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PRODUCT CATALOGUE 2024–2025

Jaybro

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We've been in the geosynthetic business for over three decades with a team dedicated to making your life easier on site.

Our fully in-house team is comprised of accomplished technical engineers, consultants, sales & account managers, supported by warehouses across Australia and our professional operations team. Drawing on their diverse technical, business and industry backgrounds to provide exceptional solutions and customer service.

Polyfabrics is a proven leader in the design, development and technical support of geosynthetic systems and solutions to the civil engineering, landscape and building construction industries. Supplying a vast range of products including geocells, geotextiles, drainage systems, geogrids, clay liners and more.

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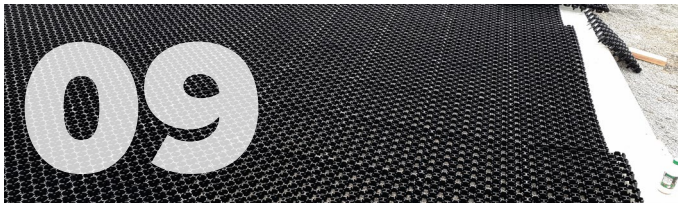

PAVING & GRASS

POLYFABRICS WEBINAR SESSIONS

Be up-to-date with the latest in geosynthetics

Meet the expert

Raymond Chow has been involved with the geosynthetics industry for over 15 years. Graduating with a First Class Honours degree in Civil Engineering at the University of Sydney, Raymond specialises in retaining wall designs, soft ground improvement, channel and slope protection, and on-site storm water management.

Raymond has been on various technical committees addressing geosynthetics, including testing, specification and durability issues.

Some topics we will cover include:

- Geo solutions general overview.
- Rigid Biaxial Geogrids/Geocomposites for flexible pavements & working platforms.
- High performance synthetic erosion mats for channel & slope protection.
- Biodegradable erosion mats for environmental protection.
- EROWeb® geocell steep slope systems.
- mastaTEX® Concrete (GCCM) rolled products.
- mastaTANK™ & mastaVAULT™ sub-surface drainage and tree root solutions.
- High strength geotextile basal soil reinforcement for soft soil ground improvement solutions.
- Non-woven geotextiles for separation & filtration applications.
- Retaining walls using gabions & geogrids.

Join our next session by emailing us at
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EROSION CONTROL

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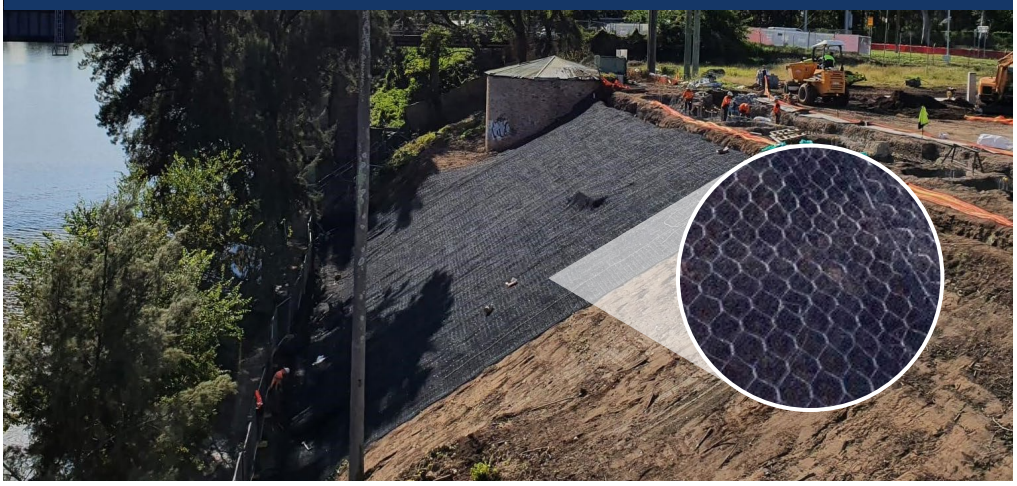
Jaybro CONSIDER IT DONE.

TerraMat® ReinforceX (RF80)



APPLICATIONS

- Erosion Control
- Embankments
- Slopes
- River Banks
- Coastal Areas
- Channels

TerraMat® is a three dimensional anti erosion mat consisting of entangled polypropylene mono filament fibres that are heat bonded to provide a dimensionally stable matrix to control soil erosion.

A three dimensional erosion geocomposite mat with an added double twisted steel woven wire, designed to provide increased slope friction between low friction angle surfaces, permanent erosion control and reinforcement. Suitable for rock control reinforcing the root system of grasses and vegetation for such areas as steep embankment slopes, river banks, channels, coastal and other erosion prone areas. A major advantage is that the edges and end of TerraMat RF80 can be joined to provide consistent strength in all direction required in steep slopes and high velocity streams.

