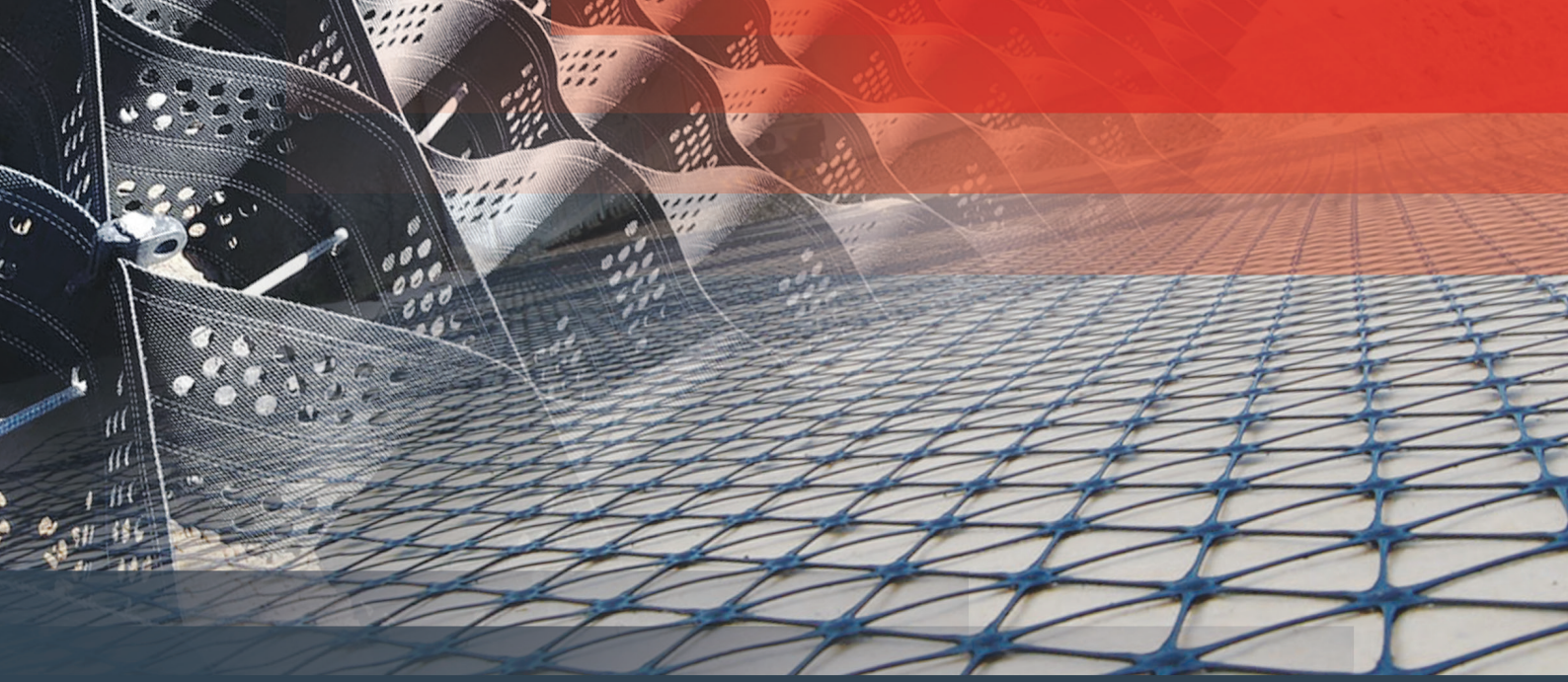


ARIAN KHAK
Iranian

Arian Khak Iranian

Provision of geosynthetic products and services



www.geokhanjani.com

Introduction

"Arian Khak Iranian" Company was established and registered with the aim of providing a wide range of services related to geosynthetics, geophysics, laboratory testing of structures, geology, soil, and foundation. The company engages in development and construction projects through private sector investment and management.
With a team of skilled and experienced technical experts and equipped with advanced modern facilities, this company provides services in various fields such as structures, geosynthetics, geogrids, drainage, engineering networks, agricultural activities, geotechnics, geological laboratory, soil, and foundation stabilization. This enables the company to meet the needs of organizations and private companies across the country.

