



DUX Paving Products



For over 25 years Southern Geosynthetics has been the respected leader in paving grids and tapes. Our expertise stands the test of time, with hundreds of successful projects. From local carparks to bike paths to airport taxiways, Southern Geosynthetics products have extended pavement life and saved clients money.



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DUX Asphalt Grid

Stop reflective cracking dead in its tracks with DUX Asphalt Grid.

DUX 50/50-25 is a 50kN/m polyester geogrid, combined with an ultralight PP non-woven. During manufacture DUX is bitumen-coated to ensure maximum bond and reinforcement performance.

DUX asphalt grid is specifically designed to stop reflective cracking of overlays, extending the life of pavements up to 4 times and reducing CO2 emissions.



A summary of the key installation steps for the installation of DUX grid



1. SURFACE PREPARATION

DUX Asphalt Grid must always be installed between two asphalt (AC) (bituminous layers). Ensure the surface is clean, dry and free of any loose material. Cracks of 5mm should be treated with a crack sealant. A very uneven AC sub-layer must be milled. Milled surfaces should not present channels deeper than 10mm. If existing AC is very uneven then an AC regulation layer may be required prior to installing DUX grid.

2. TACK-COAT SPRAYING

A 70% cationic emulsion should be evenly applied at a rate of 0.6L/sqm to ensure a good bond of the DUX grid to the AC.

3. TACK-COAT "BREAK"

Allow the tack coat to completely "break", allowing all the solvent and water to evaporate.

4. LAYING THE GRID

DUX grid may be installed either manually or with a purpose-built lay-down frame. DUX grid must be unrolled in straight lines. Skid-steer loaders are not recommended. Any creases or folds must be removed.

5. JOINTS/OVERLAPS

In the cross direction 150mm and in the length direction 250mm. The end of the roll always being placed over the beginning of the next, ensuring the overlap is not lifted during the covering operation. All overlaps must be treated with bitumen emulsion, to ensure there are no dry joints.

6. BENDS AND CURVES


On curves DUX grid is cut to lengths and manually laid with overlaps.

7. TRAFFICKING THE GRID

The grid-covered surface should not carry normal road traffic until the asphalt overlay has been placed. When DUX is trafficked by vehicles during construction avoid sharp turns, rapid changes in speed and hard braking.

8. ASPHALT OVERLAY

DUX Asphalt Grid must be covered by minimum 40mm compacted asphalt thickness.

 GB14/91953	CPR GB14/91953			
	Product trade name	Polyester Geogrid (FG) Knitted with PF Spunbond Nonwoven Geotextile Impregnated by Bitumen 5050-25		
Product-ID-No.	GEG5050-25 Polyester Geogrid with PP Nonwoven			
Textile type	Polymer	Bitumen Coated Polyester Grid with Nonwoven		
Coating type		with bituminous		
Colour		white, black or golden		
Melting point	°C	Polyester 255		
Non-Woven	g/m ²	PP 25		
Aperture Size	mm	MD 40 (+/-2) CD 40 (+/-2)		
Tensile Strength EN ISO 10319	KN/m	MD 60 (-10) CD 60 (-10)		
Tensile Strength @2% strain EN ISO 10319	KN/m	MD 15 (-5) CD 15 (-5)		
Elongation EN ISO 10319	%	MD 9.5 (+/-0.5) CD 9.5 (+/-0.5)		
Static puncture CBR	KN/m	2,6 (-1)		
Dynamic perforation	mm	3,8 (+2)		
Bitum retention EN 15381, Annex C	kg/sqm	0.5 (+/- 0,2)		
Mesh size	mm	40x40		
Mass per unit area for geogrid	g/m ²	245		
Mass per unit area for geotextile	g/m ²	25		
Mass per unit area for geocomposite	g/m ²	270		
Roll dimensions	+/-2%	Width 2/4m	Length 150m	Weight 81/162kg

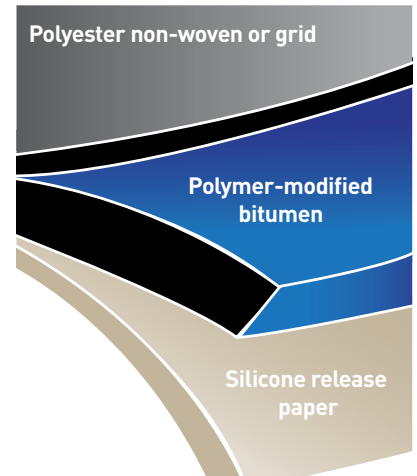


DUX Paving Tapes

DUX Roadtape and Roadgrid self-adhesive paving tapes complete the range of Southern Geosynthetic's pavement maintenance products.

ROADTAPE and **ROADGRID** are used in road, bridge and culvert applications for repairing small roadway areas, individual cracks and construction joints. Bitumen coated by DENSO in Australia, both exhibit exceptional adhesion, flexibility and toughness, and both are resistant to high temperatures so hot asphalt can be directly applied.

ROADTAPE is a composite of a polyester non-woven geotextile laminated to a bitumen polymer compound. Roadtape provides a primary sealing function and helps reduce reflective cracking.



ROADGRID is a composite of high-modulus 50x50kN/m polyester grid laminated with polymer-modified bitumen. Roadgrid is supplied in 500mm wide tape to ensure 250mm coverage on either side of crack, which is shown to best mitigate stresses and reduce reflective cracking.

13 year field experience shows high-strength Roadgrid effectively reduces reflecting cracking on new asphalt overlays.



