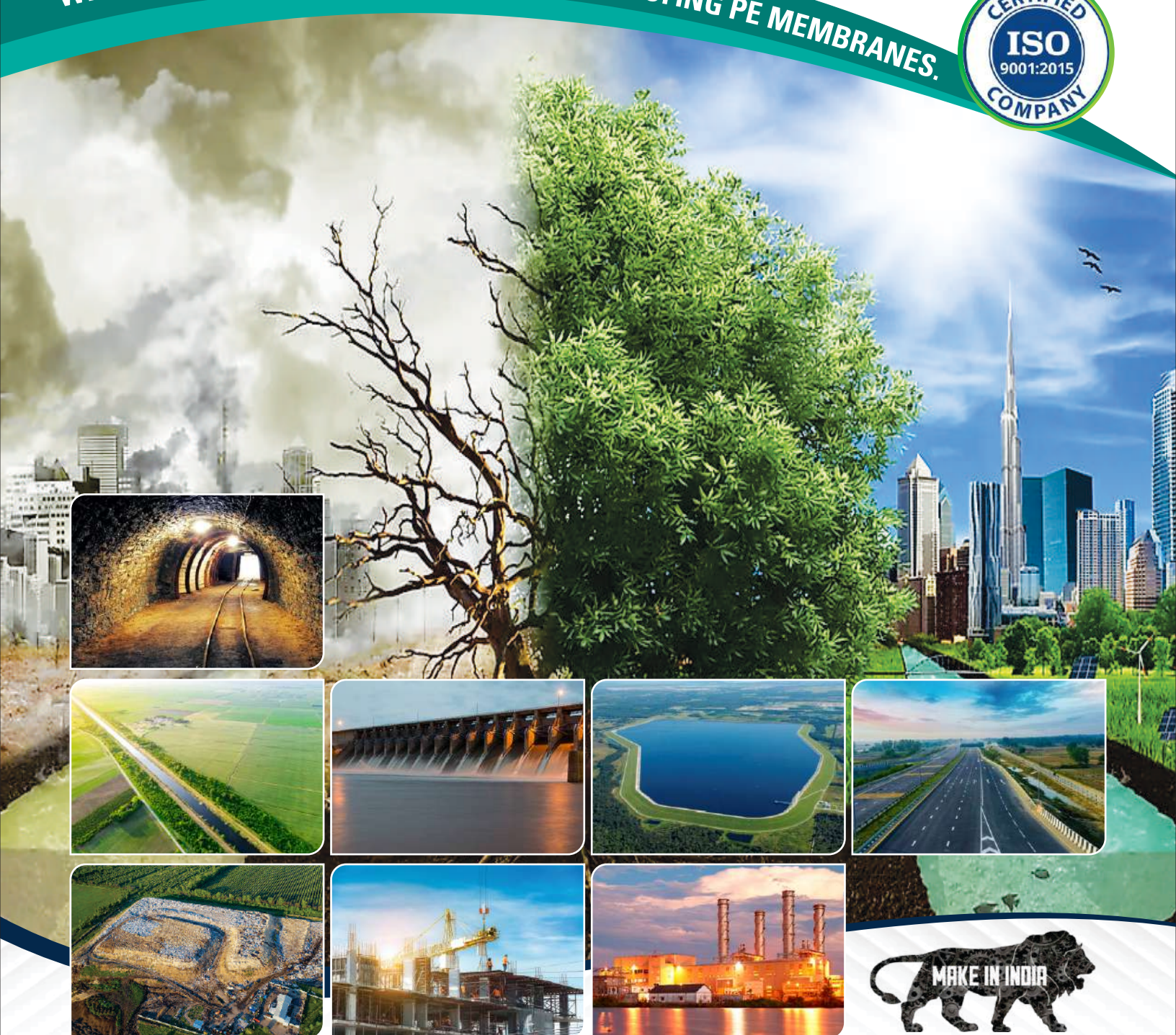




Macro Sheet India Limited

A Company where quality matters

WIDE RANGE OF ANTI-SEEPAGE & WATERPROOFING PE MEMBRANES.



