

# TENAX 3D Grid

Type: **XL**

Bi-oriented geogrids



TENAX 3D Grid XL is manufactured from a unique extrusion technique resulting in a perforated polypropylene sheet that is specifically shaped in three directions (3D). This unique extrusion technique produces a particularly large concaved shaped rib thereby trapping stone particles within the large apertures and enhancing the interaction mechanism between geogrids and granular soils by restricting the horizontal movement of stone particles and preventing further displacements. This increase in interaction from the 3D Grids enables consistent reductions in aggregate layer thickness.

## Typical applications

Ground stabilisation and sub-base reinforcement for permanent roads, unpaved and temporary access roads, safe working platforms as well as piled platforms.

| PHYSICAL CHARACTERISTICS | TEST METHOD | UNIT | DATA                                       | NOTES |
|--------------------------|-------------|------|--|-------|
| STRUCTURE                |             |      | BI-ORIENTED GEOGRIDS                       |       |
| MESH TYPE                |             |      | QUADRANGULAR APERTURES                     |       |
| STANDARD COLOR           |             |      | BLACK                                      |       |
| POLYMER TYPE             |             |      | POLYPROPYLENE                              |       |
| CARBON BLACK CONTENT     | ASTM D4218  |      | 2.0%                                       |       |
| PACKAGING                | ISO 10320   |      | ROLLS IN POLYETHYLENE BAGS WITH I.D. LABEL |       |

| DIMENSIONAL CHARACTERISTICS | TEST METHOD | UNIT | 3D Grid XL |      | NOTES |
|-----------------------------|-------------|------|------------|------|-------|
|                             |             |      | MD         | TD   |       |
| APERTURE SIZE               |             | mm   | 55         | 55   | a,c,d |
| RIB THICKNESS               |             | mm   | 3.50       | 2.00 | a,c,e |
| JUNCTION THICKNESS          |             | mm   |            | 7.00 | a     |
| ROLL WIDTH                  |             | m    |            | 4.0  | a     |
| ROLL LENGTH                 |             | m    |            | 50   |       |

| TECHNICAL CHARACTERISTICS  | TEST METHOD | UNIT | 3D Grid XL |      | NOTES |
|--|-------------|------|------------|------|-------|
|  |             |      | MD         | TD   |       |
| STIFFNESS at 0.5 % STRAIN  | ISO 10319   | kN/m | 900        | 600  | a,b,c |
| JUNCTION EFFICIENCY  | GRI-GG2     | %    | 90         | 100  | a,c   |
| RESISTANCE TO INSTALLATION DAMAGE                                  | ISO 10722-1 | %    | 100        | 95   | a     |
| RESISTANCE TO CHEMICAL DEGRADATION                                 | EN 14030    | %    |            | 100  | a     |
| RESISTANCE TO WEATHERING   | EN 12224    | %    |            | 100  | a     |
| APPARENT COEFFICIENT OF FRICTION SOIL/GEOSYNTHETICS ( $\mu$ s/gsy) | EN 13738    |      |            | 1.20 | a,f   |

### NOTES:

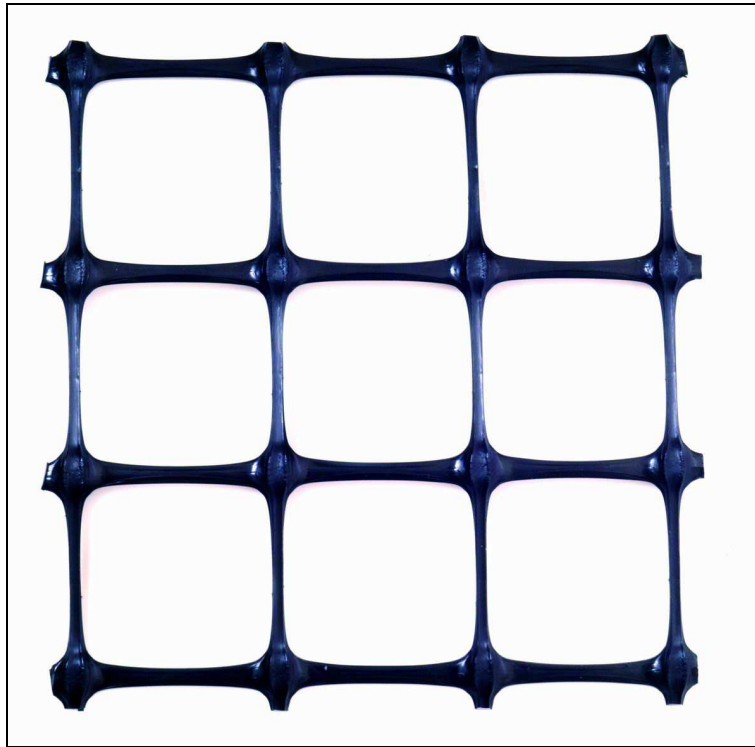
- Typical values
- Tests performed using extensometers
- MD: machine direction (longitudinal to the roll) - TD: transverse direction (across roll width)
- Aperture Tolerance:  $\pm$  5 mm
- Thickness Tolerance: - 5%
- Pullout testing in accordance to EN 13738 using special apparatus that measures the force required to pull-out a geogrids that is fully embedded in soil. Vertical stress 10 kPa



## Typical Characteristics

---

# TENAX 3D Grid XL



0799-CPR-25



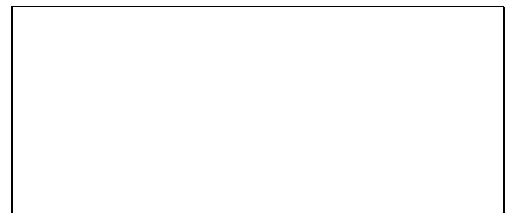
The TENAX Laboratory has been operational since 1980 and has been continuously improved with the purpose of assuring comprehensive technical development of the products and accurate Quality Control.

The TENAX Laboratory can perform mechanical, hydraulic and durability tests, according to the most important international standards like ISO, CEN, ASTM, DIN, BSI, UNI.

### TENAX SpA

#### Geosynthetics Division

Via dell'Industria, 3  
I-23897 Viganò (LC) ITALY  
Tel. +39 039.9219307  
Fax +39 039.9219200  
e-mail: [geo@tenax.net](mailto:geo@tenax.net)  
Web Site: [www.tenax.net](http://www.tenax.net)



# TENAX