



PRESTORUS LLC

ENGINEERING. MANUFACTURING. CONSTRUCTION.



Innovative
geosynthetics
appliance in
construction





PRESTORUS TODAY

ONE OF THE LARGEST PRODUCERS OF THREE-DIMENSIONAL CELLS

- Manufacture in the Special Economic Zone “Lipetsk”
- 5,7 ha of area
- 8 500 m² of production area





PRESTORUS TODAY

MODERN EQUIPMENT

- HERRMANN
- KRAUSS MAFFEI
- INSTRON
- Full production cycle
- Quality testing lab





PRESTORUS TODAY QUALITY TESTING LAB

In order to ensure continuous quality control, there is a quality control laboratory at the production site

- input control of raw materials
- operational control of the product quality at all stages of production and
 - take-out tests of the finished products

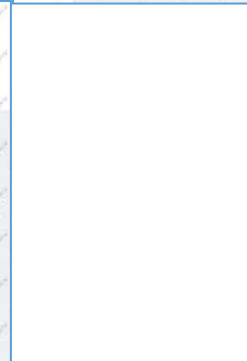
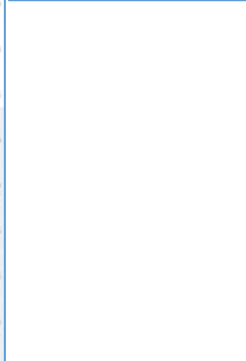
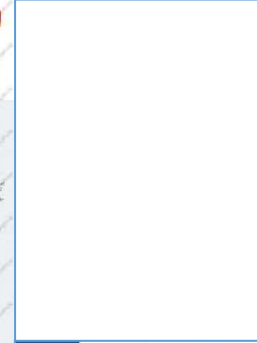
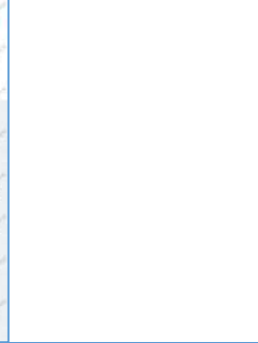




QUALITY MANAGEMENT SYSTEM

The PRESTORUS quality management system has been tested and found to comply with the requirements of the international standard ISO 9001: 2008 (GOST ISO 9001-2011) for the development, production, wholesale, integrated supply of geosynthetic materials and components.

Also, as part of the international certification of the Factory Production Control, FPC certificates were obtained for all products manufactured by the company.





PRESTORUS TODAY

PRODUCTS OF HIGH QUALITY IN A WIDE RANGE OF ASSORTMENT AT GREAT PRICES

- Qualitative raw material from the manufacturer
- Three stage quality control
 - ✓ Raw material
 - ✓ While manufacturing
 - ✓ Final product
- High productivity of equipment (500 tones/ month or up to 10 000 000 m2/ year)
- Owned manufacture of components
- Privileges of the SEZ (i.e. tax benefits)





EQUIPMENT

Two extrusion lines

- ✓ Increase in productivity by over 3 times (from 145 tons to 450 tons per month)



Two ultrasonic welders

- ✓ Increase in productivity by 2 times (from 180 tons to 330 tons per month)





FOCUS PRODUCTS

New production site for:

- **GEOCORD®** - reinforced geocell for road construction and other applications, with enhanced strength performance
- **HDPE GEOCELL** - standard geocell





NEW PRODUCTS

New production site for:

- **GEOSTEP®** - weld-free rolled geocell for slope protection, almost twice as cheap as a standard geocell (*width 3,2 m and thickness 1mm - 3mm*)
- **GEOMEMBRANE** (*width 3,2 m and thickness 1mm - 3mm*)

Estimated output:

- **GEOSTEP®**
 - **GEOMEMBRANE**
- } *up to 300 tons per month*





ACCESSORIES

- **Steel fittings** (diameter 10-12 mm)
Output per day: 6000-12000 pcs
- **Composite fittings** (diameter 8-10 mm)
Output per day: up to 2000 pcs
- **ATR-clip**
- **PRUTTEKS**
- **GEOFORCE®**
- **Other connecting and fixing devices**





STORAGE

Storage area:

- Indoor storage area – 2 700 m²
- Outdoor storage area – 120 m²





INTELLECTUAL PROPERTY

MORE THAN 20 INVENTIONS AND UTILITY MODELS





INNOVATIVE APPROACH

TODAY, OUR EFFORTS ARE AIMED AT DEVELOPING INNOVATIVE SOLUTIONS IN THE FIELD OF GEOSYNTHETICS

We strive to create new materials and improve the products already available in our arsenal. The goals of the development are reduction of prices not at expense of quality, increase in manufacturability, reliability, efficiency, longevity of materials, installation simplification.

