



WALO

International

FULLY ENGINEERED CONTAINMENT SOLUTIONS

WORLD CLASS LANDFILL LINING TECHNOLOGY



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Dense Asphaltic Concrete (DAC) has been tried and tested as a landfill sealing system throughout Europe for over 35 years. DAC's strength and remarkable impermeable properties provide a lining system which will withstand centuries of use without risk of leakage or degradation, with the benefits of saving valuable void space while ensuring total environmental protection.

WALO is a hydraulic asphalt engineering specialist, internationally renowned for its expertise in providing DAC lining systems for a large range of applications, including landfill cells.

WHAT IS DENSE ASPHALTIC CONCRETE?

WALO's DAC lining system is a fully engineered, specifically designed lining system, comprised of an asphaltic mixture

consisting of bitumen and a continuously graded aggregate, designed in the company's Zurich laboratory for each individual contract. The finished product is installed by WALO's expert team using specialised equipment and laying and compaction techniques.

PERFECT FOR LINING LANDFILL CELLS

- Relatively thin and very quick to lay, DAC is extremely strong and robust, enabling the maximisation of void space without compromising containment standards.
- DAC forms an impermeable barrier with a hydraulic conductivity (K Value) of $\leq K 1 \times 10^{-12}$ m/s.
- DAC is resistant to chemical attack and is impermeable to all leachates

and methane, frequently found in landfill deposits. This means landfill sites can safely house hazardous and toxic waste as it cannot leach through the DAC liner.

- Despite this impermeability, DAC is still very flexible and robust. This makes it perfect for lining landfill. It can accommodate settlements of up to 10% (40 mm in 1000 mm) and yet traffic can run on it immediately after laying, without causing any damage.
- Long, steep slopes can be constructed using the company's specially engineered equipment and DAC. Any joints required are made strong and totally impermeable by the special treatment and compaction methods employed, ensuring a completely homogeneous, totally impermeable lining system.

Below:

Constructing very steep slopes in a landfill cell significantly increases the void available.





Clockwise from above:

WALO uses technically advanced machinery to tackle even the steepest slopes with a gradient of up to 1 in 1.6. Landfill cells of any size can be lined with DAC by WALO. WALO develops and manufactures its specialised equipment in the company's Zurich workshop.

INCREASING AVAILABLE VOID SPACE

DAC is extremely stable, even on very steep slopes, DAC can line sites with very steep walls, creating more space for landfill. WALO's expertise in working on steep slopes means that slopes up to a gradient of 1 in 1.6 and heights up to 150 m can be constructed using the company's specially designed slope laying equipment. DAC is a very thin lining system, with the total thickness generally averaging approximately 340 mm (including drainage layer, binder layer and the DAC sealing layer), which saves significantly more void space compared to most other lining systems. Landfill cells of any shape and size can be accommodated using DAC.

CONSTRUCTION QUALITY ASSURANCE

WALO lining systems are installed using a very comprehensive Construction Quality Assurance (CQA) procedure, supported throughout construction by WALO's on-site laboratories and technicians. All results can be re-tested following the construction period without destroying the integrity of the lining material.

A COMPLETE SERVICE

With outstanding technical engineering knowledge and the specialist equipment to provide a DAC impermeable barrier system for any situation, WALO provides a complete service to its customers – from feasibility studies to designing, manufacturing and installing a DAC sealing system to match their requirements in every kind of containment situation.

To find out how WALO can provide the landfill lining solution for you, please contact **David Wilson**, Managing Director on **+44 (0)1785 719793** or email **info@walo.co.uk**.

WALO UK Limited
Communication House
University Court
Staffordshire Technology Park
Whittle Rise
Stafford
ST18 0ES

Email: info@walo.co.uk
Tel: +44 (0)1785 719793

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