Arian Khak Iranian Company has obtained relevant rankings for its activities from the Management and Planning Organization and the Strategic Vice–Presidency of the President. The company is ready to collaborate on various construction projects, emphasizing quality and speed in project execution nationwide. With years of experience and knowledge, Arian Khak Iranian Company is prepared to cooperate with relevant organizations, departments, and companies throughout the country.

In the following, we will introduce the activities of Arin Khak Iranian Company, which includes providing products and services to customers.



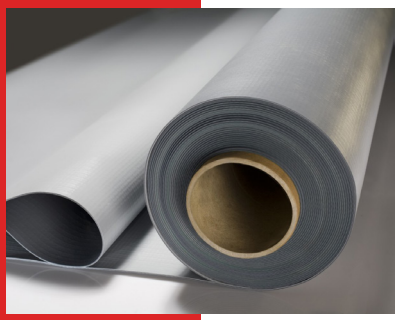
Products



Geomembranes

Geomembranes are known as one of the best insulation solutions against water penetration and protection of your structures. If you are looking to choose the best and highest quality insulation for your structures, without a doubt, geomembrane is a very suitable and recommended option.
Geomembranes, as a resistance solution against penetration and protection against erosion, cause a significant increase in the useful life of structures. These insulating materials are several times more durable than alternatives such as concrete or cement. Therefore, the use of geomembranes is highly recommended in various industries, including construction and maintenance of swimming pools, insulation of buildings and other similar equipment.

PVC geomembranes



Polyvinyl chloride geomembranes are typically used for applications that require strength and stability, for example in tank liners and protective covers at waste storage sites. The PVC geomembrane sheet is especially suitable in the mining industry due to its high resistance to the effects of flame and since it has a very high flexibility compared to other geomembrane sheets.

HDPE geomembranes



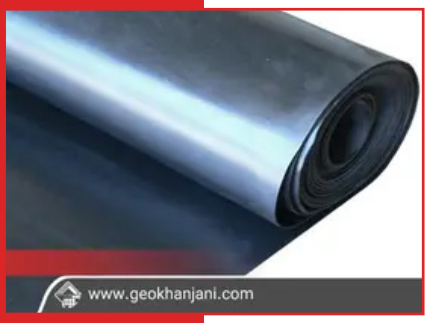
High density polyethylene geomembrane is one of the types of geomembranes which is known as a solution with high chemical resistance and special durability. This geomembrane sheet has a very good resistance to sunlight and is also economically evident. Also, the price of this geomembrane sheet is more reasonable than other similar materials. This type of geomembrane sheet also has a very high resistance to moisture.

VLDPE geomembranes



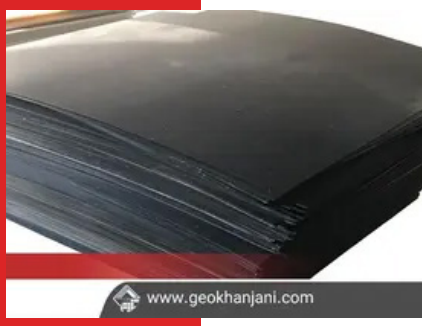
very low-density polyethylene, is a type of geomembrane sheet that is especially recommended by Germany for sealing underground structures due to its unique features. Since the density of this type of geomembrane is lower in depth than HDPE geomembrane, its ability to prevent water infiltration and prevent seams and cracks in underground structures is much better.

