



**ALPHA
PINNACLE**

ALPHATEX NONWOVEN GEOTEXTILE

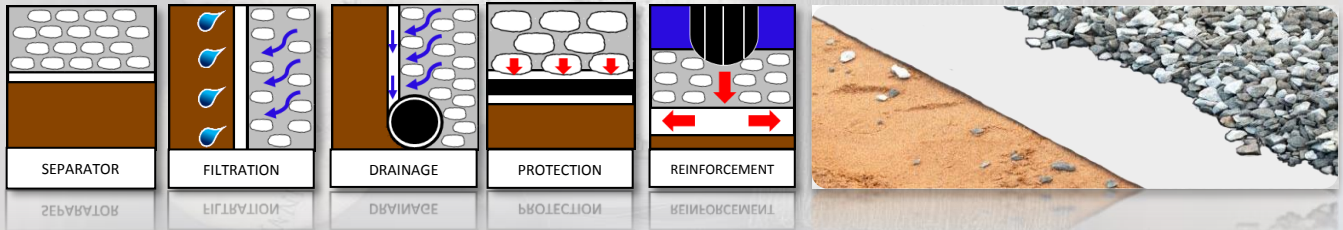
ALPHATEX NONWOVEN GEOTEXTILE



ALPHATEX nonwoven geotextile is made to achieve a higher quality standard material and has ISO 9001:2008 accreditation.

The AlphaTex geotextile is made using needle punched technology and have high resistance on heat and light. It is proven to exhibit long term resistance to all substances occurring naturally in soil, water and microorganism. The geotextile defines as permeable textile material used in contact with soil, rock, earth or any other geotechnical related material as integral part of civil engineering projects, structure or system.

AlphaTex geotextile supplied in roll forms with standard width and length. There are five main functions of geotextile; separator, filtration, drainage, protection and reinforcement.



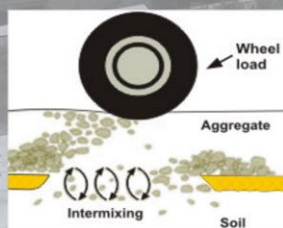
APPLICATION



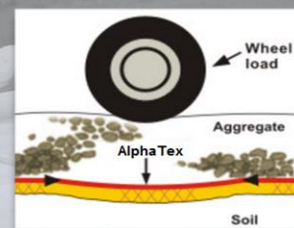
Separator

AlphaTex's is ideal as a separator for the construction of roads/embankments over soft grounds, as it prevents soil layers with different composition and properties from mixing during construction. Consequently, the amount of fill material can be reduced and the life span of the road/embankment can be enhanced. The properties of AlphaTex used are dependent upon the subgrade strength and load applied during the construction. Typically AlphaTex is placed directly on the subgrade followed by placement and compaction of adequate depth of stone.

Without AlphaTex



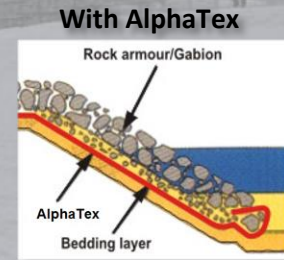
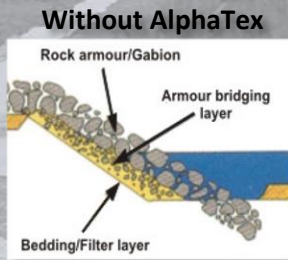
With AlphaTex





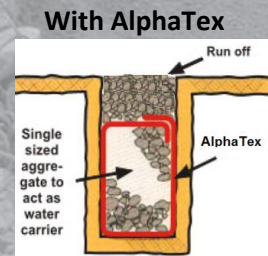
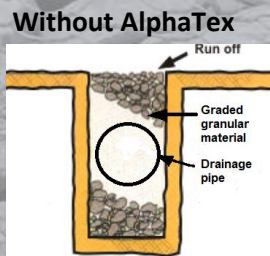
Filtration

AlphaTex is highly porous, allowing water to pass through in any direction of the geotextile from a soil mass. At the same time retains and restrict the movement of the soil particles which is very important for soil stability and erosion prevention. Normally, AlphaTex is used between soils and rip rap to prevent erosion of soil through the armoring layer. AlphaTex is used at the back of gabion retaining wall to contain soil mass from movement caused by ground water table. Conventional filter properties and criteria can be used for the design.



