

BITUMINOUS GEOMEMBRANE "BGM"



BMI

TERANAP

www.bmigroup.com

SIPLAST, THE PIONEER OF BGM

BMI Siplast is the first geomembrane manufacturer. We started the production in 1974 in Mondoubleau, France.



We have a fully dedicated production line for bituminous geomembranes at our factory in Mondoubleau. Our Research and Development department is working hard to ensure the highest quality and to sustain the best properties for our geomembranes over time.

Our knowledge and expertise, developed over the last 46 years around the world, allow us to bring the best technical support to our partners. We provide tailored solutions, adapted to any requirements or specific requests.

Our objective is to succeed together. We are always learning from the different sites we are working on. Our mindset is based on achieving a win-win outcome with all the stakeholders of the project.

We know civil engineering is very specific and unique, that's why our team is fully committed to help you find the solutions you need. We manage large-scale civil engineering jobs, and the high stakes and challenges they are faced with.





THE TERANAP SOLUTION AT A GLANCE

The BMI Siplast elastomeric bitumen membranes combine the advantages of traditional materials like bituminous binders with the advantages of modern materials, in particular polymers and geotextiles.

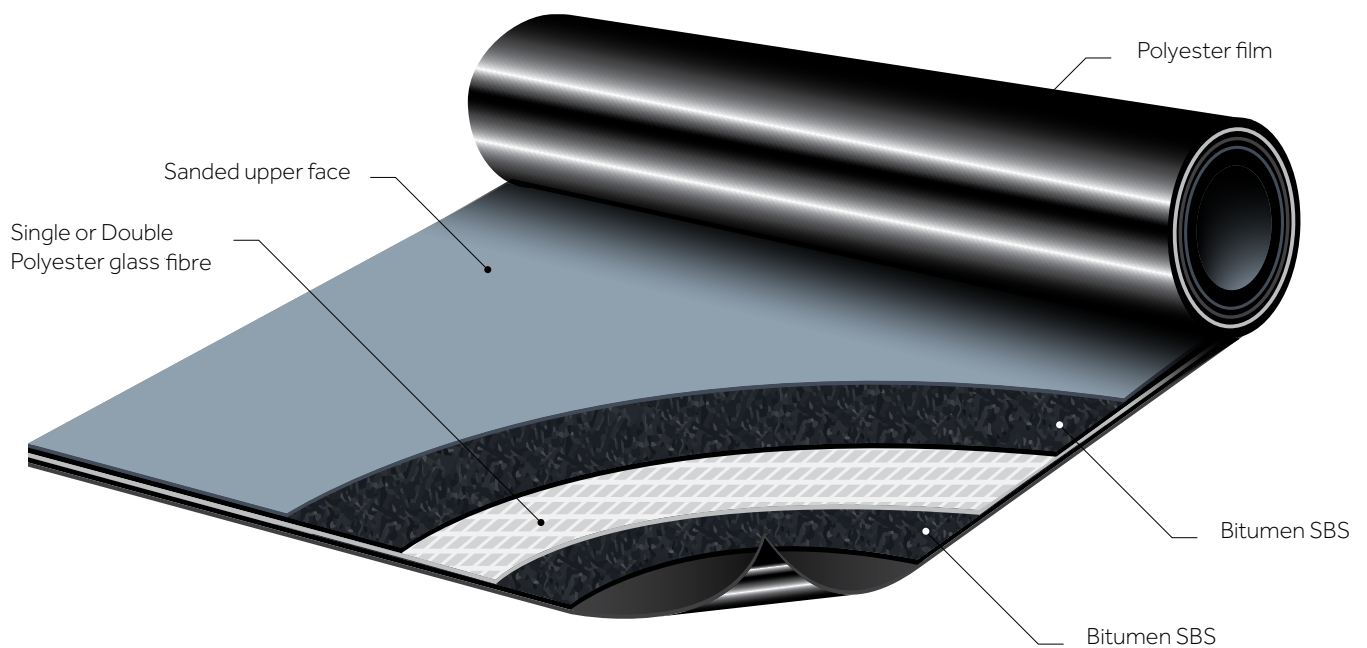
TERANAP is a geomembrane manufactured from high quality SBS elastomeric bitumen with a silica sand-coated surface.

TERANAP TP

(331, 431, 531 and 631) is reinforced with long fibre non-woven geotextile and glass fibre fleece.

TERANAP EXPERT

(300, 400, 500 and 600) has a stabilised composite reinforcement.