**LEADING MANUFACTURER, SUPPLIER & EXPORTER OF WIDE RANGE OF
HDPE GEOMEMBRANE FILM / SHEET / LINER & OTHER GEOSYNTHETIC PRODUCTS**

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COMPANY'S MESSAGE

Macro Sheet India Limited *lays emphasis on developing innovative products that are more reliable, robust, resistant to contaminants and cost-effective, even in developing countries.*

In the current process of widespread globalization, we at Macro Sheet India Limited understand that meeting our customer's requirement is essential for the success of our organization. We can say that the years we have experienced in the past years are significant years and it is clearly seen that we have done our best to focus on customer satisfaction.

We would like to thank our valued customers, reliable dealers and world class suppliers. Apart from this, we would also like to specially mention the enthusiastic contribution of our employees in the establishment of our organization. One thing we would like to point out is that our leadership is the result of our employees. They have clearly made Macro Sheet India Limited one of the outstanding organizations. We know that our highly trained engineers apply their specialized knowledge to reliably and efficiently produce high quality service.

As we are already involved in providing services in Agriculture, Irrigation, Water Resources and other sectors, we have noticed the deficiencies faced by the customers due to non-availability of after sales service and product deficiencies where the product starts failing to deliver its performance within 4 to 5 years. If we are to survive in the market universally, customer satisfaction before or after the sale is essentially important to the survival factor of any business. We are now in a constantly changing market environment. In such a situation, we strongly believe that "Trust" is the key element in persuading the customers to choose our quality products. We fully accept that "trust" can create a "win-win situation" for a long deep relationship.

Our delivered products are diversified with latest technologies and excellent service. They are easy to find in every corner of industrial activity and community life. We will continue our endless efforts to serve our valued customers.

In addition, we at Macro Sheet India Limited will make in-depth efforts in environmental awareness with the aim of preventing climate change and resource depletion. We are committed to protecting the environment in which we live. So, in short, we want to thank again all those who have contributed tirelessly and past efforts to make it here today and will continue to grow for years to come.

Yours Sincerely

Macro Sheet India Limited

*"It is our responsibility to keep
the earth green,
we are grateful that we
are a part of it.*



WHO ARE WE

MACRO SHEET INDIA LIMITED is a Public Limited Company based in Rajasthan whose registry is with Ministry of Corporate Affairs, Classified as Non-govt company and registered under Registrar of Companies Rajasthan India.

Established in the year 2021, **MACRO SHEET INDIA LIMITED** is an ISO 9001:2015 certified company engaged in manufacturing Co-Extruded Multilayer HDPE Geomembrane Sheets Thickness from 0.75mm to 3.00mm. Our manufacturing unit is located in Jaipur, Rajasthan with convenient transportation access with a capacity of more than 8640 MT per annum.

In addition to indigenously manufacturing Geomembranes up to 3.00 mm Thickness, we also procure Geotextiles and other Geosynthetics from reputed Manufacturers across the globe, which enables us to provide "All-in-One - One Stop Shop - Your Geosynthetic Needs".

Strengthened by our vast experience in the field backed by skilled workforce and state-of-the-art plant and machinery, we are successfully planning to meet the needs of our valued clients both in the country and globally.

MACRO SHEET INDIA LIMITED aims to become a global leader in geosynthetics for the environmental control, water conservation and civil engineering markets.

MACRO SHEET INDIA LIMITED lays emphasis on developing innovative products that are more reliable, robust, resistant to contaminants and cost-effective, even in developing countries.

Our Thoughtful Mission

We have a precise mission to deliver perfect service through on-time delivery without any faults or defects followed by regular survey of quality and product development.

Our Ambitious Vision

Our vision is quality policy and quality control. We will ensure high standard of quality in production and timely supply of products and services as per global standards at affordable rates and meet the requirements of the clients through continuous improvement, objectives and teamwork. Full laboratory for round the clock quality checks. Our team will take care of every aspect of production and quality control.

Produce quality and loyalty for customers.