LLDPE geomembranes



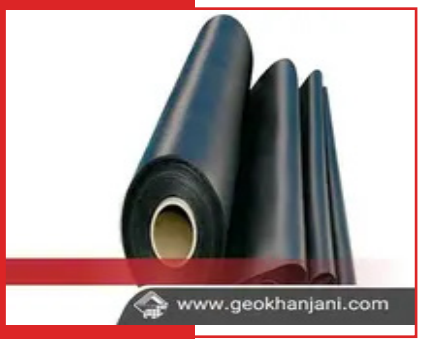
Linear low-density polyethylene geomembrane is clearly recognized as one of the similar types of HDPE geomembrane. This means that this type of geomembrane reacts with high chemical resistance and long life against the damaging effects of ultraviolet (UV) rays. For this reason, LLDPE geomembrane cover is suitable for applications such as dam construction in agriculture and soil cover. This type of geomembrane is one of the most resistant geomembrane sheets and is especially approved in spaces with limited dimensions and small applications. Also, this material can be a good substitute for PVC geomembranes.

RPF geomembranes



A type of geomembrane that consists of synthetic polymers as the main material. RPP stands for Reinforced Polypropylene and due to its high resistance to breakage, corrosion, sensitivity to chemical factors and mechanical stresses, it is suitable for use in harsh and high-risk environments.

TRP geomembranes



These types of geomembranes are made of thermoplastic polymer and are used in construction and projects related to civil engineering, environmental protection due to their high fracture resistance, high thermal stability, flame resistance and chemical stability. It is used in agriculture and life. These covers are made of different polymers such as polyethylene, polypropylene, PVC, etcnts.

Modified Polymer geomembranes



Modified geomembrane is designed in such a way that whether it has a one-sided surface texture or a double-sided surface texture, it improves the friction between the two layers. In fact, Modified geomembrane has an uneven surface that can adjust the friction coefficient of steep slopes and make it suitable for urban engineering. This type of geomembrane is generally offered in rolls and in different thicknesses and can be used in many different industries such as construction industry, oil and gas industry, mining industry and agricultural industry.

Applications:

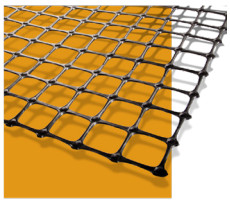
- Construction of swimming pool using geomembrane
- The use of geomembranes in the green space of the roofs

Advantages:

- Complete insulation of the pool
- Long life
- High installation speed
- Cost reduction

Table of technical specifications of types of geomembranes:

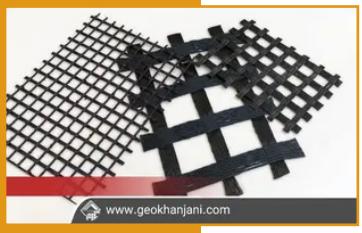
Polymer Type	Thickness (mm)	Specific Weight (g/cm^3)	Water Absorption	Thermal Stability (°C)	Moisture Resistance	Resistance to Humidity
HDPE	0.5 – 3	0.94 – 0.96	Low	–50 +80	Good	Good
LDPE	0.5 – 2	0.91 – 0.93	Low	–50 +80	Good	Good
PVC	0.5 – 1.5	1.3 – 1.45	Low	–20 +60	Good	Good
TPO	0.5 – 2	0.9 – 1.2	Low	–40 +80	Good	Good
Polypropylene (PP)	0.5 – 2	0.92 – 0.95	Low	–10 +100	Good	Good
EPDM	0.5 – 2.5	1.1 – 1.5	Low	–45 +120	Good	Good
TPE	0.5 – 5	0.9 – 1.2	Low	–50 +120	Good	Good



Geogrids

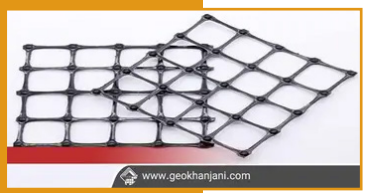
Geogrid is a type of geosynthetic material that is used to improve and strengthen soil and similar materials in construction and civil works. These materials are produced from polyester, polyethylene, or a combination of these materials with other similar materials and are prepared in the form of mesh sheets with various thicknesses, dimensions, and sizes. Geogrid is used in various construction works and its performance and applications depend on the type of geogrid used. These materials help to strengthen and stabilize the structures as well as the filtration of solid materials in the soil.

