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GEOGRID PRODUCT BROCHURE

Geogrid

Geogrids are high-performance geosynthetic materials used to reinforce soil, enhance load distribution, and improve the stability of civil engineering structures. They play a vital role in roads, embankments, retaining walls, and slope protection systems. Engineered for strength, durability, and long-term performance, Geogrids ensure sustainable ground stabilization and cost-effective construction solutions.

Features:

·**High Tensile Strength**: Reinforces soil and improves load-bearing capacity.
·**Chemical & UV Resistance**: Performs effectively in harsh environmental conditions.
·**Versatile Applications**: Suitable for roads, railways, slopes, and retaining structures.

Advantages:

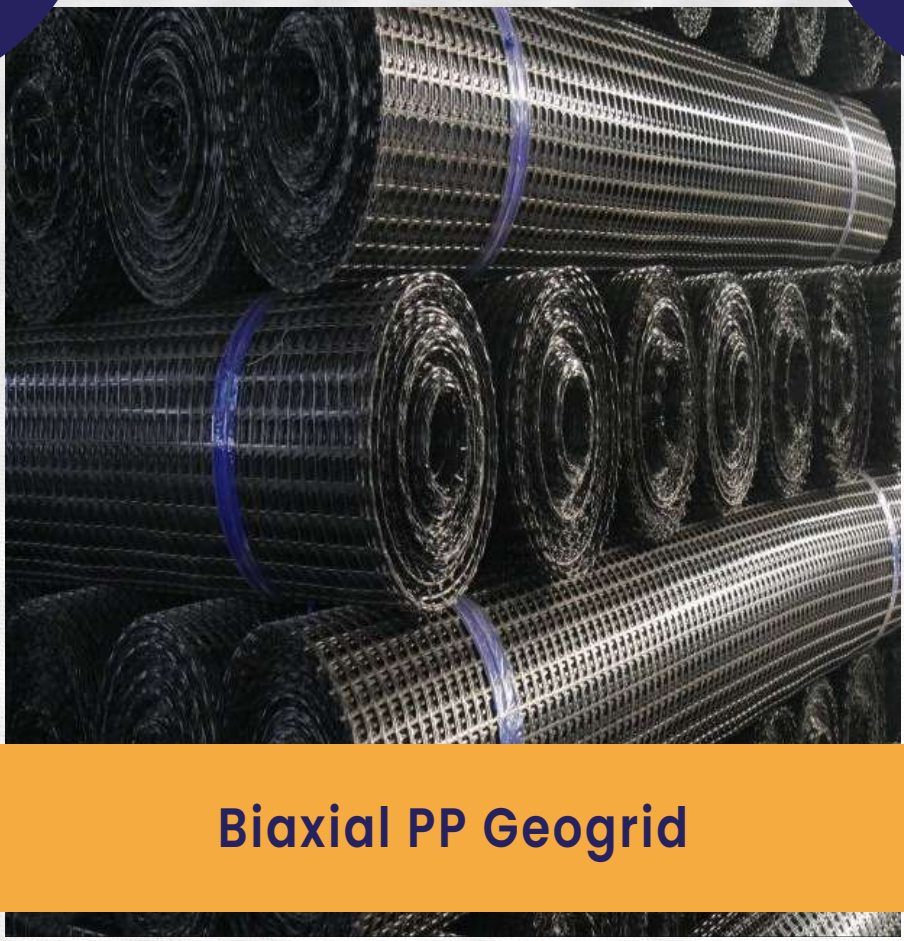
·**Enhanced Ground Performance**: Reduces deformation and prevents structural failure.
·**Cost-Effective & Durable**: Extends pavement life and minimizes maintenance needs.
·**Eco-Friendly Solution**: Promotes sustainable infrastructure development.

Types of Geogrid:

1. Biaxial PP Geogrid

2. Uniaxial Polyester Geogrid

3. Glass Fibre Composite Geogrid



Biaxial PP Geogrid

Biaxial Geogrids are high-performance geosynthetic materials engineered to reinforce soil in two directions—both longitudinal and transverse. They improve load distribution and enhance ground stability in various civil engineering projects. Manufactured using premium PP and PET polymers, these grids ensure long-lasting strength and durability under heavy loads.

Material Options:

- **PP (Polypropylene)**: Offers excellent stiffness, dimensional stability, and resistance to chemical degradation.

Prime PP Biaxial Geogrid
Product Datasheet

Prime PP Biaxial Geogrids are rigid, monolithic structures made from high-quality polypropylene for soil and aggregate reinforcement in roads, foundations, and load-bearing platforms. With square apertures and integrally formed junctions, they deliver excellent load distribution, interlock efficiency, and durability.