*Our main motto is to produce quality
and deliver excellence
in customer satisfaction.
We have accepted the challenge of making*

*Our Planet "Earth" Greener,
Pollution Free And Healthy.*



MACRO™ RANGE OF PRODUCTS

Our products are reliable and built with value



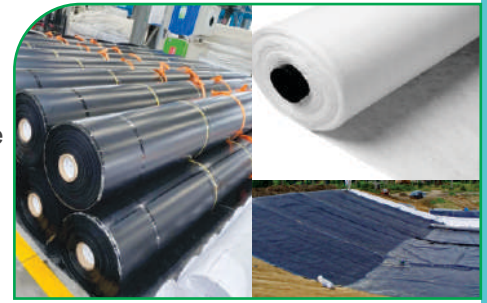
HDPE GEOMEMBRANE / FILM / SHEET / LINER

(As per IS 16352:2020 / ASTM / MOEF / CPCB and meet all technical aspects of GRI-GM13*)

- **Thickness Range:** 0.75mm (750 micron) to 3.00mm (3000 micron)
- **Width:** 6 meters
- **Finish:** Smooth & Textured

AND OTHER GEOSYNTHETICS

- PP Woven & Non-Woven Geotextile
- Geocells
- Geocomposites
- Geogrids
- Geonets
- Geosynthetic Clay Liners.



FEATURES OF MACRO™ HDPE GEOMEMBRANE

The term Geomembrane refers to a very low permeability film, sheet, liner made of synthetic material. HDPE Geomembranes are routinely used for containment of hazardous fluids that may contaminate the ground or surrounding structures. In other words, the Geomembrane acts as a barrier to control fluid migration in any built project, structure or system. Furthermore, HDPE Geomembrane is a very stable, excellent in UV and chemical resistance and able to maintain long term integrity and durability. These properties make HDPE Geomembrane a popular choice for waterproofing and sealing landfill and other containment applications



PROPERTIES & STRENGTHS OF MACRO™ HDPE GEOMEMBRANE

- Excellent Thermal & Chemical Resistance.
- High Durability. ➤ High Stability.
- Excellent UV Resistance.
- Built-In Flexibility.
- Environmental Stress Resistance.
- Tear Resistance.
- Impact Resistance.
- Puncture Resistance.
- Excellent in Anchor Strength.
- Excellent in Tensile Strength and Elongation.
- Crack Resistance.
- Weldability & Seamability.
- Recyclable.
- Inert Material.
- Non-toxic.
- Deformity, comfort to the soil.

FIELD OF APPLICATION FOR MACRO™ HDPE GEOMEMBRANE

Our products are designed to suit all applications

LANDFILL

Solid and Municipal Waste, Hazardous Waste, Construction and Demolition Waste, Industrial Waste.

POWER

Dams, Canals, Retention Ponds, Cold Water Ponds, Brine Ponds, Pumped Storage, Reservoir-Ash Storage.

LIQUID CONTAINMENT

Water and Waste Water Treatment, Petro-Chemical, Agriculture, Aquaculture, Canal Lining, Dam Lining, Floating Cover & Salt Pans.

INDUSTRIAL

Tank Lining, Sewage Lagoons, Storm Water Runoff, Vertical Barriers, Secondary Containment.

CONSTRUCTION

Roads, Bridges and Building.

OTHERS

Golf Course Ponds, Artificial / Decorative Ponds or Lakes, Waterproofing.

MACRO™ HDPE GEOMEMBRANE WASTE LANDFILL LINER / CANAL LINER / DAM LINER / POND LINER

High Density Polyethylene (HDPE) is characterized by strong UV/temperature resistance, affordable material cost, durability and high resistance to chemicals. It is the most commonly used Geomembrane because it provides high thickness that other Geomembranes do not. HDPE is the preferred choice for Pond, Canal and Dam lining projects, Landfill and Reservoir covers.

MACRO SHEET INDIA LIMITED offers a high range of HDPE Geomembrane Liners for major applications with a wide range of qualified features suitable for all major lining projects. Let's take an overview on the applications.

WASTE LANDFILL LINER

We have the spirit to save the earth from getting polluted

MACRO HDPE Geomembrane as a waste landfill liner is to prevent passage of leachate to the subsoil. This is achieved by placing a barrier layer of MACRO HDPE Geomembrane at the base of the landfill. The liner effectively creates a bathtub in the ground.

MACRO HDPE Geomembrane as a bottom liner to ensure that it can effectively trap toxic by-products and prevent leachate from being transferred to top soil, nearby water bodies and local water sources. MACRO Landfill Geomembranes are also used as cap covers and floating covers for leachate ponds.