Woven geogrid



It is a synthetic type that consists of polymer fibers and is woven. This type of geogrid is used to strengthen the soil, surfaces and structures.

Injection geogrid



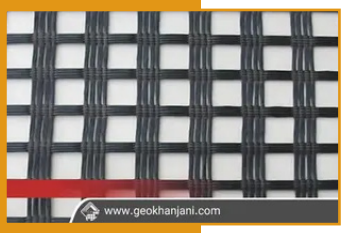
It is a type of geogrid that is injected in liquid form and then created by applying pressure and hardening as a reinforcement and base layer. These geogrids are produced from polymeric materials such as polypropylene and may have cross strands.

Connection geogrid



They are also called Geotextile–Geogrid Composite, they consist of a fabric layer (geotextile) and a network layer (geogrid) connected to each other. These types of geogrids, by combining the two main features of these two layers, i.e. load absorption and distribution, can act as a very excellent geotextile–geogrid structure.

Fiberglass geogrid



It is considered a type of geogrid that uses fiberglass fibers as the main material in its structure. Fiberglass consists of silicon glass fibers that are formed as filaments and connected by cross polymerization.

Polyester geogrid



It is a type of geogrid that uses polyester as its main structural material. Polyester is a type of polymer that is formed as a polymer structure. In the production process of polyester geogrid, polyester fibers are combined in a cross network.

Polyethylene geogrid



It is an example of geogrids that is produced from polyethylene as the main material. Polyethylene is a type of thermal polymer that is formed as a polymer structure. These types of geogrids are made of polyethylene fibers in the form of a network structure, which in the production process, connect thermal polymer materials to each other in a linear or network form.

Biaxial geogrid



It is a type of geogrid that has the ability to strengthen in both transverse and longitudinal directions. This type of geogrid consists of fibers with very high resistance and is seen as a network structure of cross–shaped strips. The fibers in the two–way geogrid are strongly and effectively located in both the transverse and longitudinal directions.

Uniaxial geogrid



It is a type of geogrid that acts as a reinforcing direction in only one direction. These geogrids are often produced as long and narrow strips with strong fibers in the longitudinal direction, while the fibers are weaker in the transverse direction.

Applications:

- Reinforcement of soils in tall structures such as towers, bridges and buildings
- Improving road surfaces and airports
- Reducing the density and displacement of soils in lands with possible problems of surface soil fall
- Strengthening areas that are usually affected by soil damage such as flooding
- Complex structures such as retaining walls
- Reducing soil pressure is used under transportation structures such as roads and rails.

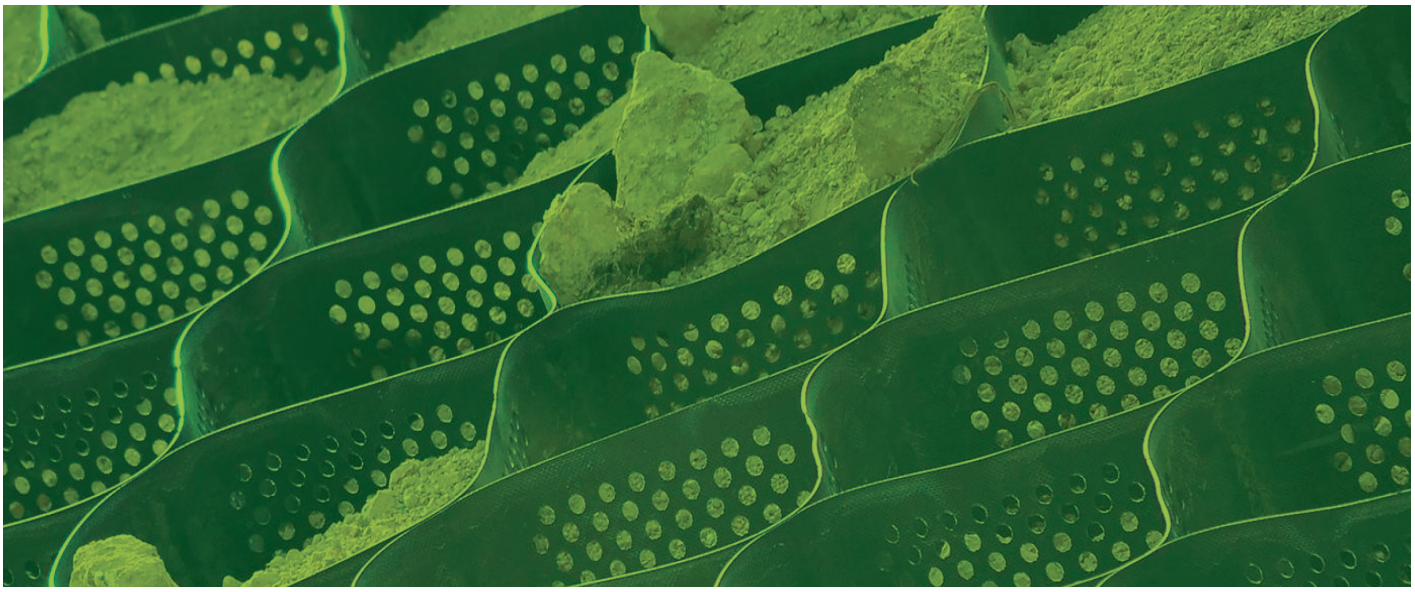
Advantages:

