

Teranap Bituminous Geomembrane

CASE STUDY

Al Boqaâta Dam - Lebanon

June 2021

A star is born in Lebanon!

Following a long process which began in 2015, the bituminous geomembrane **TERANAP TP 431** manufactured by BMI Siplast was finally selected by the Ministry of Water and Energy in Lebanon for the largest dam ever built in the country.

- The largest dam ever built in Lebanon
- One of the first dams in the world entirely waterproofed
- 500,000m² of Bituminous Geomembrane: TERANAP TP 431.



The remarkable height of the dam (70 metres) required the execution of specific product tests by a qualified external laboratory to guarantee the watertightness of the geomembrane under the operating conditions. Siplast's Teranap passed the test successfully, withstanding a pressure of at least 10 bars. Waterproofing test with



pressurized water according to the standard NF P 98-281-1 November 1994. For the very first time in the world it was possible to waterproof the entire basin of a dam.

BMI's technical support and advice was a key success factor since the early stages.

BMI's technical team worked closely with the construction company, ROCAD, to develop a methodology, and an installation guide for the project. A group of professional installers were trained at the BMI Academy in Mondoubleau, France, on the application techniques of bituminous geomembranes to ensure the correct installation on site.

In February 2019, a large mock-up of the complete system developed by BMI was installed on site to check the performance of the solution under real conditions and the skills of the installers.



Finally, the solution was approved and the order for 200,000m² (the first phase) was placed in May 2019, and another one of 300,000m² in April 2021 (2nd and final phase).

The Teranap welding connection to the concrete substrates was carried out by utilizing the Siplast Primer. On the concrete base and dam wall junctions the surfaces were primed at the rate of 0.250 - 0.300L/m² and allowed to cure. The bitumen sheets were then torch applied to the primed substrates.

Since the installation started, the BMI technical team is providing continuous support by visiting the site on a regular basis to supervise the execution of the job.

This project is the result of outstanding cross-functional teamwork, reflecting the ability to provide prompt answers and custom-tailored solutions, which were key to gain the customer's trust and ultimately win the project.



BMI Siplast is proud to participate in this remarkable project (6 million cubic meters capacity in total), which, when operational, will guarantee continuous water supply to 84 villages around Al Boqaâta.

Main Contractor: ROCAD

BGM Contractor: ROCAD

Project: Al Boqaâta Dam – Lebanon

Specifying Engineers: Gicôme

BGM Product: TERANAP 431 TP