CODE	SIZE
TMRF80-2-25	2m x 25m x 50m²

TerraMat® ReinforceX (RF80) Specifications		
Grade refers to fibre Matrix FibreMatrix Grade*	**Unit**	**Values**
Application	-	Permanent Grass &Soil Reinforcer
Raw Material	-	UV Stabilised PP
Reinforcement		
Raw Material	-	Double twisted zinc coated steel woven wire mesh
Properties	-	Zn-Al Alloy 5%
Wire Mesh Size	cm	8x10
Thickness	mm	2.7
Plastic Coating Thickness	mm	0.5mm
Physical & Mechanical Characteristics		
Total Thickness	mm	18
Mass	gr/m²	1670
Void ratio	%	>90
Tensile strength MD	kN/m	>47
Elongation at max load MD	%	5
Permissible Velocity (Vegetated)	m/s	7.2
Package Dimensions		
Roll width	m	2.0
Roll length	m	25
Roll Area	m²	50
Roll diameter	cm	120

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EROmasta® SeedMat

APPLICATIONS

- Embankments
- Landscaping
- Golf Courses
- Erosion Control
- Channels

EROmasta® SeedMat is a synthetic turf reinforcement mat, which protects underlying soil from erosion and provides a reinforcing matrix for vegetative root growth. It is a three dimensional multi-layered product manufactured from polyethylene. It consists of two high tensile base layers of net bonded to three upper layers that form a cuspate surface that provides an array of pockets that trap the soil particles and windblown seeds.

EROmasta® SeedMat when installed gives instant protection against soil erosion caused by wind, rain and flash flooding. Top soil and seed is applied on top of the erosion mat to fill the pockets and allow the grass to grow through the mat. The established vegetation has now a reinforced root system resistant to the forces of erosion. Suitable for slopes up to 1:0.7, with grass or local vegetation surface. Not suitable for use under permanent or seasonal water levels.

CODE	DESCRIPTION
TRM3-2/50	2m X 50m Green
TRM5-2/30	2m X 30m Black

EROmasta® Seedmat Specifications				
Index Properties	**Test Method**	**Units**	**TRM3**	**TRM5**
Tensile Strength (MD)	ASTM D6818	kN/m	2.6	3.2
Thickness	ASTM D6525	mm	12.5	21
Mass/Unit Area	ASTM D6566	g/m^2	329	447
UV Resistance 5000hrs	ASTM D4355	%	80	90
Resiliency	ASTM D6524	%	80	80
Performance Properties				
Permissible Velocity (Vegetated)	Flume Test 1,2	m/s	3.9	6.2
Sheer Stress (Vegetated)	Flume Test 1,2	Pa	365	480
Maximum Gradient	-	LH	1:0.6	1:0.8
Physical Properties				
Material Polymer	-	-	Polyethylene	
Netting Layers	-	-	3	5
Void Ratio		%	>85	>90
Colour	Visual	-	Green	Black
Roll Width	-	m	2	
Roll Length	-	m	50	30

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EROWeb® Geocell

APPLICATIONS

- Embankments
- Paved/Unpaved Roads
- Landfills
- Canal/Reservoirs
- Railways and Ports

The EROWeb® Geocell is a 3-dimensional expandable cellular confinement system of various depths made from HDPE. It is used to confine various infill and provide stability on slopes and channels. Offers unique, eco-friendly solutions for various civil engineering challenges. Engineered for diversity, EROWeb® can be utilised in various sectors such as roads, railways, ports and others. The EROWeb® Geocell is perfect for construction and saving money. They can be filled with locally sourced material, a cost saving, especially in remote locations where aggregates require importation. It can be used for Erosion control; this enables vegetation to regenerate in difficult areas, preventing wash out zones. It is also perfect for unpaved roads. This means an access road can be built in most locations during construction zones, and much more economical than building a permanent road structure. It can also be used to reinforce structures, build up the foundation, and as a retaining wall.

EROWeb® Geocell is a Cellular Confinement Systems (CCS), offering advanced soil stabilisation technology, commonly installed to support load, erosion control, slope stability, and other applications. Geocell's are welded HDPE plastic cells installed to reduce erosion from weather and heavy or repetitive traffic. Designed to allows water to drain freely without washing out the material. It is ideal for use in the construction of slopes and embankments that are prone to erosion but is also utilised in the construction of roads, parking lots, playgrounds, and much more.