- Economical
- Environmental protection
- Increasing the useful life of structures
- Accelerate the progress of projects

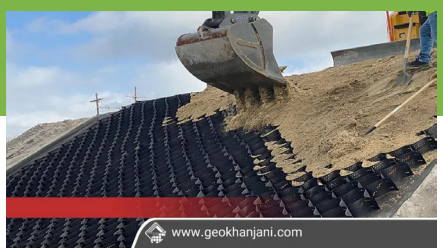


Geocells

Flexible polymer panels that are connected in the form of rhombus networks in three directions, width and height, are used to reinforce and stabilize materials such as: soil, cement, and stone. Geocell is a type of geotechnical structure that serves as a drainage and soil maintenance system used. These systems include subsequent panels that are made of polymeric materials such as high–density polyethylene or polyester.









- **Ariancell**
  Ariancell system is a tightly interconnected network of HDPE geocell cells, which has the ability to enclose filler materials such as concrete.
- **Slope geocell**
  The main purpose of the slope geocell is to protect the soil erosion in the slope.
- **Reinforced soil geocell**
  A support system under road construction and building structure.
- **Roof Garden geocell**
  This type of geocell is used for the drainage of plants on the roof of the building.

Applications:

- Unpaved roads
- Fast retaining walls
- Soil erosion control in slopes
- Preparation of a suitable platform in the rail industry
- Solving soil maintenance problems
- Strengthening soil stability
- Protection of canal systems
- creating vegetation on rocky surfaces and steep slopes.

Advantages:

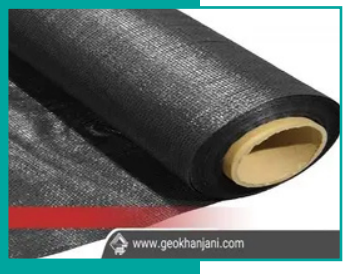
- Easy installation
- Reducing land operational costs
- Can be used in sloping and variable areas
- Diversity and flexibility based on environmental conditions
- Exploitation of limited spaces in transportation and storage
- Reducing the duration of construction and the need for manpower



Geotextile

It is a type of advanced fabric made from various fibers and used for a variety of applications such as construction, environment, agriculture, and oil and gas industries. These fabrics are produced using advanced technologies and offer an ideal alternative to various designs due to features such as high stability, cost reduction, and increased efficiency. Also, geotextile is of special importance due to its resistance against external factors such as water, soil, heat and earthquake.

Thermobonding geotextile



It has high resistance to moisture, breakage, corrosion and light corrosion, resistance to sunlight, stability against different weather conditions and the ability to absorb and separate water. It will be used in the field of construction, dam sealing, strengthening the road bed, resisting the soil pressure at the base of the bridge and loading on soft ground.

