

inBulk

TECHNOLOGIES

CASE STUDY



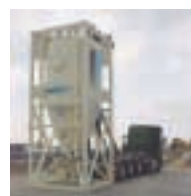
Material	Hazardous Waste Oil Sludge
Application	Waste Management
Client	Cleanaway
Bulk Density	1.2 T//m ³
Location	Pitsea-Ellesmere Port
Date	April 2004
Unit	18m ³ V Type ISO-Veyor (Carbon Steel)

In face of pending new EU legislation on acceptable materials to be disposed of as landfill, *inBulk Technologies* were approached by leading waste management specialists – Cleanaway. InBulk were asked to provide a solution to handling and transferring oil bearing interceptor wastes. Due to the levels of inorganic carbon being just over the 5% cut-off, this particular sludge cannot simply be deposited to landfill as before.

Cleanaway identified a solution that involved treating the material, skimming it, blending with polymers and then centrifuging. The resultant ‘hazardous cake’ would then go to their High Temperature Incinerator for disposal. The new solution involves collecting the waste material in an ISO-Veyor, transporting the ISO-Veyor by road to the incinerator site and then transferring the material in a controlled feed at a rate that is suitable for the furnace by dense phase conveying.

The ISO-Veyor unit is constructed in Carbon Steel with a payload of 18 tonnes. The ISO-Veyor is filled via a filling hatch located on its side. The unit is filled whilst in the horizontal position either on a trailer or on the ground. After filling the unit, the hatch is closed, then sealed and the ready for its road journey to the incinerator. On arrival the special hydraulic trailer lifts the ISO-Veyor into a standing position ready for discharge. To facilitate discharge, standard air supply of between 2-7 barg is connected by means of an inlet hose. Compressors can either be in the form of a free standing unit or tractor mounted.

Cleanaway calculated the optimal transfer rate of material in line with the calorific value of the sludge and in conjunction with the normal operating parameters of the furnace. The ISO-Veyor



is capable of complete discharge in 20-30 minutes; however to suit the operational parameters of the Incineration process the ISO Veyor was coupled to an existing positive displacement sludge pump to achieve a controlled infeed rate of 1.5 tonnes per hour to give maximum operating efficiency.

Cleanaway were satisfied with the consistent operation, efficiency and robust nature of the ISO-Veyor technology. Cleanaway identified InBulk as the best available, most cost effective solution for the task in hand. InBulk received an order for 5 x V Type ISO-Veyor

The Waste Oil Sludge trial with Cleanaway, illustrates several key benefits to the industry:

- Closed/sealed system – offers protection to the environment and ensures a safer system for workers where they are never in any contact with material throughout the process
- Easy to Transport -Fully intermodal – Capable of any combination of road, rail or ship
- Controlled feed can provide discharge rate of 1 tonne per minute – 1 tonne per hour
- Easy to Fill – Can be filled in same way as road or rail tankers
- Easy to Handle – Standard ISO frame allows for standard container lifting equipment
- Quick and convenient discharge – Simple connection to 2-7 barg compressor Provides flexible weatherproof storage and reduces dependency on silos
- Can be used for sludges, slurries or difficult, inconsistent powders and granules

Overall ISO-Veyors minimise product handling, protects environment from accidental material spillages and by ensuring a closed system, minimises risk of employee exposure.

ISO-Veyors can be considered as a much safer, sustainable method of working compared to big-bags.

Taking these factors together, ISO-Veyors can significantly reduce the requirements for intermediate handling, reduces the requirements for silo construction and dramatically enhances the overall efficiency of the supply chain for many more sludge waste materials like tank farm sludge or sewage sludge, either before or after processing.



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