



# BITUMINOUS GEO MEMBRANE (BGM)

It is an excellent waterproofing material which is practically impervious and manufactured by impregnating a polyester geotextile with an elastomeric bitumen compound. In addition, the geomembrane is coated with sand on top to enhance UV resistance and an anti-root film at the bottom side to prevent vegetation growth. BGM is extensively used worldwide as basin liners to decrease the permeability of foundation and prevent further transportation of harmful contaminants and contaminated water into ground.

## TECHNICAL FEATURES OF BGM



Low water permeability of  $10^{-14}$  m/s



Higher unit weight ranging from 4.0 - 6.5 kg/m<sup>2</sup>



High puncture resistance, UV resistant, & tearing resistance



Flexibility up to 50 -60% strain



Extremely low thermal coefficient: Highly stable under wide range of temperature from -40 to +60 °c



Excellent resistance to aggressive chemicals



Bituminous makes the blend biological resistant, microbial resistant as well as resistant to attack by rodents

## ADVANTAGES OF BGM



Concrete less technology



Practically no seepage



Longer Design Life



Compatible with asphalt and concrete



Suitable for potable water



No weed growth



Enhances stability of embankment



Environment friendly



Faster & easy installation



Flexible yet strong adaptable to differential movements



# APPLICATIONS: MINING & ENVIRONMENT

Lot of waste produce from mining activities. These wastes contain hazardous material like heavy metals, metalloids, acidic water and process chemicals. Containment of these material is required to protect environment, ground water and soil. BGM is an ideal solution for a wide range of environment protection applications due to its low permeability, high resistant against chemicals, puncture and Ultra Violet rays.

## CONTAINMENT OF SOLID WASTE

### Waste from domestic, mining and industrial activities

- Waterproofing and isolation of bottom ash maturation areas, composting areas and ore extraction sites,
- Containment of storage centres for contaminated industrial waste (chromates, potash, etc.) and landfill sites,
- Covering slag heaps after activity to prevent the spreading of pollution via rainwater and contamination of rivers and the water table,
- Protecting reserving water resources and soils against pollution of all kinds.



## CONTAINMENT OF LIQUID WASTE

### Waste water, liquid waste from industrial and mining operations, tailings pond

- Watertight construction design for retention of polluted waters has increased substantially in recent years.
- B G M have a high level of resistance to biological and chemical agents and offer an environmentally friendly solution to a wide range of pollutants.

## SOLID WASTE CAPPING

BGM is used for capping of plastic wastes to prevent the loss of heavy mineral concentrate and also helps to prevent environmental damage from wind dispersal.



# COMPANY INTRODUCTION

Subsidiary of Yooil Engineering, South Korea established in 1989.

Providing solutions for Mining waste management for more than two decades.

Commissioned India's first ever Air- Filled Rubber Dam.

Highly Experienced engineering, design, and execution team.

Completed more than 400 projects worldwide.

Offering Unique products like Air-filled Rubber dam, Bituminous Geo- Membrane (BGM), Hybrid Steel Gate and Pocket Dam for advance water management and environment solutions.