Laying Roadgrid in Stewart St, Richmond 2011

Stewart St, 2024, not one crack



APPLICATION

1. Surface must be clean, dry, smooth and free of irregularities. Damaged and dirty surfaces must be repaired and cleaned. Gaps greater than 5mm must be filled with an approved filler prior to laying Roadtape. Larger cracks should be patched with a suitable slurry or hot or cold mix asphalt.
2. On porous and dusty surfaces, apply Roadtape Primer or spray bitumen tack coat. Allow primer to dry well.
3. Roadtape must not be applied at temperatures lower than +5C. In cold conditions Roadtape may be “enlivened” by heating bitumen side of Roadtape with a gas flame.
4. Unroll the membrane and position it onto the prepared surface, as indicated above, and pull off the release paper. Finally, when the membrane is aligned correctly, press it firmly into position, which can be done using a roller.



2C2 Project, Bruce Hwy, QLD

PRODUCT PROPERTIES

PRODUCT DATA	ROADTAPE non-woven PET geotextile laminated to a bitumen sheet	ROADGRID asphalt reinforcement grid laminated to a bitumen sheet
Raw Material	140gsm NW PET geotextile	50x50kN/m PET grid, 40x40mm mesh size
Coating	polymer-modified bitumen, 1.0kg/sqm	polymer-modified bitumen, 1.0kg/sqm
Mass	1.2kg/sqm	1.3kg/sqm
Thickness AS3706.1 (at 2kPa)	2.0mm (average)	1.8mm (average)
Adhesion to unprimed concrete (18C) ASTM D1000-04	21.93N/10mm	21.93N/10mm
Adhesion to unprimed bitumen (18C) ASTM D1000-04	21.93N/10mm	21.93N/10mm
Wide Strip Tensile Strength AS3706.2	7.8kN/m	>50kN/m
Wide Strip Tensile Elongation AS3706.2	>50%	<12%
Puncture Strength (8mm dia rod) ASTM D4833	340N (min.)	340N (min.)
Application Temperature ASTM D4833	+5 to +50C	+5 to +50C
Roll Size	150,250,300,500mm x 20m	500mm x 20m

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DUX

Geogrids

DUX geogrids are used to stabilise very soft, (CBR<2%) roadway subgrades. Aggregate locks into the geogrid apertures to provide a reinforcing effect, which can result in pavement thickness reductions of up to 30%. Southern Geosynthetics provides no-charge design software following Australian design methodology.



DUX CG30 GEOGRID

DUX CG30 is an extruded biaxial polypropylene geogrid combined with a non-woven filter geotextile. CG30 is especially designed for soil stabilisation and reinforcement applications. DUX CG30 features high tensile strength at both longitudinal (MD) and transverse (TD) directions and has excellent junction efficiency. DUX CG30 is typically used in roadway subgrade improvement.

INDEX PROPERTIES	TEST METHOD	UNITS	MD VALUES	TD VALUES
Polymer	Polypropylene	-	-	-
Minimum Carbon Black	ASTM D 4218	%	2	-
Tensile Strength @ 2% Strain	ASTM D 6637	kN/m	10.5	10.5
Tensile Strength @ 5% Strain	ASTM D 6637	kN/m	21	21
Ultimate Tensile Strength	ASTM D 6637	kN/m	30	30
Strain @ Ultimate Strength	ASTM D 6637	%	10	10
Structural Integrity				
Junction Efficiency	GRI GG2	%	95	95
Flexural Rigidity	ASTM D 7748	mg-cm	3,930,000	
Aperture Stability	COE Method	mm-N/deg	1432	
Geotextile Properties				
Mass per unit area	ASTM D 5261	g/sqm	150	
Opening Size	ASTM D 4751	mm	0.09	
Dimensions				
Aperture Dimensions		mm	36	34
Minimum Rib Thickness	ASTM D 1777	mm	2.1	1.8
Roll Width		m	3.90	
Roll Length		m	50	
Roll Mass		kg	107	



DUX

Geotextiles



Complete range
of woven and
non-woven geotextiles
Latest technology,
ISO accredited
manufacture
Meets all specifications
Vicroads, RMS,
QMRD & EPA. High
performance at low
price 20 year proven
performance.

TOP LEFT: DUX 600c as filter
layer beneath marine beaching
Williamstown Foreshore

TOP RIGHT: W155 woven
geotextile.

BOTTOM RIGHT: DUX
polyester Paving Fabric





DUX Overbanding Tape

A polymer-modified bituminous strip for use as an instant waterproof adhesive seal over cracks or failed reinstatement joints up to 5mm, on road pavements on secondary roads. The application of the tape prevents the ingress of water which causes pavement damage.



APPLICATION

1. Remove dirt and debris from the cracks and surrounding road surface using a stiff broom or brush.
2. ensure the the road surface is dry. If necessary use a gas burner to dry the cracks and surrounding area.
3. Peel back the interleaving film from the end of the roll and unwind it for one turn to expose the bitumen compound. Apply overbanding tape by hand. Cut and paste the tape to follow direction of crack.
4. The skid resistance can be increased by covering the tape with granite dust to a maximum size of 3mm. Alternatively a skid-resistant version of overbanding tape is also available.

TYPICAL PROPERTIES

DATA

Softening Point	120° C
Resistance to Water, Acids, Alkalis and Salts	Excellent
Temperature Range for Application	8° C to 45° C
Temperature Range for Service	-20° C to 80° C
Roll Dimensions	40mm x 10m / roll
Thickness	1.9mm



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