Product Code	Mechanical Properties								Durability	Dimensions	
	Unit Tension (kn/m)							Junction Efficiency	Resistance to UV Degradation	Typical Size mm (+5.0)	
	Ultimate		@2.0% Strain		@5.0% Strain		0.5% Redial Stiffness				
	MD	TD	MD	TD	MD	TD				MD	TD
Prime Grid PP 1515	15	15	6	6	11	11	210	>95%	100%	38	38
Prime Grid PP 1515LA	15	15	6	6	11	11	210	>95%	100%	65	65
Prime Grid PP 1616	16	16	6.5	6.5	11.5	11.5	210	>95%	100%	38	38
Prime Grid PP 1616LA	16	16	6.5	6.5	11.5	11.5	210	>95%	100%	65	65
Prime Grid PP 2020	20	20	7.5	7.5	15	15	350	>95%	100%	38	38
Prime Grid PP 2020LA	20	20	7.5	7.5	15	15	350	>95%	100%	65	65
Prime Grid PP 3030	30	30	11	11	21	21	380	>95%	100%	38	38
Prime Grid PP 3030LA	30	30	11	11	21	21	380	>95%	100%	65	65
Prime Grid PP 4040	40	40	14.5	14.5	28.5	28.5	400	>95%	100%	38	38
Prime Grid PP 4040LA	40	40	14.5	14.5	28.5	28.5	400	>95%	100%	65	65
Packaging											
Width (+0.5mm)	3.95 mtrs						Length	25,50,75 Meters			

Notes:

Tested as per ISO 10319 and ASTM D6637; values are averages within standard tolerances.

Contains >2% carbon black for UV resistance (ASTM D4355 @ 500 hrs).

Chemically stable, unaffected by acids, alkalis, or biological degradation.

Specifications may change without notice; contact info@primeterratech.com for details.

- **PET (Polyester)**: Provides superior tensile strength and creep resistance for long-term soil reinforcement.

Features:

- **Dual-Directional Strength**: Reinforces soil evenly in both axes for improved performance.
- **High Chemical & UV Resistance**: Ensures durability in diverse environmental conditions.
- **Quick Installation**: Lightweight and easy to handle on-site for faster project completion.

Advantages:

- **Enhanced Load-Bearing Capacity**: Ideal for roads, parking areas, and pavements.
- **Cost Efficiency**: Reduces aggregate thickness and maintenance costs.
- **Long Service Life**: Maintains strength and stability under continuous load cycles.

Applications :

- Road and highway base reinforcement
- Railway subgrade stabilization
- Airport runways and aprons
- Industrial yard paving and flooring
- Embankment and slope protection

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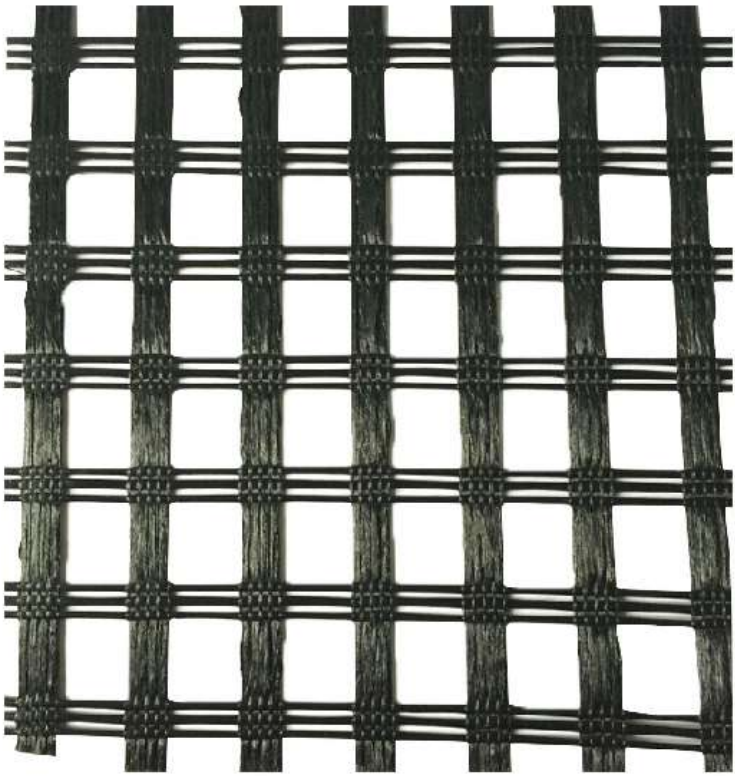

Uniaxial Polyester Geogrid

Uniaxial Geogrids are specialized reinforcement grids designed to provide high tensile strength in one direction, making them ideal for retaining walls, slopes, and embankments. These geogrids are manufactured from HDPE and PET materials for exceptional mechanical performance and environmental durability.

