

Landfill Capping

All-in-One Capping, Pozidrain SKL, Sutton Landfill, Ashfield, UK



CASE STUDY



Project Description

The Sutton landfill site is situated in the Ashfield district of Nottinghamshire, UK. The facility has, since the 1970s, fulfilled landfill requirements for residents and commercial contractors between Nottingham and Mansfield.

When licensed capacity of the landfill was reached it was important to efficiently manage the leachate. Leachate generation rates are primarily dependent upon the quantity of precipitation that enters the landfill through infiltration. Therefore, it was essential to install an effective cap that would intercept and drain rainwater in order to reduce the leachate generation rate. Landfill operator Sita UK (now Suez UK) approached consultants Ceema to design a final capping system for this landfill site.

The Challenge

The Sutton landfill site required a safe capping design with a permanent geosynthetic capping system and 1m of soil cover in order to prevent ground water pollution. The capping solution needed to prevent the infiltration of water, enable fast installation and meet Environment Agency requirements. The geosynthetic capping solution required a high performance geocomposite drainage and capping barrier. The challenge was to produce a cost effective design that met environmental standards, providing an adequate barrier with drainage performance and avoiding the use of multiple geosynthetic layers or drainage stone.

Project Information

Client	SUEZ UK
Contractor	STC
Product	ABG Pozidrain 6SKL250D/NW8
Quantity	42,000m ²
Benefits	<ul style="list-style-type: none">• All-in-one drainage & capping barrier• High flow capacity in all directions• Specially adapted geocomposite with integral geomembrane overlaps• Large rolls for fast installation



ABG Pozidrain SKL

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The Solution

The designer worked with ABG to develop a geosynthetic solution that provides the required drainage flow capacity and an effective capping barrier to ensure long term performance.

The unique all-in-one **ABG Pozidrain 6SKL250D/NW8** geocomposite drainage and capping barrier was specified by the designer and approved by the Environment Agency. The geocomposite system comprises an impermeable back HDPE cuspatated drainage core with extended flat selvedge for overlapping, and geotextiles bonded on both sides.

The geocomposite was installed on top of the 200mm of blinding material and covered with 1m of soil. The capping was completed without any stability problems and drainage performance was reported to be adequate.

The ABG Service

ABG provided design assistance. This included slope stability and flow capacity calculations.



Large rolls enabled rapid installation



Flat selvedge ensured easy overlapping and jointing



High flow capacity in all directions

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