We play an important role in providing water for irrigation

CANAL LINER



Water is in high demand for irrigation in most of the agricultural areas as the required amount of water is not available naturally. To reduce these problems, canals have been constructed so far to carry water where it is needed. HDPE Geomembrane has been used as a water canal liner to control leakage and is an effective alternative to more traditional lining methods such as concrete and compacted soil.

MACRO HDPE Geomembrane is a viable alternative to concrete and compacted earth for lining canals and dams to reduce seepage. In addition, leakage is greatly reduced as compared to soil or concrete standalone systems. While RCC concrete veneers can still break down over time, the Geomembrane remains under the veneer to prevent seepage until the concrete is repaired.



DAM LINER

We take a pledge to save every drop of water

Dams are artificial structures that block the course of a river to store its water in dedicated areas. They have three main functions: protection from floods, energy production and storage of water or other resources, such as mine tailings. To guarantee their functionality, such critical infrastructure must possess a certain level of water tightness, and Geomembranes play an important role in that. In concrete dams, the waterproofing is provided by the concrete itself. However, over time concrete loses its waterproofness due to the appearance of cracks, leaching and other deformations and hence it may require upstream facial treatment.

MACRO HDPE Geomembrane as a Dam Liner is a type of high-density polyethylene waterproof Geomembrane that provides an excellent solution for leakage prevention and is the ideal Geotechnical material used for dam lining applications. MACRO HDPE Geomembrane with excellent mechanical properties and high durability provides a cost-effective solution to power generation stations reservoirs and dams as leakage control and leakage prevention.



We are committed to providing solutions for water conservation practices.

POND LINER

When it comes to pond construction, the role of Geomembrane is a vast extension of water conservation for agriculture, aquaculture, artificial lakes and other water bodies or reservoirs and aims to reduce water seepage and conserve water over a long period of time.

AGRICULTURE FARM POND

Availability of adequate water resources helps in production of more crops and profits. We have understood it

With the increasing demand for water resources in agriculture, it becomes a matter of concern to conserve water for current and future irrigation purposes. Therefore, here MACRO HDPE Geomembrane (PE Pond Liner) play an important role in meeting the demand for availability of water for agricultural & irrigation. The use of Geomembranes as agricultural pond liners is on the rise due to growing concern about the need to conserve valuable sources of water.

In such a situation, the Government of India is also making a lot of efforts to start schemes under the National Horticulture Mission for pond lining schemes. For the past few years, the Horticulture Department has been encouraging farmers to build community ponds under their subsidy scheme.

HDPE Geomembrane has excellent UV and chemical resistance properties and has proven to be capable of preventing underground water seepage and providing water for critical irrigation over a long period. We MSIL, one of the leading manufacturers of HDPE Geomembrane (PE Pond Liner) in India, come up with a one stop solution for all irrigation related water needs. When it comes to water storage and transportation of water, MACRO HDPE Geomembrane plays a vital role and manages to deliver clean water to the community over a long period of time and availability of portable water, water for agricultural irrigation, fish farming and supplementary irrigation.



AQUACULTURE POND

We create better environmental structure of the pond for profit oriented shrimp farming.



Geomembranes have a combined role in preventing water seepage and disease prevention which is an important factor in aquaculture. The use of HDPE Geomembranes to line fish or shrimp ponds has played a significant role in improving productivity in aquaculture, especially in India, and has become a best practice in the industry. When an aquaculture pond does not have a proper lining system, fish or shrimp are often exposed to a variety of diseases from contamination of the soil or neighborhood directly affecting harvest quality and causing underground water leakage.

Traditionally, earthen ponds and raceways have been used for shrimp/fish farming. In such practice, soil contamination, fatal diseases and inconsistent yields are common. These defects can be eliminated/reduced by the installation of HDPE Geomembrane Lining System in aquaculture ponds. When HDPE Geomembrane Lining System is used for fish, shrimp ponds and other systems for aquaculture, this durable and impervious surface actually allows for greater control over the harvesting environment and greater use of the pond.