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PRODUCT TECHNICAL DATA SHEET - Uniaxial Prime Grid

Prime Terratech Uniaxial Geogrid is a high-performance woven polyester geogrid designed for reliable soil reinforcement applications. Manufactured from high-tenacity polyester yarns and coated with PVC, it delivers superior strength, stability, and long-term durability. Engineered with precision, it provides excellent dimensional stability, mechanical strength, and chemical resistance even in harsh soil environments, making it a dependable choice for a wide range of geotechnical and soil reinforcement projects.

Property		Test Method	Unit	PT 40/20	PT 60/20	PT 80/30	PT 100/30	PT 120/30	PT 150/30	PT 200/30	PT 250/30	PT 300/30	PT 350/30
Ultimate Tensile T_{ult}	MD	ASTM D 6637 / IS 164/4	kN/m	40	60	80	100	120	150	200	250	300	350
	CMD		kN/m	20	20	30	30	30	30	30	30	30	30
Reduction Factors (RF)													
Creep (RF_{cr})	75 Years/30°C			1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
	114 Years/30°C			1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Installation damage (RF_{id})	Sand/silt-clay			1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
	Gravel			1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Durability (RF_d)				1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Weathering (RF_w)				1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Long Term Design Strength, T_a (Sand/silt-Clay) at 75 Years/30°C				24.05	36.08	48.10	60.13	72.15	90.19	120.25	150.31	180.38	210.44
Long Term Design Strength, T_a (Gravel) at 75 Years/30°C				22.96	34.44	45.91	57.39	68.87	86.09	114.78	114.78	172.18	200.87
Long Term Design Strength, T_a (Sand/silt-Clay) at 114 Years/30°C				23.88	35.83	47.77	59.71	71.65	89.57	119.42	149.28	179.13	208.99
Long Term Design Strength, T_a (Gravel) at 114 Years/30°C				22.80	34.20	45.60	57.00	68.40	85.49	113.99	142.49	170.99	199.49
Soil-Reinforcement interaction coefficient (Coefficient of Interaction) C				0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Physical Properties													
Color Code			UNIT										
Grid Color			-	Black									
Coating Type			-	PVC									
Yarn Type			-	High Tenacity Low Elongation Polyester Yarn									
Yarn - Carboxyl End Group Content			mmol/kg	< 30									
yarn - Molecular Weight			g/mol	> 25000									
Roll Length			m	200									
Roll Width			m	3.75/3.5/3.0/1.75/1.5									

Notes:
MD= machine direction / CD = cross direction
$T_{allowable} = T_{ult} / RF$, $RF = RF_{cr} \times RF_{id} \times RF_d$
T_{ult} = Ultimate Tensile strength

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Material Options

- **PET (Polyester)**: Offers superior tensile modulus and long term creep resistance for soil reinforcement applications.

Features :

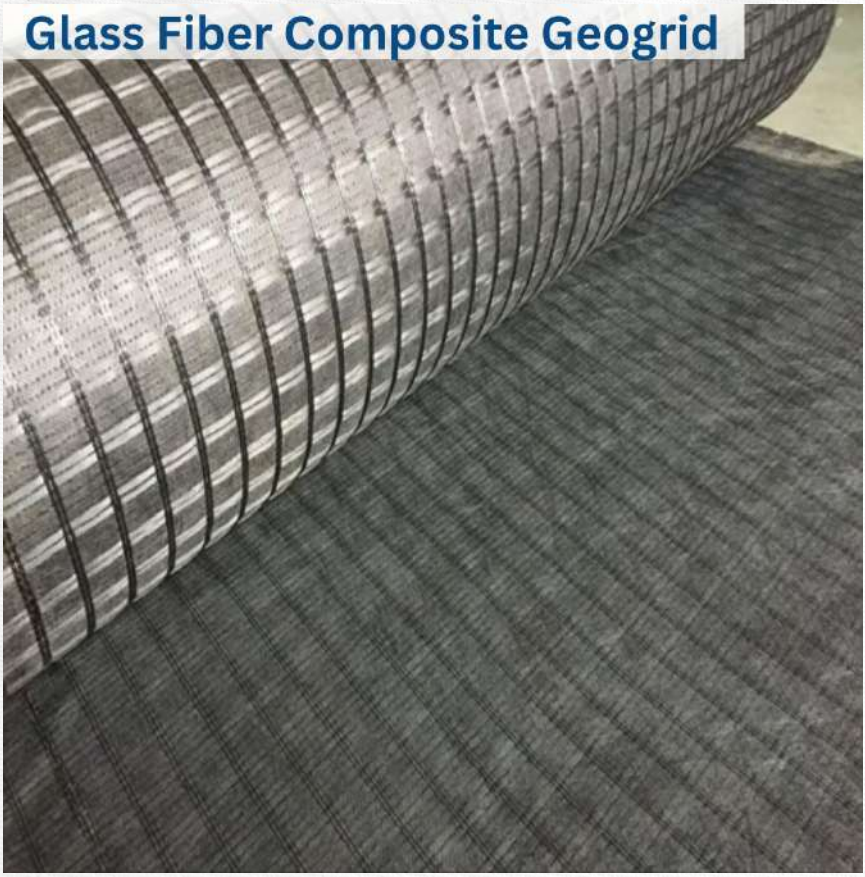
- **High Unidirectional Strength**: Optimized for load support and soil retention in one axis.
- **UV & Chemical Stability**: Performs effectively under extreme site conditions.
- **Easy Handling**: Lightweight and compatible with various installation techniques.