THE TERANAP RANGE

2 large ranges with different thicknesses and types of reinforcement

Table 1: EN norms

Main Characteristics		Unit	Norms	TERANAP EXPERT				TERANAP TP				GTX 300
				300	400	500	600	331	431	531	631	
Reinforcement		grs/m ²	ASTM	175	220	250	300	160	235	275	340	160
Thickness		mm	EN 1848-1	3,2	3,8	4,3	4,9	3,6	4,1	4,8	5,6	4,8
Mass		kg/m ²	EN 1848-1	3,0	3,5	4,0	4,5	3,3	3,9	4,6	5,4	4,4
Length		m	EN 1848-1	110	95	85	75	100	90	75	65	67
Width		m	EN 1848-1	4,0								
Surface		m ²		440	380	340	300	400	360	300	260	268
Maximal strength resistance	MD	N/50mm	EN 12311-1	950	1200	1450	1770	1000	1300	1550	1700	1500
	CMD			850	1000	1175	1360	650	1100	1200	1600	1500
Elongation at break	MD	%		38	42	43	44	52	50	60	70	55
	CMD			38	42	43	44	56	60	70	70	65
Static puncturing	Force	kN	EN 12236	2,95	3,59	4,03	4,85	2,4	3,5	4,0	5,0	4,6
Low temperature flexibility	°C	EN 1109		-15								
Water permeability	m ³ /m ² /j	EN 14150		1E10-6								
Gas permeability	m ³ /(m ² .j)	ASTM D 1434		38,6E-6								

We are also able to manufacture your own geomembrane with the exact lengths you need.

Table 2: ASTM norms

Main Characteristics		Unit	Norms	TERANAP EXPERT				TERANAP TP				GTX 300
				300	400	500	600	331	431	531	631	
Armature polyester		g/m ²		175	220	250	300	160	235	275	340	160
Thickness (target)		mm	EN 1848-1	3,2	3,8	4,3	4,9	3,6	4,1	4,8	5,6	4,8
Thickness (minimal)		mm	EN 1848-1	3,0	3,5	4,0	4,5	3,3	3,9	4,6	5,4	4,4
Length		m	EN 1848-1	110	95	85	75	100	90	75	65	67
Width		m	EN 1848-1	4,0								
Surface		m ²		440	380	340	300	400	360	300	260	268
Maximal strength resistance	MD	kN/m	ASTM D 7275	18,5	24	28,5	32,5	19	29	30	36	
	CMD			16,5	20	23	26	14	21	27	29	
Elongation at break	MD	%		42	46	50	55	55	55	65	83	
	CMD			42	46	50	55	65	60	70	85	
Static puncturing	Force	kN	ASTM D 4833	385	500	590	680	410	550	620	700	
Low temperature flexibility		°C	ASTM D 5147	-20								
Water permeability		m ³ /m ² /j	ASTM E 96	6E-14								
Gas permeability		m ³ /(m ² .j)	ASTM D 1434	38,6E-6								