MACRO HDPE Geomembrane is a smooth lining system manufactured with the highest quality resin specially formulated for flexible sheets. The safe, non-toxic properties of PE make MACRO Aqua Geomembrane the ideal liner for aquaculture practices. MACRO Aquaculture Lining System not only assures healthy growth in shrimp or fish but also actually increases the profit margin.

ARTIFICIAL LAKE OR DECORATIVE POND

"No Dirt" Leaves A Clean Appearance In The Pond.

Artificial Lakes or Decorative Ponds enhance the appearance of the property as well as the values of the property. Natural soil may not always hold enough water and the pond may have a "dirty" look.

MACRO Geomembrane Liners offer the following features: Long-term leak-free service life. Flexibility to fit your pond or lake. Capable of large fabricated panels to eliminate or reduce field seaming requirements. Ease of repair if mechanically damaged. Leaves a "clean" appearance in the pond or lake - no "dirt" from the bottom of the pond or lake.



RESERVOIRS

Reservoirs are large water bodies that not only suppress floods but also provide water for activities such as irrigation, human consumption, industrial use, aquaculture, and navigability. Reservoirs also play an important role in hydropower. Reservoirs created by dams are primarily used to produce electricity using water. This form of electricity is known as hydroelectricity.

An impermeable high density polyethylene (HDPE) Geomembrane has been successfully adopted as an alternative water barrier to conventional clay liners systems of hydraulic reservoirs and ponds for some decades.

With excellent mechanical properties and high durability, HDPE Geomembrane provides a cost-effective solution to reservoirs and dams as leak control and leakage prevention. HDPE Geomembrane is used in reservoirs construction as a waterproofing material and prevents seepage of underground water.



ROLE OF MACRO™ HDPE GEOMEMBRANE LINER IN THE CONSTRUCTION OF ROADS, HIGHWAYS, BRIDGES AND BUILDINGS.

We produce quality with value for solid construction.

According to ASTM, a Geomembrane is defined as an essentially impermeable membrane used with foundation, soil, rock, earth or any other geotechnical engineering-related material as an integral part of a human-made project, structure, or system. A Geomembrane plays a huge role in road, bridge, building construction and many other civil construction projects. Geomembrane acts as water proofing & moisture barrier liner for road, bridge and building construction.

ROADS, HIGHWAYS, BRIDGES

Geomembranes are widely used for roads as per the guidelines of the Ministry of Surface Transport. The advantage of Geomembrane in roads is that it acts as a separator between the different layers. Secondly, it protects the cement slurry from falling into the soil during construction. It also prevents sub-grades from entering aggregates, and at the same time, improves underground drainage of roadways and serves as a base liner or is placed under tar and other road constructions and serves as a seepage barrier.



BUILDING CONSTRUCTION



Macro HDPE Geomembrane can be used as a water proofing membrane which can be laid on a surface. Doesn't let water out of it. It can be laid under structural slabs, foundations, flat roofs and finishing tiles. Ensures that water does not seep into the structural slab.

On a flat roof, Macro HDPE Geomembrane can be placed over structural slabs and under tiled finishes as a water proofing membrane. This will ensure that water does not seep into the structural slab. Tiles and Geomembrane should be placed over a filler material that is sloping to ensure that water flows down sumps and drains. Any water that remains as puddles on top of the tiles is likely to seep into the slab over time, so puddles should be avoided at all costs.

Geomembrane liners also play an important role in construction. When moisture seeps into walls, ceilings or building foundations, it creates and develops severe structural damage over time. Geomembrane liners act as a barrier, preventing moisture from entering the walls and foundation of the building. In turn, this prevents mold, mildew and fungus from growing. Geomembrane liners can also prevent hazardous chemicals from leaking into the soil or groundwater beneath a building's foundation. Not only is this an eco-friendly solution, but it can also save on the cost of building repairs down the road.



MACRO™ HDPE GEOMEMBRANE LINING SYSTEM FOR MINING / OIL & GAS / ASH STORAGE LAGOON

It is our responsibility to adequately protect the earth from being polluted for the generations to come.

MINING

The pollution of both surface water and ground water is increasing rapidly. We have solution for this.

