

MINE-SHIELD GRID™ RIB24

MINING GRID WITH FIRE-RETARDANT ADDITIVES



Mine-Shield Grid™ Rib24 is a virgin polypropylene (PP) bi-axial geogrid with a specially formulated fire-retardant polymer designed for underground mine and tunnelling applications. Manufactured using a unique punching and drawing process, this geogrid is bi-directional oriented, monolithic, and isotropic with integral nodes and thick, wide ribs that feature a high degree of molecular orientation continuing in part through the mass of the integral node.

Mine-Shield Grid™ Rib24 is engineered to be mechanically and chemically stable in aggressive soil environments. It is not susceptible to hydrolysis, environmental stress cracking and micro-organisms attack and is formulated to resist ultra-violet light degradation.

TESTED PROPERTY	TEST METHOD	UNIT ENGLISH (METRIC)	VALUE ENGLISH (METRIC)	
			MD	XD
Ultimate Tensile Strength ⁽¹⁾	ASTM D 6637	lbs/ft (kN/m)	1,645 (24.0)	1,645 (24.0)
Tensile Strength at 2% Strain ⁽¹⁾	ASTM D 6637	lbs/ft (kN/m)	720 (10.5)	720 (10.5)
Secant Modulus at 5% Strain ⁽¹⁾	ASTM D 6637	lbs/ft (kN/m)	26,868 (392)	26,868 (392)
STRUCTURAL PROPERTIES				
Junction Strength ⁽²⁾⁽⁴⁾	GRI-GG2 ASTM D 7737	%	>95	
Flexural Rigidity ⁽¹⁾⁽³⁾	ASTM D 7748	mg-cm	1,000,000	
Aperture Stability ⁽²⁾⁽⁵⁾	US. COE	m-N/deg	0.65	
FIRE-RETARDANT PROPERTIES				
Maximum Flame Propagation	ASTP - 5011	m	1.2	
Average Duration of Burning for Test Set	ASTP - 5011	minute	1.0 (max)	
Maximum Duration of Burning for Single Test	ASTP - 5011	minute	2.0	
PHYSICAL PROPERTIES				
Minimum Rib Thickness	Callipered	mm (inch)	1.7 (0.06)	1.3 (0.05)
Aperture Size ⁽²⁾⁽⁵⁾	Nominal	mm (inch)	60.0 (2.36)	60.0 (2.36)
Mass/Unit Area ⁽²⁾	ASTM D 5261	g/m ² (oz/yd ²)	280 (8.4)	
Roll Width	Minimum	m (ft)	2.0 (6.56) 3.95 (12.95)	
Roll Length ⁽⁶⁾	Minimum	m (ft)	100.0 (328.08) 5.0 (164.04)	

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 measured at an applied Moment = 20kg-cm (2m-N) 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.

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Titan Environmental Containment

Toll free: 1-866-327-1957 | info@titanenviro.com | TitanEnviro.com