Drainage

AlphaTex 3 dimensional stable network of fabric allows water to flow through or within the plane of the geotextile due to its high permittivity. The dissipation and discharge of excessive pore water pressure can alleviate engineering structures such as roads, sports fields and behind retaining walls. Uncontrolled ground-water can be destructive and subsurfaced drainage system is very important under highways, parking lots, golf courses etc. Hydraulic properties such as permeability, apparent opening size (AOS) and flow rate are critical characteristic for this application.

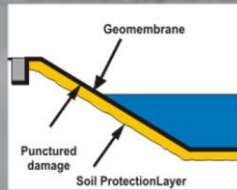




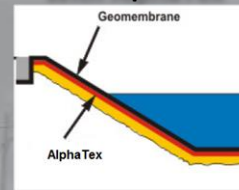
Protection

AlphaTex high puncture resistance protects and prevents perforation/tear during construction by heavy machinery or sharp and heavy objects to plastic liners/geomembrane used in landfills, by providing cushion and extra protection layer. AlphaTex maybe place on one or both sides of the plastic liners/ geomembrane as per design requirement.

Without AlphaTex

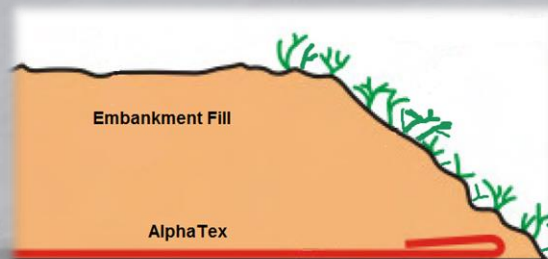


With AlphaTex



Reinforcement

AlphaTex separate, stabilize and reinforce subgrade over soft grounds thereby reducing aggregate requirements in roads and embankment construction. In addition, loads are spread equally and therefore gives additional strength in stabilizing and reinforcing the construction areas. Typically, AlphaTex is placed over the foundation soil and covered with fill soil that built using conventional construction equipment until the required embankment height is achieved.



TECHNICAL DATA SHEET – ALPHATEX NONWOVEN GEOTEXTILE

AlphaTex AG Series

PROPERTIES	TEST STANDARD	UNIT	AG10	AG12	AG15	AG20	AG25
PHYSICAL PROPERTIES							
Unit Weight	ASTM D5261	g/m ²	100	120	150	200	250
Width		m	4	4	4	4	4
Length		m	330	250	220	170	130
MECHANICAL PROPERTIES							
Ultimate Tensile Strength – MD (1)	ASTM D4595	kN/m	6.6	8.9	10.8	14.2	18
Ultimate Tensile Strength – CD (1)	ASTM D4595	kN/m	4.7	6.7	8.4	11.7	15
Elongation – MD (2)	ASTM D4595	%	53	53	53	53	53
Elongation – CD (2)	ASTM D4595	%	59	59	59	59	59
Thickness (2)	DIN EN 29073/2	mm	1.65	1.7	2.05	2.5	2.9
Grab Tensile Strength – MD (1)	ASTM D4632	N	450	600	755	1030	1200
Grab Tensile Strength – CD (1)	ASTM D4632	N	350	490	608	840	1000
Trapezoidal Tear Strength – MD (1)	ASTM D4533	N	165	220	271	380	465
Trapezoidal Tear Strength – CD (1)	ASTM D4533	N	145	175	235	310	390
CBR Puncture (2)	ASTM D6241	N	1180	1450	1830	2500	3400
HYDRAULIC PROPERTIES							
AOS (O ₉₅)	ASTM D4751	µm	190	180	150	100	90
Vertical permeability	EN ISO 11058	mm/s	120	115	110	95	85

