

UNIAXIAL GEOGRID – HDPE (High Density Polyethylene)

Product Data Sheet

Penteco UG-50 Uniaxial Geogrid High Density

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

HDPE Geogrids are manufactured using grades of high-density polyethylene (HDPE) resins that are highly oriented and resist elongation & rupture when subjected to high tensile loads for long periods of time. HDPE Geogrids provide high resistance to chemical or biological long-term degradation.

The FHWA (Federal Highway Administration) lists HDPE geogrids to have tolerance levels for pH ranges greater than 3 (including highly alkaline environments). HDPE geogrids typically achieve their strength by punching and drawing a homogenous polymer sheet to provide a uniform, consistent product that does not require weaving, coating or welding to maintain the product's integrity. This unique process provides superior junction strength that also allows high strength connections to other geogrids and/or wall facings.

UG-50		Minimum Average Roll Values	
Property	Test Method	Imperial	Metric
Index Properties			
Tensile Strength: Ultimate	ASTM D6637 Method A	3970 lbs/ft	58 kN/m
Tensile Strength: @ 5% Strain	ASTM D6637 Method A	1850 lbs/ft	27 kN/m
Durability			
Resistance to Long-term Degradation	EPA 9090	100 %	100 %
Resistance to UV Degradation	ASTM D4355	95 %	95 %
Minimum Strength Reduction Factors			
Minimum Reduction Factor for Installation Damage (RF _{ID})	ASTM D5262	1.05	1.05
Reduction Factor for Creep for 100-year Design Life (RF _{CR})	ASTM D5262	2.55	2.55
Minimum Reduction Factor for Durability (RF _D)	ASTM D5262	1.0	1.0
Maximum Allowable Long-term Design Strength (LTDS)			
Maximum Allowable Strength for 100-year Design Life	GRI-GG4-05	1450 lbs/ft	21.2 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.