Thermofuse geotextile



It is a type of geogrid that acts as a reinforcing direction in only one direction. These geogrids are often produced as long and narrow strips with strong fibers in the longitudinal direction, while the fibers are weaker in the transverse direction.

Soil filter geotextile



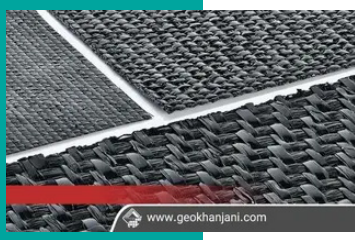
It is often used to separate two layers of soil with different particle sizes so that each of them can maintain its integrity and performance. Also, soil filter geotextile is a type of geotextile that is used for water and air filtration systems and separation of soil and plant particles from fluids.

Non–woven geotextile



of short and long fibers that are randomly placed in layers and distributed like a felt network. The basic applications of non–woven geotextiles can be mentioned in the protective covering of transmission pipes, erosion control, asphalt coating, protection and drainage of artificial grass.

woven geotextile



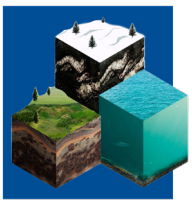
It is a type of engineering fabric that consists of materials such as polyester, nylon, polypropylene or cotton and other fibers and is usually used for protective coatings in construction and engineering projects. These fabrics have characteristics such as high resistance to scratches, tears, wear and moisture, and also have high resistance to temperature changes, UV rays and chemicals.

Applications:

- Construction of roads and highways
- Construction of pumping stations
- sewage treatment plants
- Construction of dams and tunnels
- Bridge construction, stabilization of soil and river sediments
- Coastal protection against floods and storms

Advantages:

- High strength
- Permeable and porous structure
- High water absorption
- Useful life of 30 years
- High water flow control
- No user restrictions



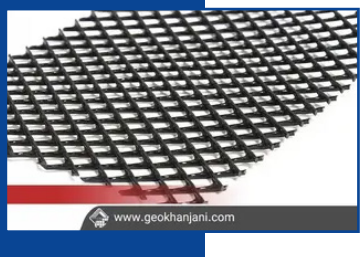
Other geosynthetics

Geofoam



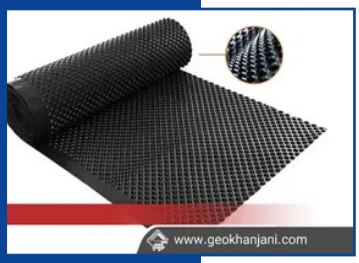
Geofoam is expanded polystyrene (EPS) or extruded polystyrene (XPS). This type of geofoam is produced and distributed in large lightweight blocks. The important use of geofoams is to fill the empty space under the highway, near the bridge, embankment or parking lot, and sometimes these types of geofoams are used to fill some building columns

Geonet



It is a type of ground layering that is made of materials such as high-density polyethylene and has a unique three-dimensional structure that is formed in the form of a checkered grid. Geonet is used as a geotechnical engineering element in construction projects, environmental protection, meteorology, road construction.

Dimple sheets

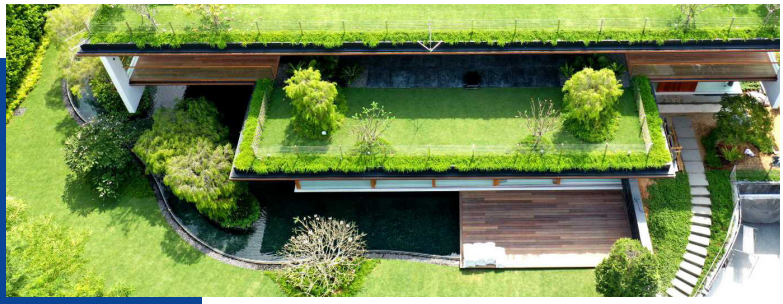


They are used as reinforcing sheets for different structures and surfaces. They have features such as pressure resistance, high drainage capacity, quick installation, and long service life. Dimple sheets can be used in a variety of projects including road construction, railways, dam construction, slope protection, horticulture, sports fields, tunnels, construction projects, and infrastructure.

