DUX®geotextiles

Built on DUX, Built to Last

DUX® is a complete range of non-woven and woven, polypropylene geotextiles specially designed for a wide range of civil engineering applications, including roadways, railways, erosion control and drainage.

Quality

DUX® non-woven geotextiles are manufactured in ISO accredited facilities using the latest German DILO blown hot-air technology, resulting in high strength, high puncture and tear resistance and high filtration and flow capability. DUX® geotextiles are manufactured from polypropylene, over 85% of all geotextiles worldwide are made from polypropylene. Why? Polypropylene has the greatest resistance to chemical attack and so is best suited for use in aggressive environments.

Tested

DUX® is NATA tested to all local Australian standards. DUX® complies with relevant Vicroads and RTA specifications.

Cost Savings

Geotextiles replace graded aggregate layers, simplify construction and provide real cost savings for many civil applications.

SGS is Australian owned, we keep overheads low and pass on the savings to you. Ask us to quote on your next project.

Availability

DUX® is available exclusively from SGS and its local agents. DUX® is available in a range of roll sizes from mini-rolls for sub-soil drainage, to 5m wide rolls for roadway stabilisation.

Design Support

SGS has supplied many of the largest projects in Australia. Designing with Geosynthetics is a specialist area, and our staff have wide experience and knowledge to help you choose the best product for your application.

A better way

www.geosynthetics.com.au

Geotexile Functions

Filtration & Drainage

High flow capacity together with small EOS, or opening size, and good strength are important for sub-soil drainage. The geotextile must be “sand-tight” to prevent the passing of soil fines, whilst allowing the flow of water.

The high porosity and good strength of DUX® 19c and 23c are ideal for this application. DUX® is available in a wide range of standard roll sizes to suit all trench sizes.

Separation & Reinforcement

Geotextiles have a 30 year proven track record in roadway stabilisation applications, and ensure long roadway life for very little cost. DUX® 30c is ideal for general separation applications, use DUX® 43c or woven DUX® W155 for very soft conditions. Polypropylene DUX® is the best choice when working with lime-stabilized soils, which can affect polyester fabrics.

W155 at Old Melbourne Road Traralgon

Erosion Control

High filtration capacity, high puncture resistance and good abrasion resistance are important when geotextiles are placed beneath rock rip-rap. Wave action agitates the rock and DUX® geotextiles calandered structure provides superior abrasion resistance.

DUX® 300c at Daylesford WWTP

Protection

DUX® is manufactured from polypropylene, which has very high resistance to chemical attack and hydrolosis [1], making it the best choice for landfill liner applications. DUX® non-wovens are also checked during manufacture to ensure the fabric is needle-free, to ensure liner protection.

DUX®600c at Wollert Landfill

Roads & Railtrack

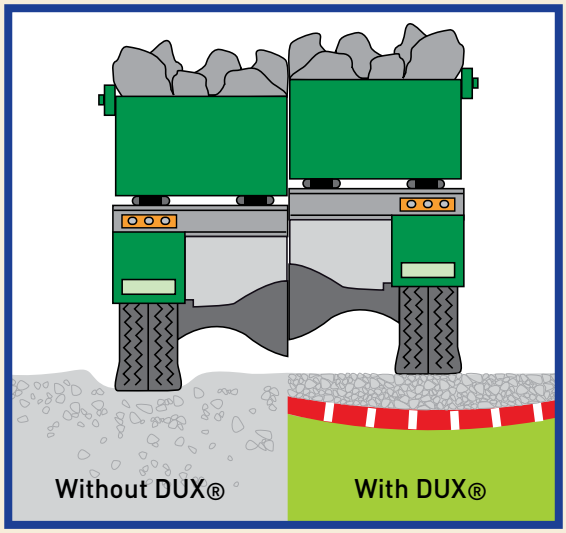
Aggregate basecourse contamination is the leading cause of road pavement failure. Pumping of subgrade fines into the crushed rock pavement quickly reduces the pavement strength, leading to surface cracking, deformation, pot-holing and failure. A low-cost separation geotextile placed at the subgrade prevents basecourse contamination and ensures the 20 year design life is achieved. As the saying goes, "10 kg of stone placed on 10 kg of mud results in 20 kg of mud".

