EGS GEOSYNTHETICS
Ecoweb™ Confinement System

ecoweb™

Ecoweb™ Confinement System

Introduction

• The Ecoweb™ Confinement System utilizes a three dimensional honeycomb structure to provide stabilization across a wide variety of applications like erosion control, soil stabilization, load support and earth retention.

• An Ecoweb™ is mainly made with ultrasonically-welded virgin High-Density Polyethylene (HDPE) with Ecoloy® Formula that are expanded on-site and filled with sand, soil, rock or concrete, etc.

Application

• Load Support
• Retaining Wall
• Slope Protection
• Channel Protection
• Ground Stabilization

ECOWEB™ Advantage

• **Virgin HDPE basic with Unique Ecoloy® Formula**.
• Ecoweb™ Tensile Strength reaches **33000 kN/m² (33 MPa)** due to **Ecoloy®**.
• Ecoweb™ Seam Peel Strength above **16 kN/m**. (USACE GL-86-19), Split Strength above **28 kN/m**. (EN ISO13426-1 Method C)
• Various weld spacing available from **220mm to 1000mm**.
• Various strip height available from **25mm to maximum 300mm**.
• Maximum strip length reaches **8m**, expanded width reaches **6m**.
• Reduce construction thickness, improve load and bearing capacity, long life span, save maintenance cost.
• Easy to transport, all weather installation with high construction speed.
• Local infill materials available, ungraded or recycled materials are acceptable, reduce construction cost.

Contact

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ECOWEB™

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cellular confinement system

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ECOWEB™ GEOCELL

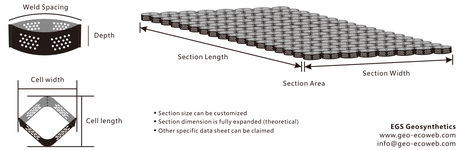
Cell

• Cell Depth	-	50 mm - 300 mm (±0.5 mm)
• Weld Spacing	-	220 mm - 1000 mm (±1.0 mm)
• Color	-	Black ● Green ● Sand ●

Property	Test Method	Value
• Material	-	Virgin HDPE basic (Ecoloy® Formula)
• Density	ASTM D1505	0.945-0.960 g/cm³
• Thickness (Smooth)	ASTM D5199	1.20 mm (-5% +10%)
• Thickness (Textured)	ASTM D5199	1.50 mm (-5% +10%)
• Carbon Black	ASTM D1603	≥ 1.5 %
• Seam Peel Strength	USACE GL-86-19	≥ 16 kN/m
• Tensile Strength at Break	ASTM D638	≥ 32000 kN/m² (TD) / ≥ 30000 kN/m² (MD)
• Elongation at Break	ASTM D6693	≥ 900 % (TD) / ≥ 480 % (MD)
• Oxidative Induction Time	ASTM D3895	≥ 150 min

Standard Dimension	356 mm	445 mm	712 mm
• Nominal Expanded Cell Size	252 mm x 252 mm	315 mm x 315 mm	503 mm x 503 mm
• Nominal Section Size	2.52 m x 7.30 m	2.52 m x 9.12 m	2.52 m x 14.60 m
• Nominal Section Area	18.37 m2	22.96 m2	36.74 m2

Drawing



• Section size can be customized
• Section dimension is fully expanded (theoretical)
• Other specific data sheet can be claimed

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Retaining Wall

What

The ECOWEB™ system provides steep vertical mechanically stabilized earth structures (either gravity or reinforced walls) for steep faces, walls and irregular topography. This structure is able to retain the earth behind it by virtue of its weight. Local soil can be used for infill when suitable and granular, while the outer faces enable a green or tan fascia of the horizontal terraces/rows utilizing topsoil.

Where

Typical Applications Including:

Green Walls
Steepened Slopes
Dams
Sound Barriers
Embankment
Flood Defense Bunds
Gravity Walls

Why ECOWEB

Typically the ECOWEB™ system is inexpensive to build and can be built in almost all weather conditions. They adds color to the area, and softens the appearance of the wall face, absorb water from flowing down the slope.

Also they bring marvelous benefits:

- Absorbs energy making it highly resistant to seismic activity.
- High resistance to photo-oxidation, UV, acid and alkali, low creep.
- Green wall with vegetation on the outer rows for an aesthetic retention solution.
- Forms a composite structure that behaves as a monolithic mass, even in soft foundation soils.

Load Support

What

The ECOWEB™ system has been used to improve the performance of both paved and unpaved roads by reinforcing the soil in the subgrade-base interface or within the base course. It prevents the lateral displacement of infill materials which eliminates rutting and washboarding usually associated with gravel pavements, creates a strong, stiff cellular mattress.

Where

Typical Applications Including:

Access Roads
Tree Root Protection
Permanent Load Supporting Surfaces
Paved and Unpaved Roads
Port Facilities
Transportation Yards
Railroads
Parking Lots
Golf Cart Paths

Why ECOWEB

The ECOWEB™ system allows for a reduction in overall base thickness, and a lower quality, lower cost infill material can be used in situations where quality aggregates are not readily available and helps to create pavements on soft soil subgrades.

- Increases layer strength, reduces layer thickness and wearing course.
- Simple installation, all-weather suitable, fast and convenient.
- Locally available, ungraded or recycled materials can be used for infill.
- Increases lifespan, reduces repairs, maintenance cycles and downtime.
- Provide green sustainable construction method.

Slope Protection

What

The three-dimensional lateral confinement of the ECOWEB™ system along with anchoring techniques ensures the long-term stability of slopes using vegetated topsoil, aggregate or concrete surfacing. The enhanced drainage, frictional forces and cell-soil-plant interaction of ECOWEB™ prevents downslope movement and limits the impact of raindrops, channeling and hydraulic shear stresses.

Where

Typical Applications Including:

Spillways
Embankments
Geomembrane Protection
Dikes and Levees
Abutment Protection
Landfill Lining
Steep Slopes

Why ECOWEB

The ECOWEB™ system can provide a means of fully vegetating slope surfaces where this would not otherwise be possible. Contributed by the 'cell' type, it can contain a variety of infill materials, which greatly improves resistance to erosive forces such as rainwater run-off on steep or unstable slopes.

- Enable the flow of Water, Nutrients and Soil Organisms.
- Improve the growth of the vegetation, soil health and visual landscape.
- Protect embankments and slopes with the steep angle to save land and costs.
- Allows embankments to be steeper than when unconfined, reducing use of valuable land space.

Channel Protection

What

The ECOWEB™ system can be used to protect channels from challenging erosion conditions or continuous flow. It confines the infill within the cellular structure and assuring effective subgrade drainage and subsoil protection. The system also enhances the performance of vegetation through reinforcing root zones and directing flows over the top cells, makes them compatible with the local environment and ecology.

Where

Typical Applications Including:

Storm Water Diversion
Storm Water Containment
Spillways
Culvert Outfalls
Drainage Channels
Drainage Ditches

Why ECOWEB

The ECOWEB™ system allows the use of various types of infills, including soil with vegetation, aggregate, concrete or combination, increasing the shear resistance of the fill and providing a finished site that is aesthetically superior when compared to conventional methods.

- Green wall with vegetation on the outer rows for an aesthetic retention solution.
- Enable the flow of Water, Nutrients and Soil Organisms.
- Protect embankments and slopes with the steep angle to save land and costs.
- Allows embankments to be steeper than when unconfined, reducing use of valuable land space.