CASE STUDY

SOLMAX

FILI LANDFILL EXTENSION, GREECE

Expanding landfills safely with geosynthetics

Industry: Waste
Application: Landfills
Location: Greece
Product: **FABRINET**®, **GSE**® FrictionFlex

Overview

Attica's 66 municipalities and four million inhabitants depend on a single landfill – Fili. First established in 2003, the Fili landfill was expanded in 2006 and continues to grow.

Because the landfill is growing rapidly, it is running out of space. Further expansions required highly technical solutions, and geosynthetics play a vital role in the safe design and containment of seepage from the waste.

Challenge

In 2021, construction commenced on a new landfill bordering the existing one. With little available ground to expand on, an artificial basin was built on the border of the existing landfill. The basin had a capacity for 4.1 million m^3 (145 million ft^3) of garbage. This landfill will be used for several decades to come.

"With proven geosynthetic solutions used in some of the biggest landfills in the world – as well as the ability to consistently deliver high-quality products on time, Solmax was our first choice for this project."

Solution

Tsakas Construction chose Solmax to supply the geosynthetics for the landfill's expansion. "The Fili Landfill has reached capacity and expansion is critical," explains Elektra Tsaka, CEO at Tsakas Construction. "With proven geosynthetic solutions used in some of the biggest landfills in the world – as well as the ability to consistently deliver high-quality products on time, Solmax was our first choice for this project."

The proposed Solmax solution met the client's key requirements—it offered the right quality and price and provided an end-to-end solution.

To line and cover the landfill, the following materials were supplied:

- 60,000 m^2 (646,000 ft^2) of **FABRINET** drainage geocomposite
- 51,000 m^2 (549,000 ft^2) of double-sided textured **GSE** FrictionFlex geomembrane from Solmax's plant in Germany
- 95,000 m^2 (1 million ft^2) of **GSE** FrictionFlex from Solmax's plant in Egypt.

By combining delivery from the two plants, Tsakas was able to guarantee the timeous delivery of large amounts of material for the project.

The materials met with stringent specifications to ensure they perform well and provide safe containment of waste.

- **GSE** FrictionFlex is a double-sided textured high-density polyethylene (HDPE) geomembrane. It is used in applications that require increased frictional resistance, excellent chemical resistance and endurance properties.
- **FABRINET** will ensure adequate drainage. This is a multilayer, multifunctional geocomposite that provides high durability for drainage, filtration, and protection.

"The Fili extension is an important project and our geosynthetics will go a long way to ensuring waste is safely contained and the environment and community are protected. We have worked on several projects with Tsakas over the years and look forward to working with them on many more in the future."

Allan Jackson
EMEA Sales Director, Solmax