STF 3D XL

Synteen STF 3D XL geogrid 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 aperture and enhancing the interaction mechanism between geogrids and granular soils by restricting the horizontal movement of soil particles and preventing further displacements. This increase in interaction from the 3D XL geogrids enables consistent reductions in aggregate layer thickness.

Typical Applications

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

PHYSICAL CHARACTERISTICS	TEST METHOD	DATA
Polymer Type		Polypropylene
Structure		Bi-Oriented Geogrids
Color		Black
Packaging	ISO 10320	Rolls in Polyethylene Bags with ID Label
Mesh Type		Quadrangular Apertures
Carbon Black Content	ASTM D4218	2%

DIMENSIONAL CHARACTERISTICS	UNIT	3D XL GEOGRID		NOTES
		MD	TD	
Aperture Size	mm	55	55	c,d
Rib Thickness	mm	3.5	2	c,d
Junction Thickness	mm	7		a
Roll Width	m	4		a
Roll Length	m	50		

TECHNICAL CHARACTERISTICS	TEST METHOD	UNIT	3D XL GEOGRID		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 (us/gsy)	EN 13738		1.20		a, f

Notes

a Typical values
b Tests performed using extensometers
c MD: machine direction (longitudinal to the roll)
TD: transverse direction (across roll width)
d Aperture tolerance (±5mm)
e Thickness tolerance (-5%)
f Pullout testing in accordance to EN 13738 using a special apparatus that measures the force required to pull-out a geogrid that is fully embedded in soil. Vertical stress 10 kPa
The utilized laboratory has been operational since 1980 and has continuously improved with the purpose of assuring unequalled technical development of products and accurate Quality Control.
The utilized laboratory can perform mechanical tests, hydraulic tests and durability tests, according to the most detailed and important international standards like: ISO, CEN, ASTM, DIN, BSI, UNI.