At this presentation we are pleased to present to you the results of our latest developments and to share with you the advantages of the material, which we are sure will help you to optimize technical solutions, as well as to solve number of problems.

INNOVATIVE SOLUTIONS:

Application:

- ✓ reinforcement of roadbeds, embankments, platforms
- ✓ reinforcement of weak bases and structural layers of roads
- ✓ arrangement of durable technological driveways, service drives
- ✓ arrangement of parking lots for massive construction equipment
- ✓ protection of embankments, dams



GEOCORD®

Application:

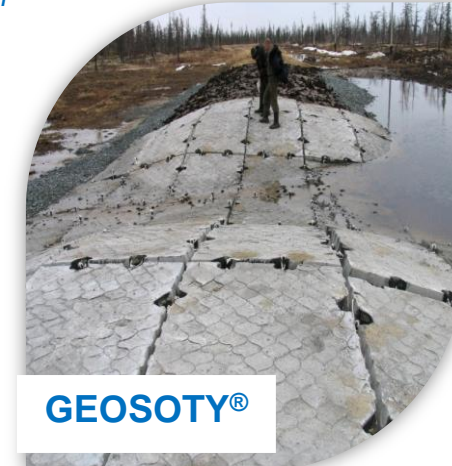
- ✓ strengthening of slopes, embankments and ditches
- ✓ landscaping



GEOSTEP®

Application:

- ✓ construction of temporary access roads for heavy machinery on soft grounds
- ✓ protection against emersion, erosion, etc.



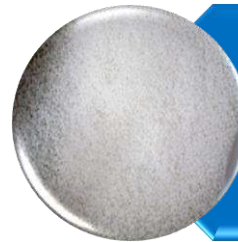
GEOSOTY®



GEOCORD®

Many manufacturers of geocells with the purpose of saving, reduce the thickness of the strip, causing considerable damage to the quality of geocell material.

Specialists of our company have developed a solution that allows to reduce the thickness of the strip without deteriorating the physical and mechanical characteristics. This solution consists in inserting a super strength reinforcing cords. Thus, a new product - **GEOCORD®** was created. The maximum positive effect of reinforcement is achieved for a geocell with perforation (most of the geocells used in projects are perforated).



HIGH-QUALITY HDPE



EXTRA HIGH REINFORCING FIBERS



GEOCORD® APPLICATION

STRENGTHENING OF BALLAST LAYERS / RAILROADS



CONSTRUCTION OF SEISMICALLY RESISTANT RETAINING WALLS



REINFORCEMENT OF WEAK BASES AND CONSTRUCTIVE LAYERS / ROADS



STRENGTHENING OF CHANNELS AND WATERCOURSES



REDEVELOPMENT AND LANDSCAPE DESIGN



EROSION CONTROL





GEOCORD® APPLICATION

SLOPE PROTECTION



FLOODED EMBANKMENTS PROTECTION

COAST PROTECTION



STRENGTHENING OF WATERPROOFS

CULVERT OUTFLOW CONSTRUCTION



TECHNOLOGICAL ACCESS ROADS CONSTRUCTION



GEOCORD® ADVANTAGES

Economic Benefits:

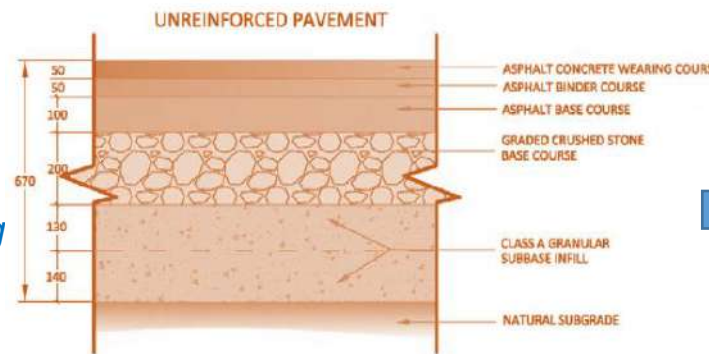
- ❑ up to 15% savings by reducing tape thickness with no damage to physical and mechanical properties
- ❑ up to 20% savings by replacing crushed stone on sand infill

