



## 3D-XL Triplanar Geogrid

TENAX 3D Grid XL is manufactured from a unique extrusion technique resulting in a perforated polypropylene sheet that is specifically shaped to create a triplanar reinforcing structure. This unique extrusion process produces a large concave shaped rib to better trap aggregate materials by restricting the horizontal movement of stone particles and preventing displacement. Higher profile ribs and junctions improve interlock and stress distribution, thereby reducing rutting and aggregate base thickness.

### Typical Applications:

Ground stabilization and sub-base reinforcement for permanent roads, unpaved and temporary access roads, working platforms, and levee construction

### INDEX PROPERTIES

Technical Characteristics	Units	MD Values <sup>1</sup>	XMD Values <sup>1</sup>
Rib Pitch <sup>2</sup>	mm (in)	60 (2.4)	60 (2.4)
Rib Thickness <sup>2</sup>	mm (in)	3.0 (0.12)	1.3 (0.05)
Aperture Shape		Rectangular	

### STRUCTURAL INTEGRITY

True Initial Modulus <sup>3</sup>	kN/m (lb/ft)	900 (61,000)	450 (30,500)
Aperture Stability <sup>4</sup>	N-m/deg	0.64	
Overall Flexural Rigidity <sup>5</sup>	mg-cm	3,000,000	
Radial Stiffness at low strain @ 0.5% Strain <sup>6</sup>	kN/m (lb/ft)	437 (30,000)	
Apparent Coefficient of Friction Soil <sup>7</sup>		1.20	

### DURABILITY

Resistance to Installation Damage <sup>8</sup>	%SC/%SW/%GP	100/100/100	
Resistance to Long Term Degradation <sup>9</sup>	%	100	
Resistance to UV Degradation <sup>10</sup>	%	100	
Declared Service life <sup>11</sup>	years	100	

### DIMENSIONS AND DELIVERY

The triplanar geogrid shall be delivered to the job site in roll form with each roll individually identified and nominally measuring 4m (13.1-FT) in width and 50m (164-FT) in length.

### NOTES

1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-11.
2. Nominal dimensions.
3. True Initial Modulus is determined in accordance with ASTM D6637-15.
4. Resistance to in-plane rotational movement measured by applying a 20 kg-cm (2 m-N) moment to the central junction of a 9-IN x 9-IN specimen restrained at its perimeter in accordance with ASTM D7864-15.
5. Resistance to bending force determined in accordance with ASTM D7748-14, using specimens of width two ribs wide, with transverse ribs cut flush with exterior edges of longitudinal ribs, and of length sufficiently long to enable measurement of the overhang dimension.
6. Radial stiffness is determined from tensile stiffness measured in any in-plane axis from testing in accordance with ASTM D6637-15, tolerance +/-2%.
7. Pullout testing is determined with ASTM D6706-13 by using a special apparatus that measures the force required to pull-out a geogrid that is fully embedded in soil with a vertical stress at 10 kPa.
8. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818-11 and load capacity shall be determined in accordance with ASTM D6637.
9. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments.
10. Resistance to loss of load capacity or structural integrity when subjected to ultraviolet light and aggressive weathering.
11. Test for declared service life up to 100 years of combined ageing for Polypropylene Material.



Tenax warrants that the geogrid products delivered hereunder conform to the stated specification at the time of delivery. All other warranties including claims for performance or suitability for application are excluded. This product specification supersedes all prior specifications for the product described above.