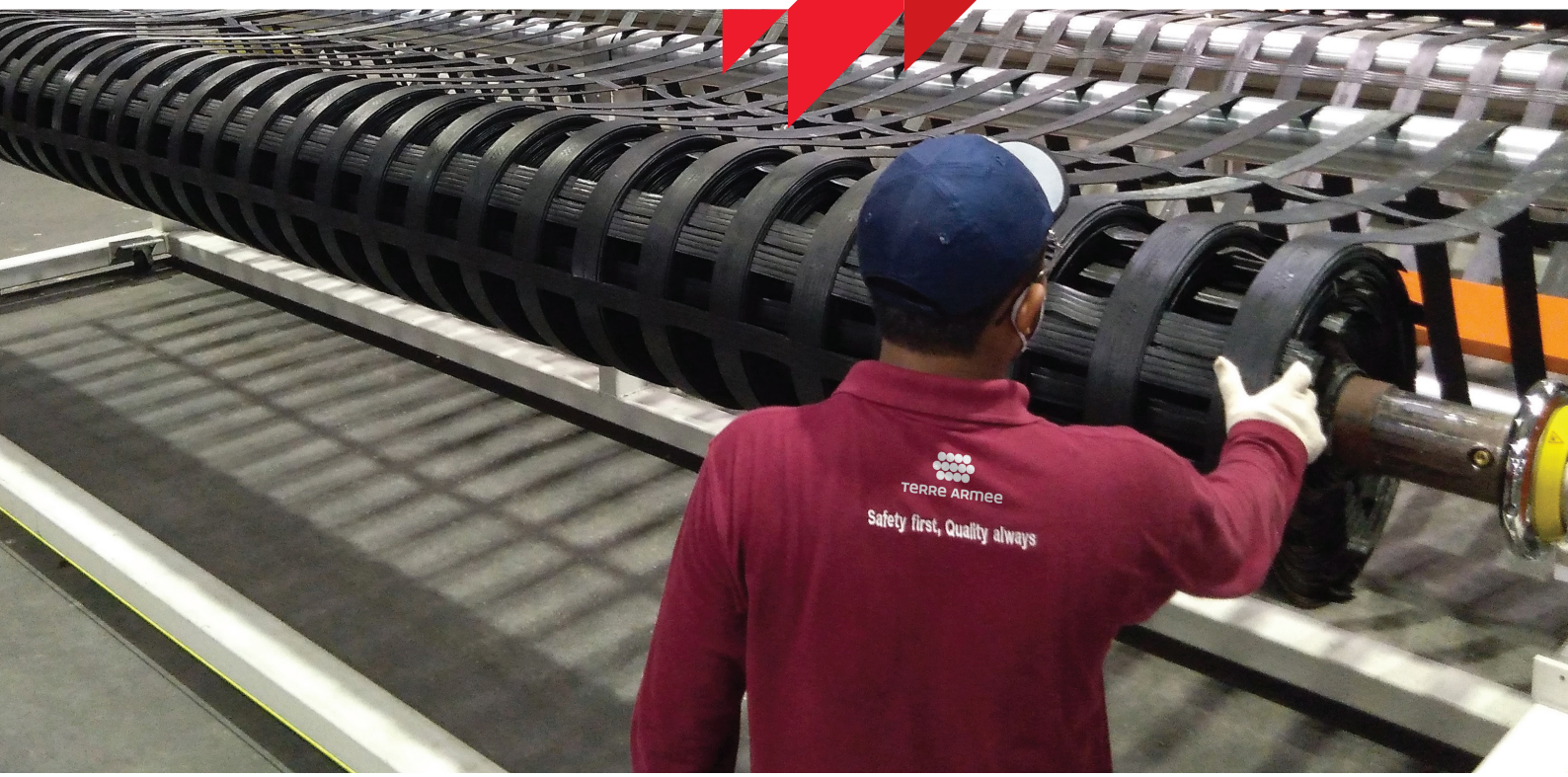
TERRE ARMEE



ArmaLynk – PET$_{HS}$

HIGH STRENGTH
SOIL REINFORCEMENT GEOSYNTHETICS

Basal Reinforcement

ArmaLynk – PET_{HS}

ArmaLynk–PET_{HS} is a soil reinforcement geosynthetic, manufactured from high tenacity polyester yarns, extruded and coated to form polymeric strips encased in Polyethylene sheath, and welded together to cross strips to generate a stable and strong geogrid structure.