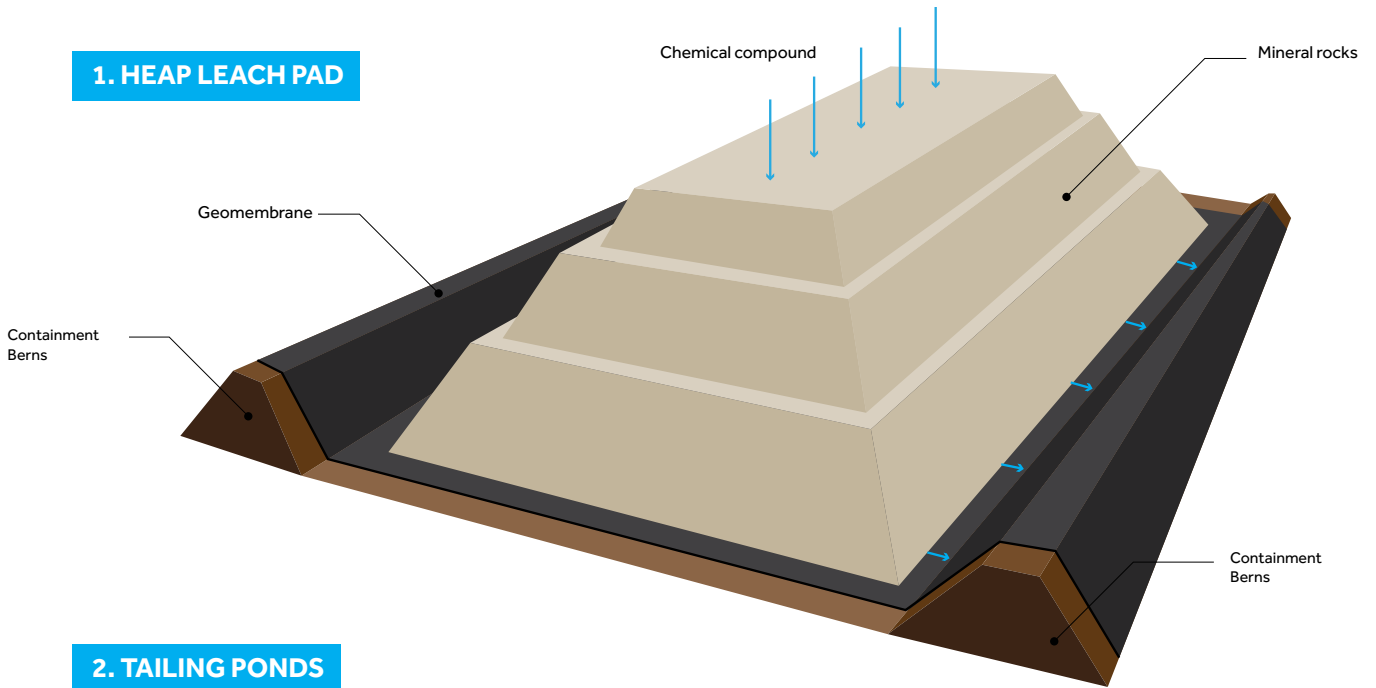
APPLICATIONS

Our Teranap BGM ranges are perfectly adapted to protect the mining environment. For heap leach pad, as well as for tailing pond projects, we can adapt Teranap to the design, height, geometry and constraints of your project.

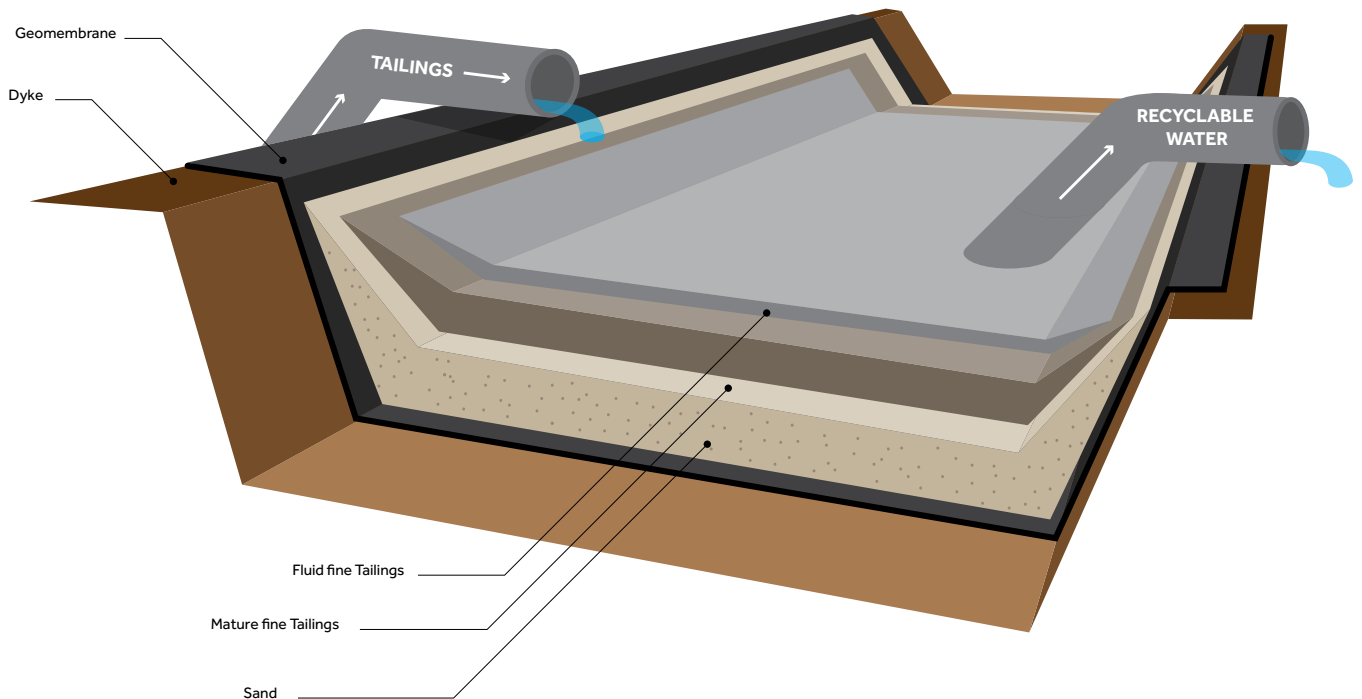
APPLICATIONS

Mining waste and landfills:

