TITAN RAIL GRID™ 40

BIAXIAL POLYPROPYLENE GEOGRID

Titan Rail Grid™ 40 is a bi-axial polypropylene (PP) geogrid. It is manufactured using a punching and drawing process whereby the polypropylene sheet is stretched in two directions, machine (longitudinal) and cross-machine (transverse). The result is a monolithic and isotropic geogrid with thick and wide ribs, thick integral nodes, and uniform square apertures. The ribs have a high degree of molecular orientation continuing in part through the mass of the integral node. Engineered to be mechanically and chemically stable in aggressive soil environments, Titan Rail Grid™ 40 geometry allows for strong mechanical interlock with soil particles and features high tensile stiffness at low strains to resist construction damage, environmental exposure and formulated to resist UV degradation. It is also not susceptible to hydrolysis, environmental stress cracking and micro-organism attack. Titan Rail GridTM 40 possesses larger aperture which provides an ideal solution for soil stabilization, railway ballast reinforcement, sub-base reinforcement and other highway challenges using larger fill particles.

TESTED PROPERTY	TEST METHOD	UNIT ENGLISH (METRIC)	VALUE ENGLISH (METRIC)	
			MD	XD
Minimum Carbon Black Content	ASTM D 4218	%	2	
Ultimate Tensile Strength[1]	ASTM D 6637	lbs/ft (kN/m)	2,742 (40.0)	2,742 (40.0)
Tensile Strength at 2% Strain[1]	ASTM D 6637	lbs/ft (kN/m)	1,097 (16.0)	1,097 (16.0)
Tensile Strength at 5% Strain[1]	ASTM D 6637	lbs/ft (kN/m)	2,056 (30.0)	2,056 (30.0)
Junction Strength [1] [3]	GRI-GG$_2$ ASTM D 7737	lbs/ft (kN/m)	2,604 (38.0)	2,604 (38.0)
Tensile Secant Modulus at 2% Strain[1]	GRI-GG$_2$ ASTM D 7737	lbs/ft (kN/m)	54,832 (800)	54,832 (800)
Flexural Rigidity [1]	ASTM D 7748	mg-cm	2,300,000	
Aperture Stability [1] [2]	US. COE	m-N/deg	0.75	
Minimum Rib Thickness	Callipered	inch (mm)	0.07 (1.8)	0.05 (1.2)
Aperture Size[2] [5]	Nominal	inch (mm)	2.24 (57)	2.24 (57)
TYPICAL ROLL DIMENSIONS				
Roll Width		ft (m)	12.95 (3.95)	
Roll Length[6]		ft (m)	164.04 (50.0)	

NOTES:
(1)Minimum Average Roll Values (MARV) – Calculated as (mean minus 2x standard deviation) as per ASTM D4759-02.
(2) Average.
(3) Junction efficiency is defined as junction strength divided by multi-rib strength.
(4) Resistance to in plane rotational movement measure at an applied moment = 2m-N (20kg-cm) in accordance with US Army Corps of Engineers. methodology for the measurement of torsional rigidity.
(5) Aperture tolerance: within ± 10% coefficient of variance.
(6) Typical – Standard roll lengths are shown. The products may be fabricated to custom lengths to suite the contractor's requirements.

Titan Environmental Containment

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Rev. August 2023