* based on, (1) = -10% tolerance, (2) = -15% tolerance

AlphaTex AG-S Series

PROPERTIES	TEST STANDARD	UNIT	AG13S	AG15S	AG18S	AG20S	AG25S	AG30S	AG40S	AG50S	AG60S	AG80S	AG100S	AG120S
PHYSICAL PROPERTIES														
Unit Weight	EN ISO 9864	g/m ²	≥130	≥150	≥180	≥200	≥250	≥300	≥400	≥500	≥600	≥800	≥1000	≥1200
Thickness	EN ISO 9863-1	mm	≥1.2	≥1.5	≥1.7	≥1.9	≥2.2	≥3.0	≥3.5	≥4.0	≥4.7	≥5.0	≥6.3	≥7.7
MECHANICAL PROPERTIES														
Max. Tensile Strength Average MD/CD** (1)	EN ISO 10319	kN/m	10.0	11.5	14.0	16.0	20.0	25.0	30.0	35.0	45.0	55.0	65.0	80.0
Max. Tensile Strength, MD/ CD** (1)	EN ISO 10319	kN/m	10/10	11/12	14/14	16/16	20/20	25/25	30/30	35/35	45/45	55/55	65/65	72/88
Elongation at max. tensile strength, MD/CD** (1)	EN ISO 10319	%	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Puncture Force (1)	EN ISO 12236	N	1,600	2,000	2,200	2,700	3,600	4,500	5,800	7,500	8,500	10,000	12,000	14,000
Dynamic Perforation Resistance (2)	EN ISO 13433	mm	28	24	21	18	14	10	7	6	5	4	2	1
HYDRAULIC PROPERTIES														
Characteristic Opening Size (3)	EN ISO 12956	µm	100	100	90	90	80	85	80	75	70	65	60	60
Water Permeability (4) - V _{H50} -Index - Flow Rate _{H50}	EN ISO 11058	m/s l/(m ² s)	1.1 x 10 ⁻¹ 110	1.0 x 10 ⁻¹ 100	8.0 x 10 ⁻² 80	7.5 x 10 ⁻² 75	6.0 x 10 ⁻² 60	6.5 x 10 ⁻² 65	5.0 x 10 ⁻² 50	4.0 x 10 ⁻² 40	2.7 x 10 ⁻² 27	2.2 x 10 ⁻² 22	1.5 x 10 ⁻² 15	1.2 x 10 ⁻² 12
Detector Tested			yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

* based on, **md = machine direction, cd = cross machine direction, (1) = (+)/- 10% tolerance, (2) = +/- 20% tolerance, (3) = +/- 30% tolerance, (4) = (+)/- 30% tolerance

This information is provided for reference purpose only. It is not intended as a warranty or guarantee. Alpha Pinnacle Sdn. Bhd. assumes no liability in connection with the use of this information. For improvement process of the product technical characteristics, the producer reserves the right to modify the value in the data sheet without prior notice.