When it comes to lining solutions for the mining industry, Geomembrane Liners have a value-added role in the containment of liquids used during the process of mining. The Geomembrane Liners used in this industry prevent mine leachate seepage from entering groundwater. Geomembranes are widely used in Primary and Secondary containment lining by managing mining by-products and waste and ensuring that the worst effects cannot be spread if leakage, loss or collapse occurs.

Macro HDPE Geomembrane is manufactured using state-of-the-art three-stage co-extrusion technology. High Density Polyethylene (HDPE) Geomembrane has exceptional chemical, stress crack and UV resistance. Macro HDPE Geomembrane has the durability and chemical compatibility to withstand aggressive mining pile leach solutions in piles and solution trenches.

MACRO HDPE Geomembrane as a liner will be installed in the base area of all mining applications. As a lining system for waste water treatment ponds, evaporation ponds, heap leach pads, tailings impoundments and mine closures.



OIL & GAS PROJECTS

We are the key to clean and pollution free land and ocean



HDPE Geomembrane is used to avoid contaminants polluting groundwater and destroying the ecological environment. Storage tanks at petroleum refineries and depots often contain large amounts of petroleum and industrial liquids and hydrocarbons. These industrial fluids are often corrosive, and if a leak occurs, it will have an effect on the surrounding soil environment.

The use of high quality Geomembrane such as HDPE Geomembrane to lay the second layer of anti-seepage layer can protect the environment. Because industrial fluids in petroleum are often corrosive, the use of high-quality HDPE Geomembrane with chemical corrosion resistance to establish a two-layer infiltration can play the role of anti-seepage.

In case of leakage, the secondary anti-seepage layer can play a temporary anti-seepage role. For the period before the leachate is discharged, a second anti-seepage layer can prevent leachate from penetrating the ground. In addition to anti-seepage, this guide also gives ample time for the drainage system to play a role.

Thus, there are high requirements for the quality of HDPE Geomembrane in the petroleum sector. As long as HDPE Geomembrane is used well, hidden dangers in petroleum and petrochemical industry can be prevented and the environment will not be harmed.



ASH STORAGE LAGOON

Don't make the land unusable for tomorrow.



The Boiler Ash is collected from the boiler's hopper precipitator fly ash from the electrostatic precipitator hoppers. This is mixed with water to make a suspension, which is pumped to the ash pond. Macro HDPE Geomembrane provide perfect lining for the ash ponds.

Thermal power plants using pulverized coal produce large amounts of ash as a by-product. Fly ash is disposed of as ash from power plants as ash. Excess water from dams is collected and ash is deposited in man-made artificially created water pond known as fly-ash discharge water pond for disposal of excess water from dam. Primarily, two types of ash disposal are practiced by thermal power plants in India, the wet disposal system (more commonly adopted) and the dry disposal system. In a wet disposal system, the ash is mixed with water to form a slurry that is then pumped through pipelines to an ash disposal lagoon known as an ash pond. Ash disposal pond or lagoon in coal based thermal power station should not be a source of pollution on land and water.

A lining of MACRO HDPE Geomembrane liner is recommended to laid in the base area where ash water comes into contact and where the ground permeability is high and to keep the leakage of leachate to the minimum possible.

UNDER THE RAILWAY TRACK

Ride safely on the track without any interruptions, our goal.

As the train moves on its tracks, it produces enormous vibrations that cause upward fines resulting in wear in rails and sleepers which in turn ages the ballast, top course and subgrade. To protect the railway track from this wear, and to protect the foundation from leakage, a reinforced geomembrane may be installed. Our superior line of geomembranes protects railway foundations, helps ensure good track performance and provides water tightness even in areas with sensitive soils and difficult working conditions.



OUR PLANT FACILITY

- Our plant is equipped with the advancement of state-of-the-art machinery in flat sheet extrusion method i.e. T-die for manufacturing of Geomembrane Sheets for the first time in India which is showing advantages like good and adequate control over sheet thickness, high welding speed, no-fold line, and good dimensional stability.
- Sheet thickness is the most important parameter as it directly controls the temperature gradient and material constraints. Changes in sheet thickness have been observed during stretching and bending. As a result, it directly impacts results-oriented projects while the properties of the sheet have to be proven. Our geomembranes remain intact for a longer period of time due to greater control over the thickness. And the incidence of shrinkage in the sheet has also been negligible.
- Due to greater control over thickness, there is uniformity in the sheet resulting in higher welding speed which takes minimum time to complete the project.
- Due to good dimensional stability, in the presence of sunlight, it leads to less folding resulting in better performance which in turn proves to be longer lasting of the geomembrane sheet.