Geodrains

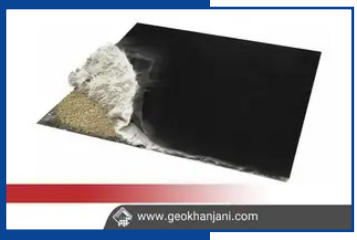


They are a type of geocomposites that are produced to drain infiltrating water and filter fine particles. Geodrain is a dual-core drainage sheet consisting of a non-woven geotextile filter layer thermally welded to a water impermeable HDPE drainage membrane.



3D drainage is one of the types of geodrain and is used in areas such as basements, underground garages, parking lots, roof terraces and roof gardens.

GCL (Geo synthetics clay liner)



It is a type of geocomposite that uses a combination of geosynthetic sheets and clay layers to prevent water leakage. GCL is known as the newest method in the field of sealing and dam construction in civil projects and is used as a reliable, efficient, economical and fast installation solution in protecting water resources and the environment.

Geocomposite



It is a polymer material that consists of a combination of nano, micro and macroscopic parts. This substance has unique physical and chemical properties and is used in various industries such as civil engineering, marine, automotive and aerospace. Among the main advantages of geocomposite is resistance to various pressures, corrosion, wear and heat.



Industrial machinery and tools

Arian welding machine



Geomembrane sheet welding machines are among the important tools in the construction industry. Geomembranes are used as a type of protective covering in structures and buildings to prevent the penetration of water, moisture and gases

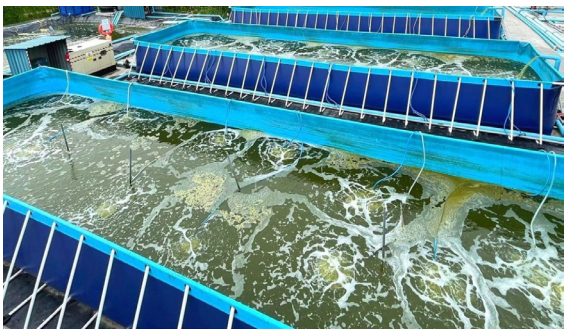
Extruder Welding Machine



It is a type of welding machine that is used to connect two plastic pieces together using heat and pressure. This device is used to connect plastic parts in various industries such as automotive, electronics, construction, etc.

Services

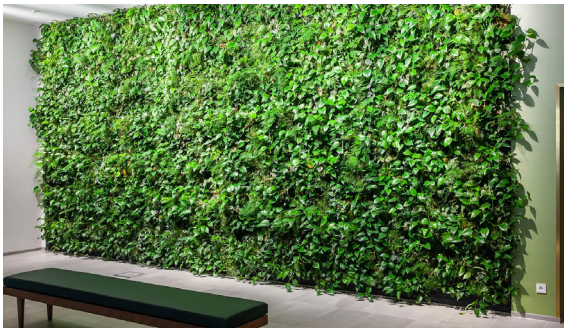
Construction of Various Types of Pools



- Agricultural Pools
- Fish and Shrimp Farming Pools
- Algae Cultivation Pools
- Water Storage Pools
- Pool Insulation

Architecture



- roof garden
- Green Walls
- Drainage Systems
- Artificial Lakes
- Foundation Insulation and Drainage