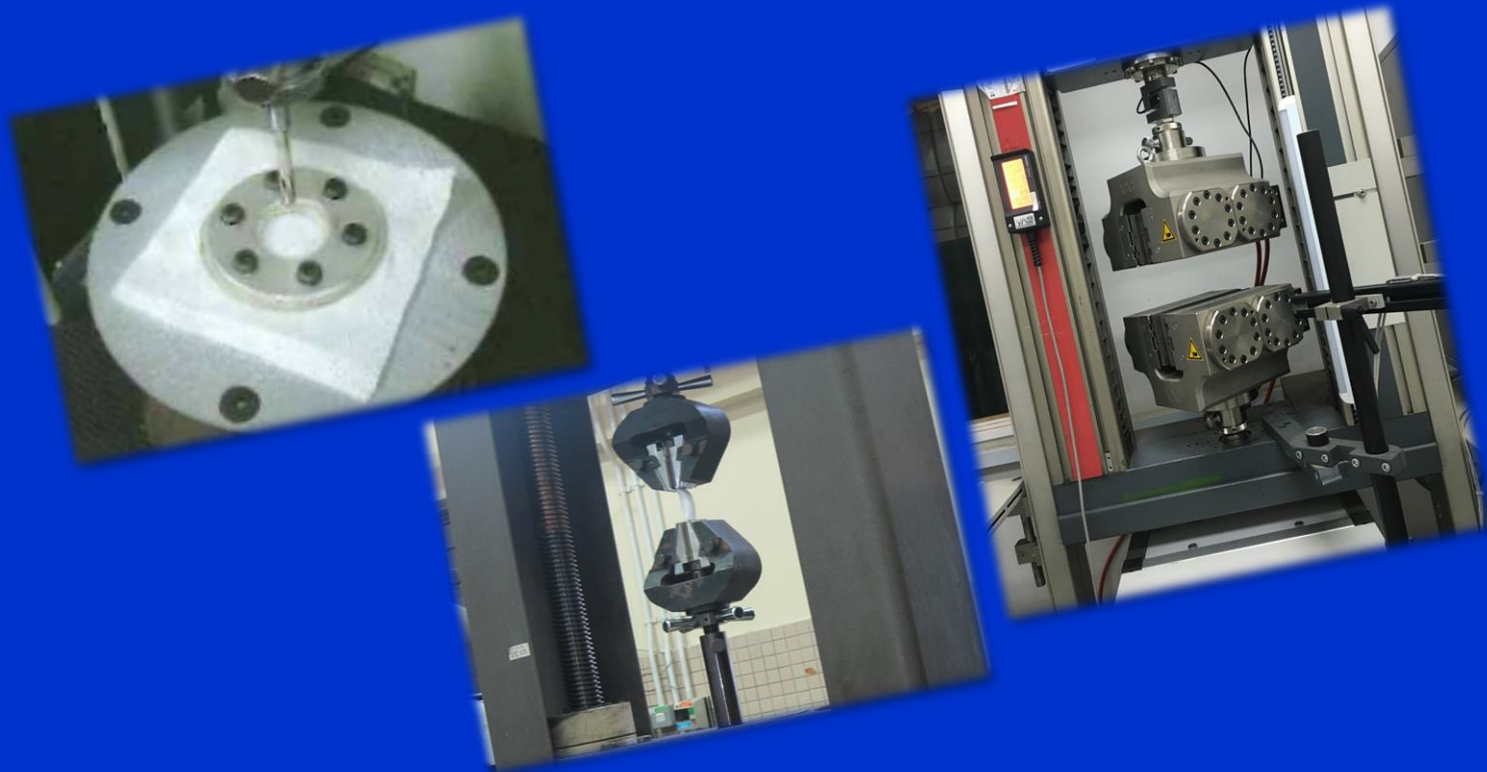
Rev 02, Nov 2016



SELECTION OF GEOTEXTILE PROPERTIES AND APPLICATION SUITABILITY

GEOTEXTILE PROPERTIES	APPLICATION					
	ROADWORKS/ SUBGRADE STABILIZATION	REINFORCED SLOPES/ WALLS	ROAD PAVEMENT WORKS	SURFACE EROSION PROTECTION	LANDFILLS	COASTAL & RIVERBANK EROSION PROTECTION
Unit weight/ mass					✓	✓
Thickness					✓	✓
Tensile Strength & Elongation	✓	✓	✓	✓	✓	✓
Grab Tensile Strength					✓	✓
Cone Drop Test	✓				✓	✓
CBR Puncture	✓	✓	✓		✓	✓
Trapezoidal Tear Strength						✓
Opening Size	✓					✓
Permeability	✓					✓
Flow Rate		✓			✓	

GEOTEXTILE QUALITY CONTROL



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