HDPE Geomembrane liner by MACRO SHEET INDIA LIMITED

If you are planning a project that will use a Geomembrane liner, consider including Macro Sheet India Limited as a potential manufacturer for consideration. Macro Sheet India Limited has expertise in manufacturing wide range of Geomembranes and distributes the products across the globe.

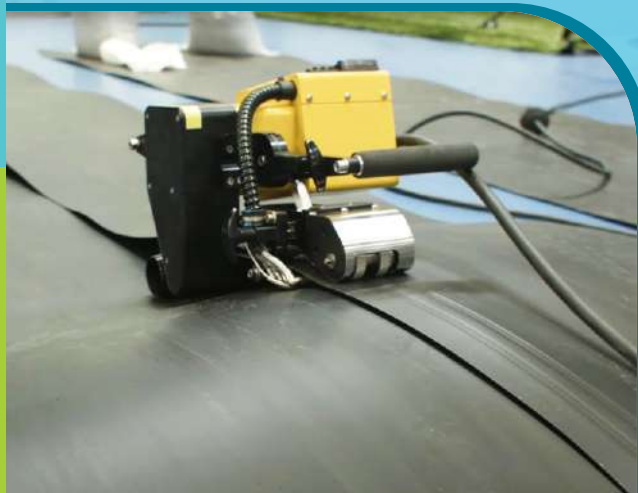
To know more about Macro Sheet India Limited and what the company does to promote quality products, visit www.macrosheet.in online.

Macro Sheet India Limited focuses on best practices for manufacturing High Density Polyethylene (HDPE) Liners with a density of 0.940 g/cc and above and meets all technical aspects of GRI-GM-13*.



UNIQUE FEATURES OF MACRO™ HDPE GEOMEMBRANE SHEET

EASE OF DEPLOYMENT AND SHEET INSTALLATION WORK IN MINIMUM TIME



➤ Whether it is civil engineering, tunneling, pond lining, landfill and disposal applications, MACRO™ HDPE Geomembrane is a versatile product. Due to greater control over thickness, the sheet has uniformity resulting in higher welding speed which facilitates better liner weldability and takes minimum time to complete the project. The installation work will be done through hot wedge heat sealing.

➤ Saving precious time and completion of the project before the stipulated time.

➤ Due to state-of-the-art machinery in flat sheet extrusion method i.e. T-die for manufacturing Geomembrane Sheets for the first time in India, the fabrication and production process makes MACRO™ HDPE Geomembrane extra strong and aging resistant.

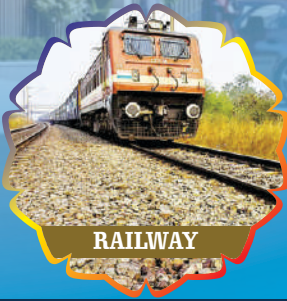
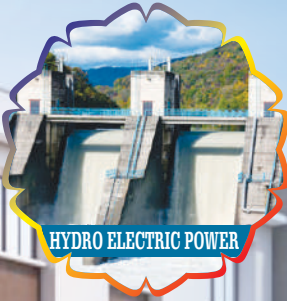
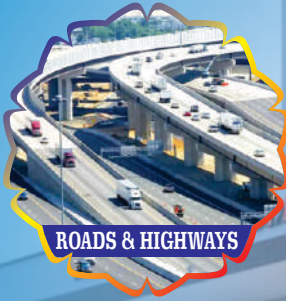
➤ Due to minimal sheet shrinkage, MACRO™ HDPE Geomembrane delivers maximum performance in all climatic and environmental conditions, even under exposed conditions.

➤ Fewer geomembrane wrinkles due to reduced thermal expansion improve the impermeability of the overall barrier system through better intimate contact and reduce the potential for damage arising from backfilling on the liner.

LONGER SERVICE PERIOD



APPLICATION AREA



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*Earth Is The Only Planet Where Life Resides.
Prevent It From Getting Polluted.*