On wet sites geotextiles are used as a construction aid, and are often the only choice to allow construction to proceed, enabling placement and compaction of aggregate on areas that would be unworkable otherwise. On very soft soils, (typically CBR<3%) geotextiles can also strengthen the pavement through local confinement of the aggregate. Geotextiles minimize over-excavation and allow stabilisation layers to be reduced by up to 50%.

SGS offers a no-charge design suggestion service to allow you to quickly check the benefits of incorporating geotextiles in your pavement design

W155 at Cirque du Soleil

In areas subject to dynamic loading, such as railtrack, high abrasion-resistance is required [2]. Dux® geotextiles are calandered to improve the mechanical bond between fibres, resulting in better abrasion resistance than other brands of geotextiles. Test this yourself by vigorously rubbing samples of geotextile between your hands, does the fabric unravel?



SPECIFICATIONS

Application	19c	23c	30c	43c	48c	56c
Subsurface Drainage	→					
Roadway Stabilisation			→			
Erosion Control			→			
Railroad Stabilisation					→	
Liner Protection				→		
RTA Strength Class		A1		C1		D1

NEW Improved Strength

DUX® geotextiles

Non-woven, UV stabilised, Polypropylene Staple-Fibre Geotextiles (typical values reported)

Property	Test Method	Units	19c	23c	30c	43c	48c	56c	84c
Mass	AS3706.1	g/m^2	120	145	183	265	287	353	515
Robustness Rating	Austroads	G-Rating	>1150 Mod. Robust	>1700 Robust	>2390 Robust	>3100 Ex-Robust	>3500 Ex-Robust	>4660 Ex-Robust	>7080 Ex-Robust
Wide Width Tensile (MD/XD)	AS3706.2	kN/m	9	11	15	21	25	30	48
Grab Tensile (MD/XD)	AS2001.2.3	N/50mm Strip	505	680	750	1320	1420	1875	2710
CBR Burst	AS3706.4	N	1500	2200	2400	3600	3900	5100	7300
Trapezoidal Tear	AS3706.3	N	188	230	330	470	505	605	902
Puncture Resistance, h50	AS3706.5	mm	870	1400	2200	2700	3190	4270	6850
Equivalent Pore Size O_{95}	AS3706.7	um	170	170	125	90	90	75	75
Permittivity	AS3706.9	s^{-1}	2.45	1.91	1.5	1.13	1	0.55	0.35
Flow Rate Under 100mm Head Q_{100}	AS3706.9	L/m^2/s	245	191	150	113	100	55	35
UV Stability, Xenon Arc	ASTM D4355	%@500hrs	>70	>70	>70	>70	>70	>70	>70
RTA Classes				A1		C1		D1	E1
Standard Roll Size		m	2x50	2x50	4x175	4x125	4x125	4x90	4x65
Approx Roll Weight		kg	15	17	130	130	125	130	130

Notes: Physical and hydraulic values are reported as mean values. All DUX® non-woven geotextiles are manufactured in compliance with ISO 9001. MD = Machine direction, XD = Cross Machine Direction. DUX® is a registered trade mark of Southern Geosynthetics Supplies Pty. Ltd. DUX® geotextiles are engineered to resist commonly encountered soil chemicals, mildew and insects. Polypropylene is non-biodegradeable and is stable. in a pH range of 2 to 13, making it one of the most stable polymers available for geotextiles today.

SGS - Bringing You the Best

Office: 03 9719 7969 Melbourne: 0438 088 724
Fax: 03 9719 7679 Sydney: 0409 953 136

www.geosynthetics.com.au

A better way

[1] Hayse, Y et.al "Effect of High Alkalinity Levels on Geotextiles. Part 1, Ca (OH2) Solutions" J. Geotextiles & Geomembranes, V5, No. 4, 1987 pp 261-282
[2] Raymond, G. "Geotextiles for Railroad Bed Rehabilitation" Proc. 2d Intl. Conf. Geotextiles, St.Paul, MN: IFAI, 1982 pp.479-484