

Penteco UPG-400

Uniaxial Geogrid

Polyester (PET)

- ❖ **MSE Walls**
- ❖ **Reinforced Slopes**
- ❖ **Earth Embankments**

Polyester geogrid is made from high modulus polyester yarns. Polyester grid provides better performance with respect to creep, and provides a higher Long-Term Design Strength (LTDS). Polyester geogrids are the most commonly available geogrids, and owing to lower cost, are available in very high strengths.

The FHWA (Federal Highway Administration) lists PET geogrids to have tolerance levels for pH ranges between 4 and 9. High modulus polyester geogrid is characterized by high tensile strength and low elongation. Much like other polymers, polyester grid is resistant to inorganic & organic degradation in soil. The geogrid is also PVC-coated to develop further protection against UV rays and on-site installation damage. As uniaxial geogrids, these grids are best suited for use in MSE retaining walls and slopes.

UPG-400		Minimum Average Roll Values	
Property	Test Method	Imperial	Metric
Index Properties			
Ultimate Tensile Strength	ASTM D6637 Method A	27,408 lbs/ft	400 kN/m
Tensile Strength @ 5% Strain	ASTM D6637 Method A	6852 lbs/ft	100 kN/m
Soil Interaction Coefficients for Pullout (Ci) and Direct Sliding (Cds)			
Poorly-Graded Sand and Gravel, Silty Sand (GP, GM, SP, SM)		0.8-0.9	
Well-Graded Gravel, Sand Gravel Mix, Well-Graded Sand (SW, GW)		0.9-1.0	
Minimum Strength Reduction factors			
Minimum Reduction Factor for Installation Damage (RF _{ID})	ASTM D5262	1.1	1.1
Reduction Factor for Creep for 100-year Design Life (RF _{CR})	ASTM D5262	1.55	1.55
Minimum Reduction Factor for Durability (RF _D)	ASTM D5262	1.1	1.1
Maximum Allowable Long-term Design Strength (LTDS)			
Maximum Allowable Strength for 100-year Design Life	GRI-GG4-05	14,578 lbs/ft	212 kN/m

Notes:

- (1) Penteco is a distributor for this product. Manufacturing partners are companies with operations in Canada & USA.
- (2) Manufacturer’s data sheet (& detailed product specifications) provided at time of bid/purchase includes adjusted widths/lengths.
- (3) Mill certificates specific to the production batch to be provided at the time of shipment
- (4) All geogrids are to be AASHTO-NTPEP certified and recent (& dated) certification reports can be provided upon request.

DISCLAIMER: The data above represents the manufacturer’s laboratory testing of their product. It is the user’s responsibility to determine the suitability of the products. Penteco is a distributor for these products through its manufacturing partners. Penteco will provide the manufacturers data sheet at the time of sale. There may be very slight variation, but overall, the data represents standard industry specifications. Penteco and manufacturing partners assume no liability, nor can they provide any warranty, without having additional information regarding the use of the products. The same goes for any infringement on patents - no permission can be granted without further disclosure.