Advantages :

- **Superior Slope Stability**: Prevents soil movement and erosion on steep terrains.
- **Reduced Structural Failure**: Distributes stress efficiently across reinforced soil.
- **Low Maintenance**: Ensures long-term durability and minimal upkeep costs.

Glass Fibre Composite Geogrid

Glass Fibre Composite Geogrids are advanced soil reinforcement materials made from high-strength glass fiber coated with a protective polymer layer. They provide excellent tensile strength, dimensional stability, and bonding with asphalt layers. Ideal for road construction and pavement rehabilitation, these geogrids effectively reduce cracking and extend surface life.



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Prime Glass Fiber Composite Geogrid

This high-performance geogrid is engineered for reinforcing pavements, road bases, load-bearing platforms and soft soil foundations. It features biaxially oriented glass fiber reinforcement coated with a protective polymer, providing exceptional stiffness, low elongation and long-term durability. Available in multiple strengths and mesh sizes, the product supports structural stability, enhanced load-transfer and effective crack prevention under demanding infrastructure conditions.

TECHNICAL SPECIFICATION

PROPERTY	UNIT	PT - GC50	PT - GC100	PT - GC200	TEST METHOD
Tensile Strength (MDXCMD)	kN/m (>)	50 x 50	100 x 100	100 x 200	ASTM D 6637
Tensile Elongation	%	3 (±1)	3 (±1)	3 (±1)	ASTM D 6637
Young's Modulus E	MPa	76000	76000	76000	--
Melting Point Coating	° C (>)	250	250	250	ASTM D 276
Mass per Unit Area	g/m² (>)	320	520	720	ASTM D 5261
Asphalt Retention	Kg/10m²	>10	>10	>10	ASTM D 6140
Aperture Size	MM	12.5 x 12.5 25 x 25	12.5 x 12.5 25 x 25	12.5 x 12.5	--
Roll Width	Mtr.	1.00 - 5.00	1.00 - 5.00	1.00 - 5.00	--
Roll Length	Mtr.	75 / 100	75 / 100	50/75	--
Material	--	Glassfiber Grid bonded to Nonwoven Geotextile Backing.			

Notes:

The values reported represent arithmetic-mean results, unless otherwise specified. All test sets are comprised of specimens cut from the same sample and taken across the full width of the roll.

The properties listed may vary slightly due to manufacturing, storage, handling or shipping conditions.

Variations in the above values may also occur when tested in different laboratories under differing conditions.

For any technical enquiries, sales requests or information on other roll widths/lengths, please contact us at info@primeterratech.com

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Features :

- **High Tensile Modulus**: Delivers superior reinforcement and resists deformation under heavy traffic loads.
- **Excellent Thermal Stability**: Maintains structural integrity even in high-temperature asphalt applications.
- **Strong Asphalt Bonding**: Coated surface ensures perfect adhesion between layers, preventing slippage.

Advantages :

- **Prevents Reflective Cracking**: Extends pavement life and reduces maintenance costs.
- **Enhanced Load Distribution**: Improves performance and stability of asphalt and concrete layers.
- **Cost-Effective Solution**: Minimizes repair frequency and improves long-term project durability.

Applications :

- Road and highway reinforcement
- Asphalt overlay and pavement rehabilitation
- Airport runway and taxiway strengthening
- Bridge deck reinforcement
- Parking lot and industrial flooring stabilization

www.primeterratech.com

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About Prime Terratech

Prime Terratech is an ISO 9001:2015 certified manufacturer of high-quality geosynthetic and geomembrane solutions for environmental, civil, and industrial engineering projects. With state-of-the-art production facilities in Ahmedabad, India, we combine innovation, quality control, and sustainability to deliver long-lasting geotechnical solutions trusted nationwide.

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