1. HEAP LEACH PAD



2. TAILING PONDS

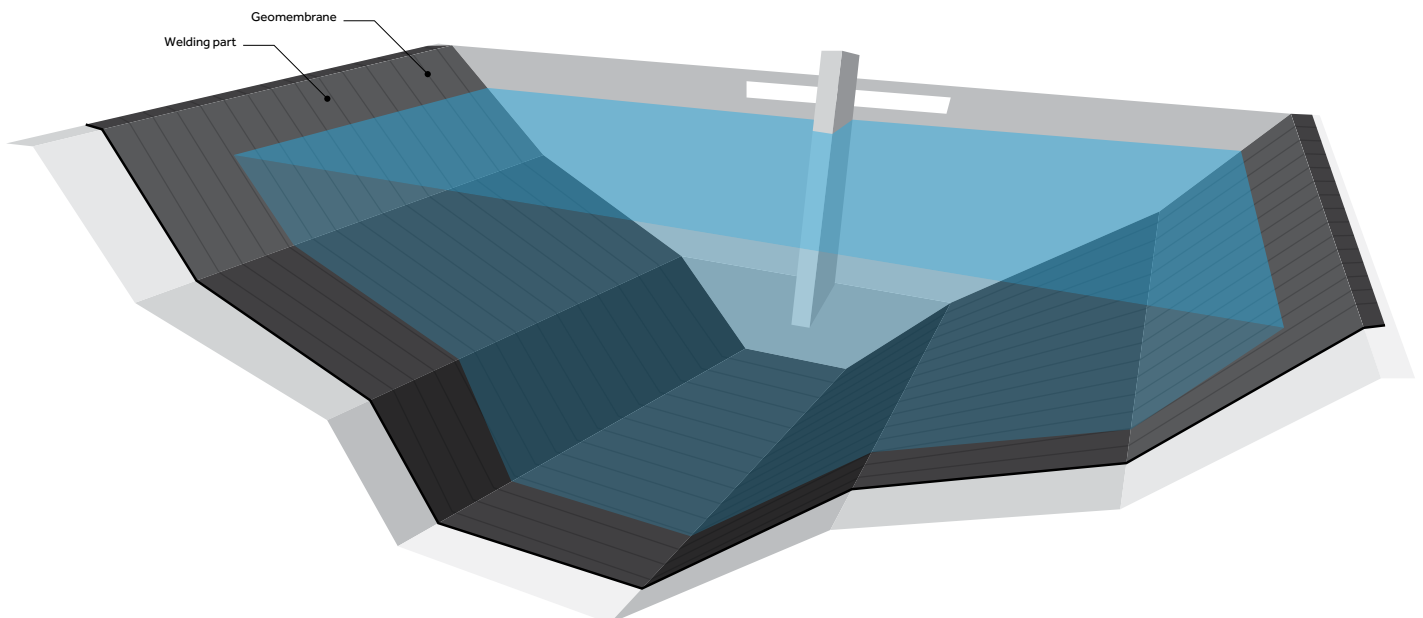
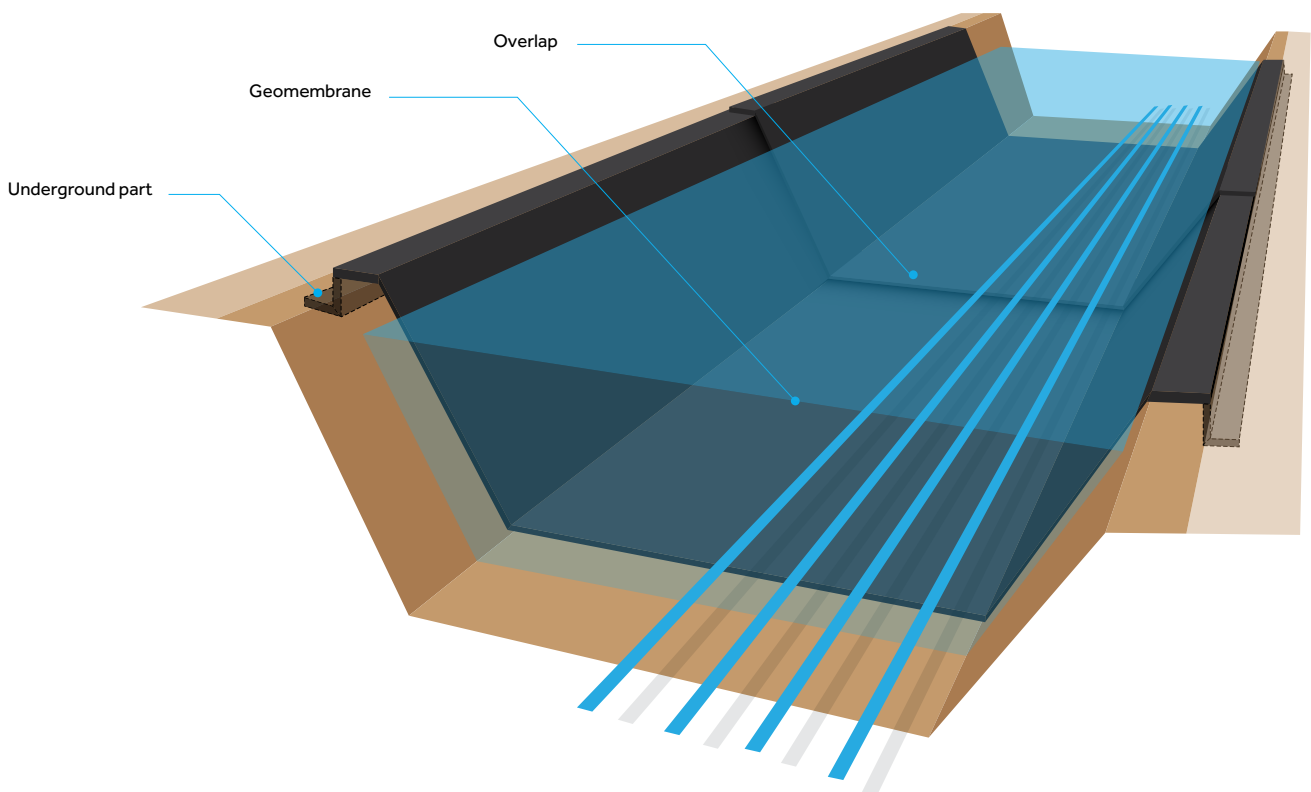


