// GEOSYNTHETICS · SOIL REINFORCEMENT

Petroseal Geogrid

Biaxial PP and uniaxial HDPE geogrids for soil reinforcement and basal stability

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Description

Petroseal Geogrid is a stiff polymer grid with integral junctions that interlocks with fill particles. It increases bearing capacity and controls deformation under embankments, haul roads and reinforced-earth structures.

Biaxial polypropylene grades reinforce in both directions for working platforms and road bases. Uniaxial HDPE grades carry load in one direction for reinforced slopes and retaining structures.

Typical uses

- Dam approach embankments and platform reinforcement
- Reinforced earth retaining structures and steep slopes
- Heavy haul road bases near hydropower sites
- Working platforms over soft ground, with a geotextile separator

Features & benefits

- High-tensile ribs for soil reinforcement and basal stability
- Biaxial and uniaxial grades for different load directions
- Carbon-black stabilised against UV
- Used under dam access roads and reinforced fill zones
- Pairs with geotextile and geocell in composite designs

Biaxial polypropylene grades

PROPERTY	TEST METHOD	20 KN/M	30 KN/M	40 KN/M
Polymer	—	Polypropylene	Polypropylene	Polypropylene
Ultimate tensile strength MD / TD (kN/m)	ISO 10319	20 / 20	30 / 30	40 / 40
Strength at 2% strain MD / TD (kN/m)	ISO 10319	7.0 / 7.0	10.5 / 10.5	14.0 / 14.0
Strength at 5% strain MD / TD (kN/m)	ISO 10319	14.0 / 14.0	21.0 / 21.0	28.0 / 28.0
Strain at ultimate strength MD / TD (%)	ISO 10319	≈ 11 / 10	≈ 11 / 10	≈ 11 / 10
Carbon black content (%)	ASTM D1603	≥ 2	≥ 2	≥ 2
Roll width (m)	—	3.95 / 5.0	3.95 / 5.0	3.95 / 5.0

Uniaxial HDPE grade

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Polymer	—	—	High-density polyethylene (HDPE)
Ultimate tensile strength (MD)	ISO 10319	kN/m	60
Junction strength	GRI-GG2	% of ultimate	≥ 95
Carbon black content	ASTM D1603	%	≥ 2

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Roll width	—	m	1.3

Application guidance

- Prepare the subgrade to the design level. Remove sharp objects and stumps. Place a geotextile separator over soft ground where specified.
- Unroll the geogrid in the direction shown on the design (uniaxial grades with the strong direction perpendicular to the slope face).
- Lay taut and flat. Pin or ballast it to prevent wrinkling and movement during fill placement.
- Overlap adjacent rolls by the minimum shown on the design (typically 300 mm or more, increasing on soft subgrades).
- Place fill from the edge forward, keeping at least 150 mm of cover between tracked plant and the grid. Do not drive directly on exposed geogrid.
- Compact fill in lifts to the specified density.

Limitations

- Cover with fill promptly. Do not leave the grid exposed to sunlight for extended periods.
- Design strength (long-term, with reduction factors for creep, installation damage and the environment) is set by the designer. Ultimate strength is not a design value.

Packaging & supply

- Rolls wrapped in protective film with grade label

Storage & shelf life

- Store on level ground under cover, away from UV, fuel and chemicals.

Health & safety

- Refer to the product Safety Data Sheet (SDS) before use.
- Wear gloves, safety glasses and appropriate work clothing during handling and application.
- Dispose of offcuts, packaging and residues in accordance with local regulations.

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