

DUX Woven Geotextiles at Elaine Terminal Station

DUX W155 woven polypropylene geotextiles have proven the ideal solution for a range of road construction applications at Elaine, near Ballarat. Contractor Darren Barnett of Trident Civil Constructions commented that W155 gave him the edge when designing alternative road designs that offered real cost savings to clients. Southern Geosynthetics provided express, same day delivery which was critical for timely construction.

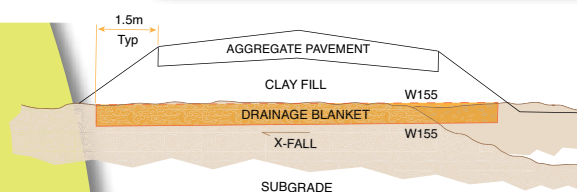
1. Separation

W155 was placed directly over insitu pasture / subsoils as a separation layer for imported tertiary gravel. Separation allowed for removal of the gravel upon decommissioning of the temporary access track without compromising subsoils. W155 also provided additional tensile strength to the gravel pavement. W155 has a high modulus and tensile strength of over 25kN/m and is rated as "Extremely Robust" with an Austroads "G" Rating of 3,500. W155 is supplied in easy to handle rolls. A 600sqm roll of W155 weighs only 95kg, making it half the mass and bulk of a roll of comparable non-woven geotextile.



Building access track on DUX W155 directly over pasture

W155 aids removal of temporary access track



2. Drainage Blanket

In low-lying areas a drainage blanket was required to allow free passage of surface stormwater. W155 fully encapsulated the 200mm minus quarry rubble material. W155 is permeable to allow release of hydrostatic pressure, making it suitable for all roading applications, even the most demanding swampy conditions. A permanent access road was constructed above the drainage blanket which improved drainage and allowed a more water sensitive clayey fill to be used above the drainage blanket, saving costs over more expensive aggregate.



Building drainage blanket over DUX W155



Building road formation over DUX W155

3. Separation Layer for Formation Earthworks

W155 is an invaluable aid for all aspects of pavement construction. Some 34,000sqm of W155 were supplied to Trident at the Elaine project during 2013, allowing construction to proceed during a very wet winter.

DUX W155 Product Properties

DUX W155 is a polypropylene woven fabric. This engineered geotextile is stabilized to resist degradation due to ultraviolet exposure. It is resistant to commonly encountered soil chemicals, mildew and insects, and is non-biodegradable. Polypropylene is stable within a pH range of 2 to 13, making it one of the most stable polymers available for geotextiles today.

Property	Test Method	Unit	Result
Physical			
Mass per Unit Area	AS 3706.1	g/sqm	160
Mechanical			
Robustness Rating	Austrroads	Ex Robust	3,500
Wide Strip Tensile (MD/XD)	AS3706.2	kN/m	25/25
Grab Tensile	AS2001.2.3	N/50mm strip	950
Trapezoidal Tear	AS3706.3	N	420
CBR Burst		N	3800
Drop Cone, h50	AS3706.5	mm	3260
Hydraulic			
Pore Size , EOS	AS3706.7	um	400
Permeability	AS3706.9	s-1	0.48
Flow Rate	AS3706.9	l/sqm/sec	48

Endurance

Retain 70% tensile strength after 500 hrs exposure to U.V. rays

