



Comprehensive Introduction to Geocell

Shahriyar Baspar Arian

☎ 00989120204952

Shahriyar Baspar Arian

Introduction and Definition of Geocell

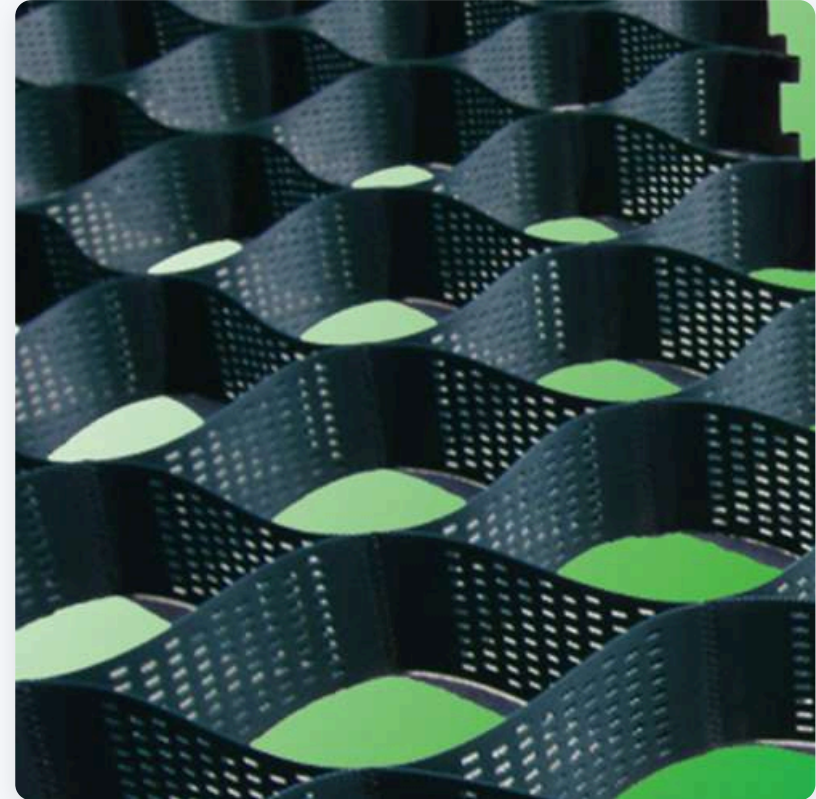
Geocell is a **three-dimensional polymeric material** from the geosynthetic product family with a **honeycomb structure** that increases shear strength and prevents soil landslides.

🕒 History: Developed in the 1970s for military applications

📍 Position: One of the key products in the geosynthetic family

🔧 Structure: Expandable three-dimensional panels made of polyethylene

🌐 Global use: In over 50 countries for engineering projects



Structure and Types of Geocell

Types by Material

◆ HDPE Polyethylene
(Geomembrane)

✿ Polyester (Geotextile)

Types by Structure

▣ Integrated Model

⊞ Perforated Model

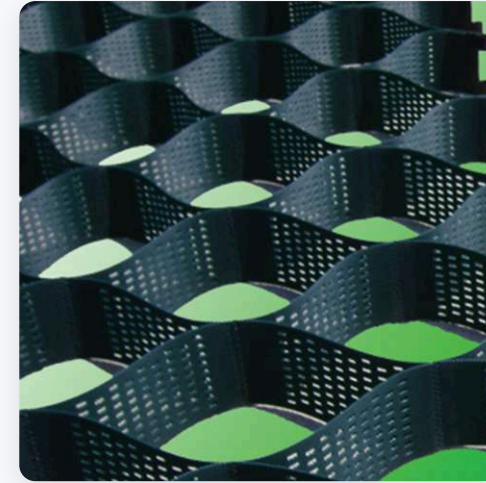
⊞ Burst Model

Types by Connection Method

🔥 Welded Model

✂ Glued Model

🧵 Stitched Model



Honeycomb cellular structure of Geocell



Different types of Geocell with various structures

Advantages and Disadvantages of Geocell

👍 Advantages

↗ Increases load-bearing capacity and soil stability

↘ Reduces settlement and soil erosion

💧 Maintains soil moisture and nutrients

🌱 Supports vegetation growth

💰 Reduces maintenance and repair costs

🔧 Easy installation and implementation

👎 Disadvantages

🏠 Requires suitable infrastructure for installation

🔗 Requires high precision in connecting strips

☀ Requires protection against UV radiation

💧 Requires water supply for vegetation growth



Applications of Geocell

Industrial Applications

- ⚙️ Roads, railways, ports and airports
- 💎 Foundation reinforcement and load-bearing capacity
- ↘️ Reduces settlement and erosion
- 🔲 Creates soil or sand paving
- 🏗️ Building retaining walls



