;
- To reduce leachability of contaminants from an in situ or ex situ stabilized contaminated soil/waste;
- To obtain a mechanically resistant material allowing landscape rehabilitation;
- To reprocess a contaminated soil/waste into a material that is mechanically and chemically stable in the long term.



Stabilization/solidification Plant

## APPLICABILITY

Generally, the S/S technology is suitable for treatment of materials contaminated by a wide range of organic (mainly petroleum hydrocarbons) and inorganic (heavy metals) pollutants. But the benefit of the S/S method is not only an environmental rehabilitation of the contaminated sites, but also an improvement of geo-mechanical properties of the treated material.



#### Services and products:

- Testing of different types of binding agents, their combinations and dosages, to achieve the desirable stabilization/solidification effect;
- Selection of the most appropriate stabilization/solidification formula for a specific application;
- Waste analyses in compliance with the applicable EU legislation (including leachability tests);

- Environmental and economical evaluation of the proposed technology;
- Pilot scale verification of the developed stabilization/solidification technology;
- Full-scale application of the developed stabilization/solidification technology in both ex-situ and in-situ applications.

## REFERENCE PROJECTS

- 19,330 m<sup>3</sup> of drilling sludge from Moravany dump site; S/S technology using Dastit as a binding agent; client NAFTA a.s. Slovakia; 2016 – 2018
- Project funded by the Czech Development Agency at abandoned glassworks in Nalaikh, Mongolia; heavy metals (mainly hexavalent chromium) were treated by the S/S technology on site; 4 tons of a mixture of lime and ferrous sulphate was used; 2017



Moravany dump site - S/S technology using Dastit

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