Technical Benefits:

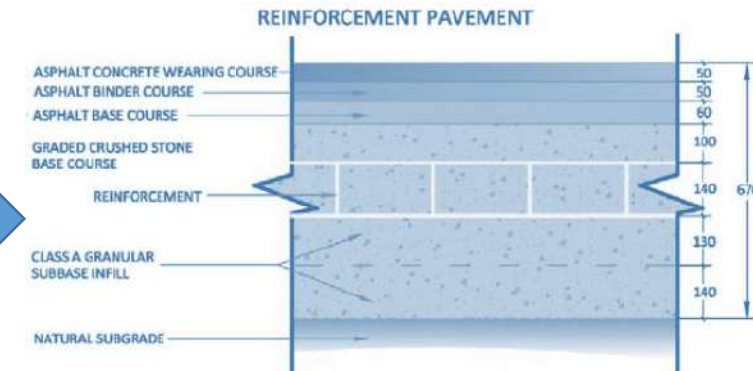
- ❑ up to 50% increase of strength properties
- ❑ up to 75 years increased product life cycle
- ❑ increased resistance to long-term dynamic and static loads
- ❑ resistance to deformation under multiple temperature changes
- ❑ 100% resistance to repeated freezing and thawing
 - ❑ 100% resistance to UV-oxidation
 - ❑ 98% resistance to cyclic loads

Functional Benefits:

- ❑ reduction of vertical stress on subgrade layer by 67%
- ❑ reduction of road surface thickness by 22%
- ❑ increase of load-bearing capacity by 10%
- ❑ increase of resistance to loads by 35%
- ❑ reduction of plastic deformation by 35%
- ❑ increase of service life of constructions by 55%



lifetime 8 years



lifetime 12 years and over



PROBLEMS OF SLOPE STABILIZATION DISADVANTAGES OF TRADITIONAL CONSTRUCTIONS



When building artificial earthworks, the problem of slope destruction under the influence of erosion processes is almost inevitable. Unfixed backfill soil is easily amenable to erosion and weathering. The result is slope destruction, slope erosion and soil landslides.



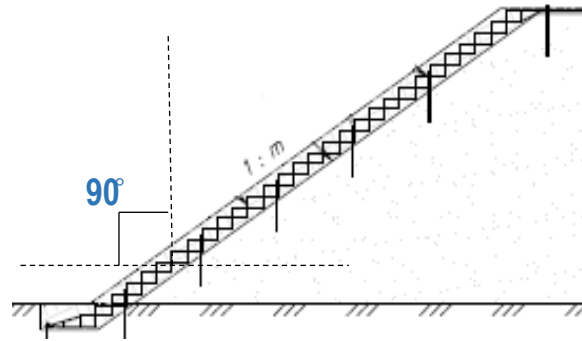
GEOSTEP® - REPLACEMENT OF TRADITIONAL GEOCELLS IN CONSTRUCTION OF SLOPES

THE WALLS OF THE GEOSTEP® CELLS ARE PERPENDICULAR TO THE HORIZON

*This drawback has been completely eliminated thanks to the innovative design of **GEOSTEP®**.*

*The walls of **GEOSTEP®** cells are perpendicular to the horizon, so the filler material is not subject to washing out or emptying from the cells, and, therefore, it is not necessary to carry out a set of correction works every year.*

This allows you to save up to 10% annually on the maintenance of the site.