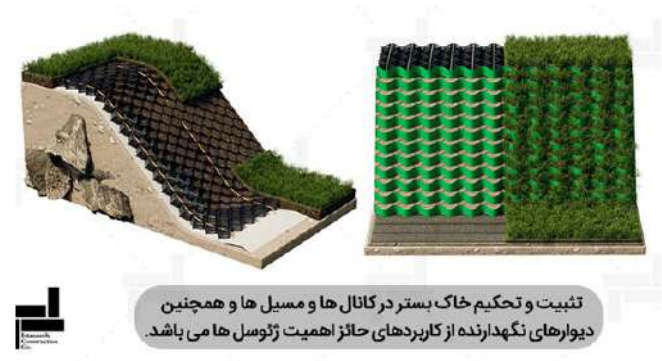
🌱 Agricultural Applications

- 🌱 Soil reinforcement for vegetation growth
- 💧 Maintains soil moisture and nutrients
- ⬆️ Controls erosion on steep slopes
- 🌾 Increases crop yield



🏗️ Construction Applications

- ⬆️ Building sloping walls with green spaces
- P Creating parking lot paving
- 🏗️ Building light and heavy infrastructure
- 🌊 Building coastal roads with sand materials



Installation and Execution Methods of Geocell

1 Creating Suitable Infrastructure

- 🔧 Leveling the soil surface
- 🗑️ Removing plants and unnecessary materials
- 🧼 Cleaning and preparing the soil surface
- ⚙️ Compacting the soil surface



2 Connecting Geocell to Ground Surface

- 🔗 Opening Geocell from accordion state
- 📌 Securing with metal or plastic pins
- 🔗 Connecting strips with welding, glue or stitching
- ⚙️ Ensuring complete cell opening



3 Filling Geocell with Materials

- ⬆️ Selecting suitable materials (soil, sand, gravel)
- 📦 Distributing materials evenly
- ⬆️ Controlling material height (higher than Geocell)
- ⚙️ Compacting materials with suitable equipment



Introduction to Shahriyar Baspar Arian Company

Shahriyar Baspar Arian

History and Activities

- 📅 Active since **2007** in geosynthetic products
- ↗️ Started with geomembrane (HDPE) sheet production
- 🏗️ Diverse products: geomembrane, geotextile, geogrid, dimple sheets, geocell
- 🌐 Leading geosynthetic producer in the Middle East

📍 Tehran, Yousef Abad, Jahan Ara St., 27th St., No. 67, 3rd Floor

🏭 Factory: Shahriyar County, Amirieh Industrial Town

☎️ 021-88005043 | 0912-0204952

Products and Services

- ✅ Products meeting global standards
- 🏗️ Geomembrane types: HDPE, EPDM, LLDPE, PVC, VLDPE
- 📐 Geotextile (100-1000g), geogrid, geocell, geodrain
- 🌊 3D drainage, geonet and various geocomposites
- 👷 Implementation services with expert teams in Iran and Middle East

Successful Projects

- 🌊 Agricultural water storage ponds
- 🐟 Fish, shrimp and algae farming ponds
- ⚙️ Foundation waterproofing (building excavations)
- 🏠 Hip leaching ponds and water transfer channels

1M+

Square meters
implemented





15+

Years of experience


50+


Successful projects


Summary and Conclusion

-  Geocell: **effective and economical** soil reinforcement solution
-  Increases **load-bearing capacity** and reduces settlement
-  Wide application in **engineering, agricultural and construction** projects
-  Quick and easy installation with **low maintenance costs**

Contact Information

 **Head Office:** Tehran, Yousef Abad, Jahan Ara St., 27th St., No. 67, 3rd Floor, Unit 5

 **Factory:** Tehran, Shahriyar County, Amirieh Industrial Town

 **Phones:** 021-88005043 | 021-88009862 | 021-88009861

 **Mobile:** 0912-0204952

 **Website:** www.shahriyargaspar.com

 **Email:** info@shahriyargaspar.com

Thank you for your attention

