NONWOVEN

GEOTEXTILES (POLYPROPYLENE)

• STABILISATION • DRAINAGE • PROTECTION

SYNTEX® by Permathene

Description

Syntex nonwoven polypropylene (PP) geotextiles are made from needle punched polypropylene. Fibres are cut, opened, laid onto a web, needled, inspected, tested and rolled. The production technique produces a product described typically as "a nonwoven needle punched geotextile".

road stabilisation

Applications

• Civil

Roadway Stabilisation / Separation: Roads and highways are built using geotextile to prevent aggregate from mixing with the subgrade.

separation, stabilisation, drainage

Drainage: Syntex nonwoven geotextiles are ideal for drainage applications. Unlike woven geotextiles (with the exception of monofilament drainage fabrics), polypropylene nonwovens resist clogging. Nonwovens are placed in direct contact with the earth where drainage stone, perforated drain coil, etc. may be placed. The nonwoven filters soil and waste while allowing water and leachate to pass.

• Environmental

Geomembrane Protection: Syntex heavy weight nonwoven geotextiles will cushion and protect geomembranes from puncture caused by aggregate and basecourse.

geomembrane protection

Gas Venting: Heavy weight nonwoven geotextiles are used for collection and lateral transmission of liquids and gases that may build up under a geomembrane used in a capping of waste facility.

• Hard Armour Underlay

Syntex nonwoven geotextiles are recommended to help relieve hydrostatic pressure beneath hard armour and prevent soils from migrating to the surface providing an effective erosion control method.

• Weed Control

A good nonwoven can be engineered to resist UV degradation for specific periods from 6 months to over 2 years. The product has proven to be an economical solution for highway embankments where traditional woven weed control fabrics have not provided adequate water flow to actively promote vegetation. Case studies are available. Again, polypropylene provides superior flow (in particular on slopes or in direct contact with earth).

• Technical

The Syntex range is manufactured to International Specification and tested by fully accredited laboratories. Properties are produced in both MARV and Typical.

• Support and Installation

Permathene can provide designs by our own Geotechnical Engineers. Where specified our installation crews can provide on-site stitching using industry standard methods.

PERMATHENE
Earth Solutions

NONWOVEN GEOTEXTILE APPLICATIONS

Application Recommendations for Syntex Nonwoven Geotextiles		
Civil	Erosion Control	GNP: B1, C1
	Drainage	GNP: A1, B1
	Roadway Separation	GNP: A1, B1, C1
	Roadway Stabilisation	GNP: B1, C1, D1
	Railroad Stabilisation	GNP: D2, E1
Environmental	Geomembrane Liner Protection	GNP: C1, D1, D2, E1
	Gas Venting	GNP: D1, D2, E1
	Landfill Leachate Collection	GNP: B1, C1
	Landfill Drainage Systems	GNP: C1

PHYSICAL PROPERTIES								
GEOTEXTILES NONWOVEN Polypropylene (product prefix: GNP)								
STRENGTH/ FILTRATION CLASSES (TRANSIT NEW ZEALAND)								
TNZ Strength Classes (F/7 2003)			A	B	C	D		E
TNZ Filtration Classes (F/7 2003)			1-4 (all grades)					
PRODUCT CODE (GNP:)			A1	B1	C1	D1	D2	E1
MECHANICAL								
Grab Strength	AS 2001.2.3 B	N	660	920	1250	1430	1506	1850
Elongation at Break	AS 2001.2.3 B	%	70	70	75	75	73	60
Trapezoidal Tear	AS 3706-3	N	280	350	465	540	731	820
Mullen Burst	AS 2001.2.4 B	kPa	1700	2350	3400	4000	4688	6400
CBR Puncture	AS 3706-4	N	1750	2450	3550	4150	4763	5700
G-Rating	Austroads	G	> 1200	> 1800	> 2900	> 3400	-	> 4500
HYDRAULIC								
Effective Opening Size (EOS)	AS3706.7	micron	170	125	90	90	75	75
Permittivity	AS3706.9	sec -1	2.58	3.2	2.6	1.4	1.7	1.0
Water Flow Rate	ASTM D4491	l/m2/sec	122	166	122	79	100	51
ENDURANCE								
UV Resistance (Retained @ 500 hrs)	ASTM D 4355	%	70	70	70	70	70	70

All values are Typical unless indicated otherwise.
The data in all tables is intended as guides only and is not intended as a warranty or guarantee. Permathene Ltd. reserves the right to change the specification contained herein without notice.
Updated: February 16 2011.

Disclaimer

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate.

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Except when agreed to in working conditions of use, no warranty expressed or implied is made regarding the performance of any product, since the manner of use and handling is beyond our control.