

# Mine-Shield Grid™ Rib24

## Mining Grid with Fire-Retardant Additives



Mine-Shield Grid™ Rib24 is a virgin polypropylene (PP) bi-axial geogrid with a special formulated fire-retardant polymer, designed for underground mine and tunneling 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.

PROPERTIES		TEST METHOD	UNIT MEASURE	VALUE METRIC/ ENGLISH
Ultimate Tensile Strength <sup>(1)</sup>	MD	ASTM D 6637	KN/m (lbs/ft)	24.0 (1,645)
	XD	ASTM D 6637	KN/m (lbs/ft)	24.0 (1,645)
Tensile Strength at 2% strain <sup>(1)</sup>	MD	ASTM D 6637	KN/m (lbs/ft)	10.5 (720)
	XD	ASTM D 6637	KN/m (lbs/ft)	10.5 (720)
Secant Modulus EA at 5% strain <sup>(1)</sup>	MD	ASTM D 6637	KN/m (lbs/ft)	392 (26,868)
	XD	ASTM D 6637	KN/m (lbs/ft)	392 (26,868)
<b>STRUCTURAL PROPERTIES</b>				
Junction Efficiency <sup>(2) (4)</sup>	MD	GRI-GG2 ASTM D 7737	%	>95
Flexural Rigidity <sup>(1) (3)</sup>		ASTM D 7748	mg-cm	1,000,000
Aperture Stability <sup>(2) (5)</sup>		US. COE	m-N/deg	0.65
<b>FIRE RETARDANT PROPERTIES</b>				
Maximum Flame Propagation <b>Max</b>		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
<b>PHYSICAL PROPERTIES</b>				
Minimum Rib Thickness	MD	Callipered	mm (inch)	1.7 (0.06)
	XD	Callipered	mm (inch)	1.3 (0.05)
Aperture Size <sup>(2) (5)</sup>	MD	Nominal	mm (inch)	60.0 (2.36)
	XD	Nominal	mm (inch)	60.0 (2.36)
Mass/Unit Area <sup>(2)</sup>		ASTM D 5261	g/m <sup>2</sup> (oz/y <sup>2</sup> )	280 (8.4)
Roll Width		Minimum	m (ft)	2.0 (6.56)
				3.95 (12.95)
Roll Length <sup>(6)</sup>		Minimum	m (ft)	100.0 (328.08)
				50.0(164.04)

**Notes:** (1) Minimum Average Roll Values (MARV) Values- calculated as (Mean minus 2X standard deviation) (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) Custom Length Orders can be accommodated.

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