Applications

- **Basal Reinforcement:**

  1. Embankments Over Soft and Very Soft Soils: The stability of an embankment on soft soil is governed mostly by the shearing resistance of the foundation. Essentially, the construction of an embankment on soft soil is a problem of bearing capacity. Embankment on soft soil reinforced with ArmaLynk provides additional stability to the embankment i.e. to prevent possible slips from occurring. ArmaLynk design utilizes standard geotechnical practices to integrate strong unidirectional geosynthetic grids engineered to bear loads with minimum deformation. ArmaLynk helps in reducing the construction time and increases the global performance of the project when compared with conventional methods like excavation and replacement, displacement, desiccation, progressive displacement, chemical stabilization etc.

  2. Reinforced Embankments Over Areas Prone to Subsidence: Subsidence typically results from the sudden collapse of a subterranean cavity, typically formed as a result of natural processes such as erosion in karst areas or human intervention such as mining shafts or groundwater exploitation. Reinforced embankments with ArmaLynk over areas prone to subsidence are the subset of basal reinforcement that aims to reduce the impact of a collapse providing support to the embankment, while minimizing the effects of the failure in the surface deformation. The inclusion of ArmaLynk reinforcement ensures the possibility of first detecting a failure, second, a quick reaction allowing the repairs and filling the void underneath the embankment structure without a complete collapse.

  3. Piled Embankment with Basal Reinforcement: Structures founded over soft soils such as bridges, piers, and tanks commonly utilize piles to reduce settlements. The interaction between the piles, ArmaLynk and the granular fill provides an engineered system leading to more resilient infrastructure. The benefits of ArmaLynk are the decrease in the number of inclusions needed, faster construction, and better control of differential settlements associated with soft soils.

- **Piggyback Landfill Expansions:** High strength ArmaLynk geosynthetics can be efficiently used in combination with other Terre Armée products for landfill piggybacking to solve the ever growing problem of waste materials disposal, especially for raising of the dykes over existing landfills and increasing the capacity of abandoned landfills.
- **Lagoon Closures:** ArmaLynk in combination with other Terre Armée products facilitates sludge lagoons remediation on soft to very soft ground condition together with special geotechnical stabilisation techniques and helps in land reclamation and redevelopment for various purposes like waste lagoon and sludge pond closures.
- **Access Roads and Load Bearing Platforms:** ArmaLynk when used in the ground improvement process of access road for heavy load movements and for load bearing platforms, induces stiffness to the soil underneath, improves lateral restraint, reduces the applied load on the soft soil and controls the differential settlement. It is used in the transition layer for distribution and transfer of load to rigid inclusions like stone columns or piles in soft foundation, and optimises the requirement of such rigid inclusions.

Technical Properties

Grade	Units	AL_{PET} 300	AL_{PET} 350	AL_{PET} 400	AL_{PET} 450	AL_{PET} 500	AL_{PET} 550	AL_{PET} 600	AL_{PET} 650	AL_{PET} 700	AL_{PET} 750	AL_{PET} 800	AL_{PET} 850	AL_{PET} 900	AL_{PET} 950	AL_{PET} 1000	AL_{PET} 1050	AL_{PET} 1100	AL_{PET} 1150	AL_{PET} 1200
Mechanical Properties																				
Nominal Tensile Strength	kN/m	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
Elongation at Nominal Strength	%	10																		
Partial Reduction Factor - Creep[i]	@20°C	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Partial Reduction Factor - Installation Damage	<5mm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	<32mm	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
	<125mm	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Partial Reduction Factor - Environmental Effects[i, ii]	-	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Physical Properties																				
Polymer on the tensile element (MD)[iii]	-	High Tensile Polyester (HT-PET)																		
Polymer Sheathing	-	Linear Low-Density Polyethylene																		
Roll Length[iv]	m	150	130	130	100	100	100	75	75	75	75	60	60	60	60	50	50	50	50	50
Roll Width[iv]	m	≤6																		
Weight of Roll[iv, v]	kg	915	899	963	831	905	954	789	844	900	937	808	852	897	926	821	858	882	919	956

i. Reduction Factor are at 20°C and for 114 years design life.
ii. Partial factors- environmental effects for pH range of 3.0 to 9.0.
iii. MD: Machine Direction.
iv. Length, width and weight are estimated values. Customized lengths and width are available upon request.
v. Roll weight includes the core weight.

NOTES

A. Properties are subject to change without notification. Please contact us for the latest update on the specifications.

B. The property values listed above are effective: July 2021.

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Local Contact: .....

July, 2021