

WOVEN

GEOTEXTILES (POLYPROPYLENE)

• SEPARATION • STABILISATION • REINFORCEMENT

high strength and low elongation (high tensile modulus) spreads load and provides superior stabilisation and reinforcement to both paved and unpaved roads.

Description

Syntex woven geotextiles are manufactured by extruding polypropylene film and then slitting the film into individual yarns which are then woven to form the geotextile.

Applications

Each Syntex woven has specific properties for separation, stabilisation, reinforcement and filtration. High strength reinforcement (wide width tensile greater than 50 kN) and filtration (including monofilament) geotextiles are manufactured with specific properties.



Woven geotextiles perform several important functions. Where separation is required on firm soils ($\text{CBR} \geq 8\%$) a woven geotextile provides a strong and economical solution. The grades of geotextiles used for this are typically 100 to 250 gsm. For applications where a weak subgrade needs to be reinforced ($\text{CBR} \leq 3\%$) a high strength woven geotextile is used. These are classed by strength and are typically from 35 kN to 1000 kN.

• Unpaved Roadways

Syntex woven geotextiles provide a stable base for unpaved roads. The fabric prevents subsoil mixing with aggregate which, without geotextile, will quickly require repair. Not only will the soil migrate to the surface but also deep ruts will occur causing greater repair costs. Woven geotextiles also provide stabilisation over soft ground. Where access roads become boggy due to trucks and poor weather, a woven geotextile can provide the needed foundation by spreading the load across a wide area.

• Paved Roadways

Syntex woven geotextile greatly strengthens paved roads. Roads were traditionally made by using extra aggregate which was designed to be absorbed by the soil. Over time the soil becomes weaker and potholes form. Syntex wovens will provide a permanent separation barrier. Even with the constant flow of heavy truck traffic, a road with a Syntex woven geotextile will retain separation of aggregate and subgrade.

• Sediment Control

Syntex woven geotextiles are effective in the control of sediment laden runoff from construction sites. Syntex wovens offer both a high UV resistance and excellent hydraulic properties. The sediment can be contained and channelled into holding ponds.

Specific sediment control geotextiles are marketed as Syntex Silt Fence. These products are 91cm in width, designed to be fastened to stakes. The preferred method of installation is to trench the material using a silt fence trenching machine. See Silt Fence section of the Permathene Catalogue.

Selection Guide

Function	CBR (%)	Style	Typical Applications
Separation	> 8	GW110	Light roads, paved, unpaved
Stabilisation	> 5	GW165	Rural roads, paved, unpaved, taxiways
	> 3	GW235	Urban roads, paved, runways
Reinforcement	< 3	HS (High Strength)	Soft soils, embankments, slopes, walls

Physical Properties

GEOTEXTILES WOVEN Polypropylene (product prefix: GW)

PROPERTY	TEST METHOD	UNITS	165	235
MECHANICAL				
Polymer Type	ASTM D 1777	-	PP	PP
Mass per Unit Area	ASTM D 5261, AS 3706-1	g/m ²	165	235
Thickness	ASTM D 5199, AS 3706-1	mm	0.6	0.7
Grab Tensile Strength	ASTM D 4632, AS 2001.2.3 B	N	1065 X 1065	1555 X 1555
Elongation	ASTM D 4632, AS 2001.2.3 B	%	25 X 25	20 X 20
Wide Width Tensile Strength	ASTM D 4595, AS 3706-2	kN/m	22.7 X 27.1	35 X 43.8
Wide Width Elongation	ASTM D 4595, AS 3706-2	%	11 x 9	14 x 12
Trapezoidal Tear	ASTM D 4533	N	420 x 420	645 x 645
Mullen Burst	ASTM D 3786, AS 2001.2.4 B	kPa	3440	4820
CBR Burst	GRI-GSI, AS 3706-4	N	3740	5210
HYDRAULIC				
Apparent Opening Size (AOS)	ASTM D 4751 (dry)	mm	.300 - .212	.180 - .150
Water Flow Rate	ASTM D 4491	l/m ² /min	660	240
ENDURANCE				
UV Resistance (Retained @ 500 hrs)	ASTM D 4355	%	90	90

Values are Typical = Mean or Average Value of all test data

Disclaimer

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While every effort has been made to provide accurate and reliable information, it is up to the user of this brochure to verify all information, including designs it might be based upon, with an independent source. Application of this data must be made on the basis of responsible professional judgement.

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.