Other Services



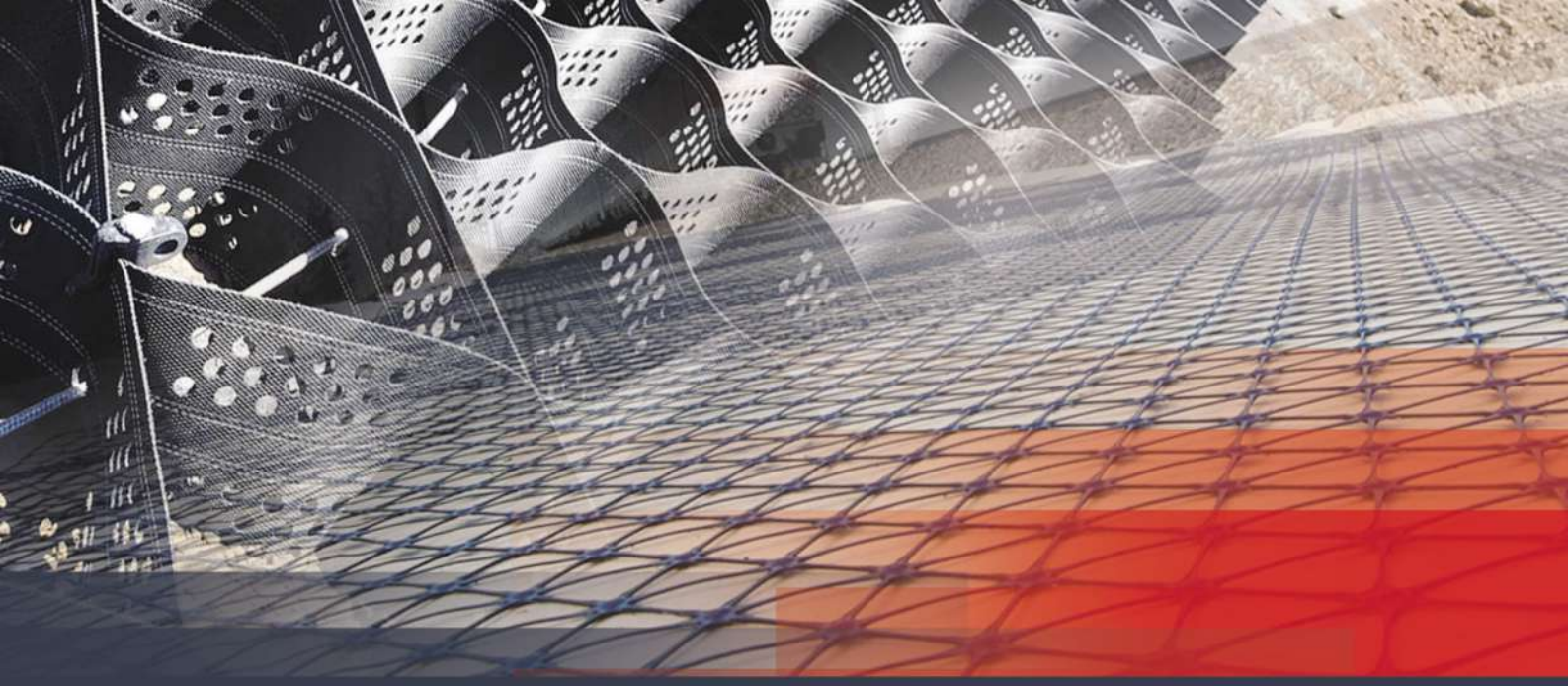




- Evaporation Pond Construction
- Construction of water transfer channel
- Insulation of Oil Tanks

conclusion

Arian Khak Iranian Company produces all kinds of geosynthetic products including geomembranes (HDPE, PVC, LLDPE, VLDPE, EPDM), geocell, geotextile (from 150 to 1000 grams), geodrain, geogrid, geonet, dimple sheet, geocomposite and GCL and project manager. geotechnical, civil, agricultural, oil, gas, petrochemical and mining and having expert and professional personnel in the field of production, quality assurance and control, logistics and trading as one of the most specialized production sets of geosynthetic materials (geomembrane, geotextile, Geocomposite, geogrid and waterstop according to the international standards governing the plastic industry) in various civil engineering, oil, gas and petrochemical industries, dam construction, road construction and tunnel construction in Iran, has put quality improvement with a customer–oriented perspective at the forefront of its actions.



Arian Khak
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Provision of geosynthetic products and services

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