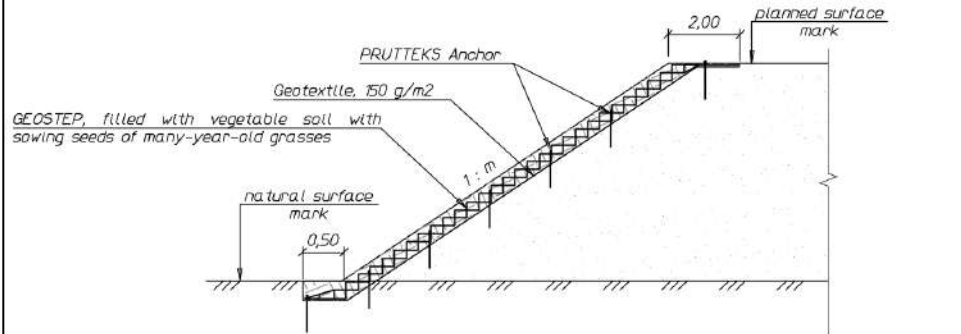


*filler is safely held in **GEOSTEP®** cells*



GEOSTEP® ON A SLOPE

Strengthening the slope with GEOSTEP



1. The structure is designed to strengthen embankment slopes up to 12 m high
2. All dimensions are in meters.

slope strengthening with
GEOSTEP®



before

reinforcement

after



GEOSTEP® in working conditions



GEOSTEP®

Functions of GEOSTEP®:

1. Reinforcement;
2. Fighting erosion;
3. Protection.

Areas of application of GEOSTEP®:

1. Strengthening of slopes of various steepness (from 20 to 65 degrees);
2. Strengthening of coastal lines and channels of reservoirs;
3. Strengthening the cones of bridges.

ADVANTAGES:

1. Reducing the cost per square meter of the geocell to 50% compared to other materials that are used to strengthen the slopes;
2. The winding of material into rolls makes it possible to simplify and speed up the laying process, to reduce the cost of shipping and transportation;
3. A large length of winding allows you to strengthen the slope completely from the sole to the edge, ensuring the monolithic strengthening;
4. The edges of the cells are perpendicular to the horizon; Reduction of the geocells offset down the slope due to the filling material;
5. Significant increase in drainage capacity.





GEOSTEP® ADVANTAGES

50m slope using traditional geocell



DISADVANTAGE:

- additional costs for interconnection of sections

50m slope using GEOSTEP®:



Long roll length allows you to strengthen the entire length of the slope just with one piece.

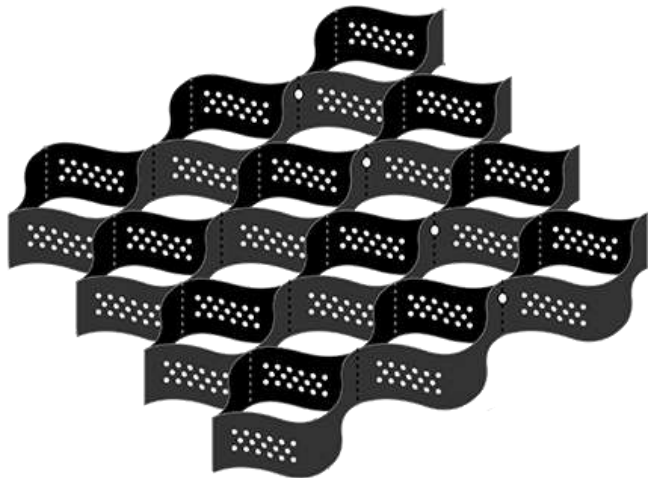
ADVANTAGES:

- integrity of construction
- time and money economy by 50%



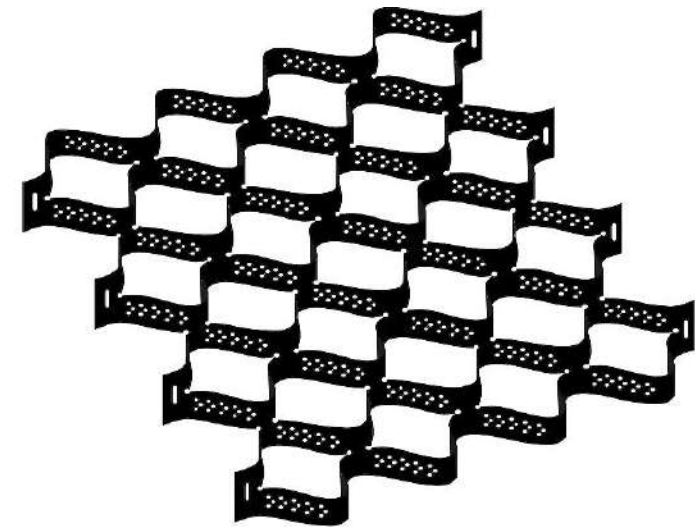
GEOSTEP® ADVANTAGES

Traditional



DISADVANTAGE:
30% more raw material needed
↓
• high cost

GEOSTEP®



ADVANTAGES:

- lighter construction
- 30% less raw material
- 30% lower price than traditional



GEOSTEP® EXPERIENCE

✓ slope protection, Moscow Central Metro Ring, 2016



✓ slope protection, Southern port of Russia (Oil & Gas site), 2016

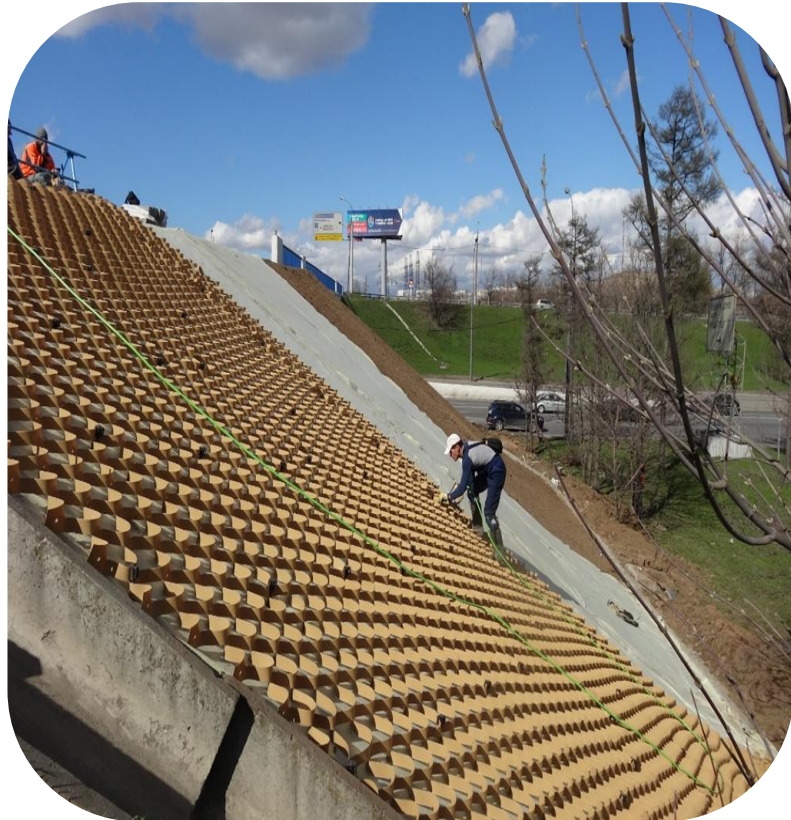




GEOSTEP® EXPERIENCE

✓ slope protection, Moscow Automobile Ring Road, 2018

✓ slope protection, Agricultural Site in Vietnam, 2018



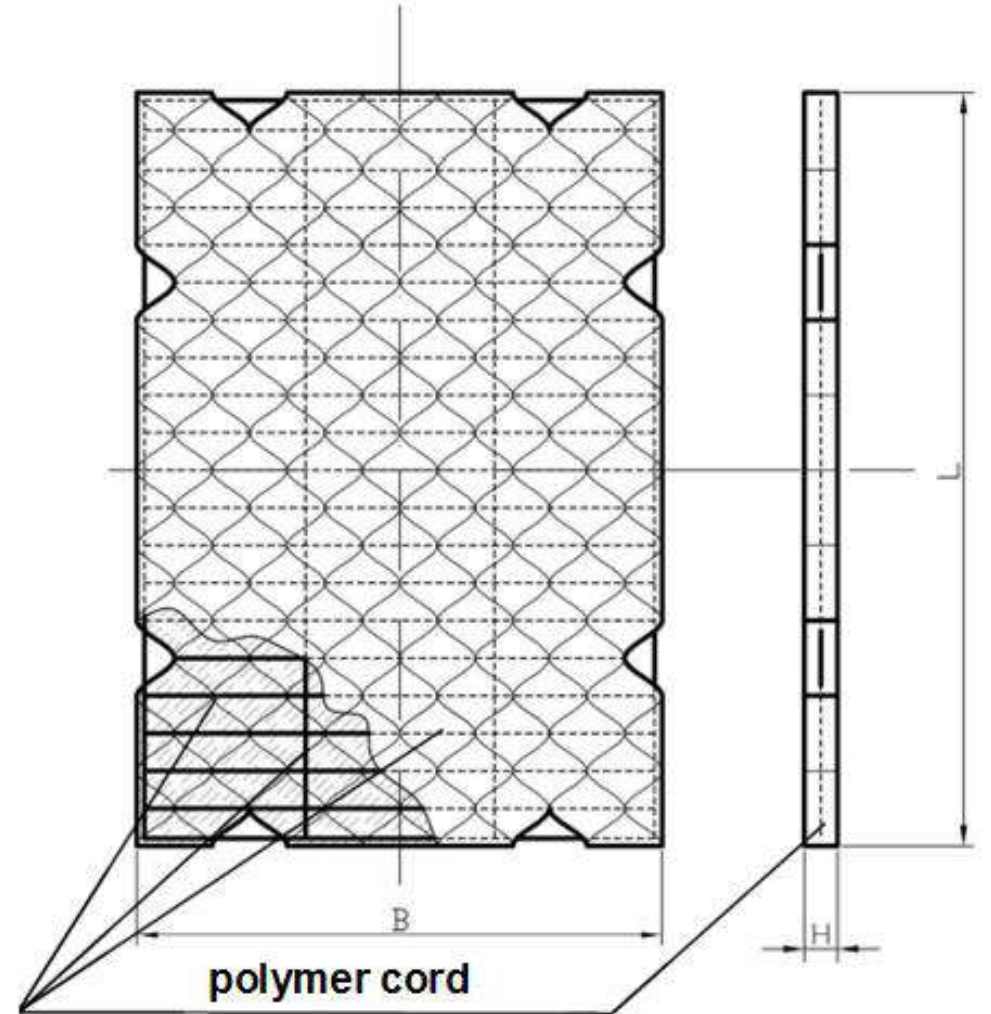


GEOSOTY®

Flexible concrete slab **GEOSOTY®** is a flexible concrete structure reinforced with a geocell and a high-strength polymer cord.



Russian Patent № 42834 and Trademark № 197076





GEOSOTY® APPLICATION

1. Coastal reinforcement measures in the downstream waters of hydraulic structures.
2. Ballasting and protection against mechanical damage of main pipelines, transitions of engineering networks and communications while laying on the bottom of water barriers.
3. Engineering protection of slopes of flooded embankments.
4. Strengthening the channels of natural and artificial culverts (rivers, ponds, reservoirs, canals, etc.).
5. Protection of the collapse of pipelines from erosion and external mechanical influences.
6. Strengthening of drainage ditches and cuvettes of highways.
7. Strengthening the cones of bridges and overpasses.
8. Construction of temporary driveways.





OUR SOLUTIONS WILL HELP TO



**DECREASE COSTS FOR
CONSTRUCTION AND OPERATION**



DECREASE TERMS OF CONSTRUCTION



REDUCE MATERIALS CONSUMPTION



**REDUCE COST OF CONSTRUCTIONS
DUE TO INNOVATIVE SOLUTIONS**



**INCREASE RELIABILITY AND DURABILITY
OF CONSTRUCTIONS**



ADVANTAGES OF WORKING WITH US

WHY PRESTORUS


1. 20+ years of experience in construction, design, appliance and supply of geosynthetic materials.
2. Own manufacturing site in the Special Economic Zone with highly-efficient modern equipment.
3. Innovative and improved products protected by international patents and trademarks.
4. Complex deliveries – project provision with all necessary components.
5. Consultations on application, design assistance, calculations support, supervision, on-site visit, personnel training.
6. Affordable prices, flexible payment terms.
7. Delivery of any volumes of products, stock presence in case of operative deliveries.
8. Presence of certificates and permits.
9. Own quality laboratory.
10. Highly qualified staff.



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PRESTORUS LLC:

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-  export.presto
-  [linkedin.com/company/prestorus](https://www.linkedin.com/company/prestorus)
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Approved