APPLICATIONS

Water is too valuable to lose. Our Teranap BGM ranges prevent it. In irrigation canals, as well as in dams and reservoirs, Teranap is the ultimate barrier against water leakages.

Hydraulic projects:

- Irrigation canals
- Hydroelectric and hydraulic dams
- Industrial reservoirs
- Gold mines
- Mineral Ore storage



SERVICES

We are by your side from the beginning until the end of your project. We ensure that you get the solution you need and ensure the perfect installation on site. >

DESIGN AND TECHNICAL SPECIFICATIONS



TAILOR-MADE SOLUTIONS



ON SITE ASSISTANCE AND TRAINING



INNOVATION

Teranap Control heralds a revolution. Now, it is possible to control the entire seams of a BGM.

Teranap Seam Control

- Innovative and exclusive technology, under the Siplast patent
- Leak Detection System

Key benefits

- Easy and precise leak detection
- Non-destructive control



WELDING QUALITY CONTROL

- Leak detection by tracer gas and a lightweight control tool providing a very reliable process to precisely determine any leaks.
- Leak detection instant alarm sounds with gas tracer meter reading and warning flashing light.
- Thanks to the sensitivity of the sniffer canes used along the weld, the portable device detects if there is any presence of tracer gas molecules and locates the precise location of the leak.
- It can be confirmed with a water / soap solution.



PROJECT REFERENCES

DAM AL Boqataa - LEBANON



ARGENTINE CERRO NEGRO



TASMANIA Roseberry Mning



PROJECT REFERENCES

MOROCCO - El Hallasa



PERU - Antamina - Gold Mine



Balama - Mozambique - Mining



Tasmania - Australia - Tailings Dam





CONTACT US!

For more information on Teranap and how it can help your project,
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