CODE	DESCRIPTION
EC445-100	EROWeb® Geocell – 100mm
EC445-150	EROWeb® Geocell – 150mm
EC445-200	EROWeb® Geocell – 200mm

EROWeb® Geocell Specifications

Properties	**Unit**	**Test Mothod**	**Values**
Polymer Density	g/cm3	ASTM D 1505	0.935-0.965
Environmental Stress Crack Resistance	hrs	ASTM D 1693	>5000
Carbon Black Content	%	ASTM D 1603	min. 1.5
Nominal Sheet Thickness	mm	ASTM D 5199	min. 1.52
Material	Compound of various Polyethylenes and additives		
Texture	Polyethylene strip consists of a multiple rhomboidal indentations over the entire strip area on both sides of the strip. The indentations have a surface density of 22 to 32 per cm^2		
Perforations	Polyethylene Strip is perforated with horizontal rows of maximum 10 mm diameter holes. Cell perforations are is less than 12% of cell surface area		
Cell/Section Properties			
Weld Spacing	mm	-	445
Cell Depth	mm	-	100, 150, 200
Expanded Cell Dimensions (+3%)	Width - mm Length - mm	-	320 287
Expanded Cell Area (+3%)	m/s	-	460
Nominal Expanded Section (+3%)	Width - mm Length - mm	-	2.56 8.35
Nominal Expanded Section Area (+3%)	m^2	-	21.4
Seam Properties			**Cell Depth**
Seam Peel Strength (EN ISO 13426-1, Method B: Peeling Test)	mm N	-	100 150 200 1420 2130 2840

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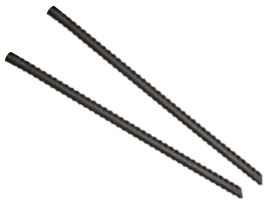
EROWeb® TerraMat® & TEC Mat® Accessories



CODE	DESCRIPTION
SW-SPIN450	12mm x 450mm
SW-SPIN500	12mm x 500mm

EROWeb® Pins
Sizes: 12mm x 450mm,
12mm x 500mm

CODE	DESCRIPTION
SW-MHEAD	Made from durable plastic

EROWeb® Multi Head
1 Multihead is needed per EROWeb pin

CODE	DESCRIPTION
SW-KEY	Made from durable plastic

EROWeb® Key
37 keys are needed per panel of EROWeb

CODE	DESCRIPTION
SWCORD8-100	8mm x 100m, Orange/White

EROWeb® Cord
Size: 8mm x 100m
Colour: Orange or White

CellGrip™ Anchor Pin

CellGrip is designed to secure and enhance geocell performance in slope reinforcement and soil retention applications. Available with plastic or metal head.

TL-P1 Anchor Pin

The TL-P1 holds all types of erosion control and soil stabilisation blanket matting securely in place. The high load anchoring pin is designed to hold all types of turf reinforcement matting, erosion blankets, geotextiles and landscaping fabrics.

GRIPPLE

CODE	DESCRIPTION
TL-GCA-1	CellGrip™ Anchor Pin – Metal Head
TL-GCA-2	CellGrip™ Anchor Pin – PVC Head

CODE	DESCRIPTION
TL-P1	TL-P1 Anchor Pin, 200mm long

CODE	DESCRIPTION
TL-P1-TOOL-STD	Terra-Pin Drill Chuck

U Pins

Essential for pinning a variety of erosion control products and occasionally geotextile to the ground.

It is recommended that a minimum 150mm U Pin is used for relatively firm compacted soils and the longer 300mm U Pin is used for pinning through loose topsoil.

CODE	DESCRIPTION
30-PINS150-500	Retaining Pins 150mm U Shape, 500pk
30-PINS300-250	Retaining Pins 300mm U Shape, 250pk
30-PINS300-150	Retaining Pins 300mm U Shape, 150pk
30-PINS200-150	Retaining Pins 200mm U Shape, 150pk

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TEC Mat® Coir

APPLICATIONS

- Erosion Control
- Slopes
- Soil Stabilisation
- Landscaping
- Roadside Shoulders
- Hydroseeding

TEC Mat® Coir is a natural fibre matting made from 100% natural coconut fibre that is spun and woven into a matting available in various grades. TEC Mat® Coir is an open weave geotextile that is fully biodegradable adding organic matter to the soil. As coir is an abundant and renewable resource, TEC Mat® Coir is widely used in civil engineering, landscape and slope stabilisation applications. When vegetated, it has the mechanical strength necessary to hold soil in place and prevent erosion. The coir netting slows down runoff from heavy rains and dissipates the energy of flowing water and wind. TEC Mat® Coir also promotes the growth of new vegetation by absorbing water and preventing the topsoil from drying out.

TEC Mat® Coir has double the life of jute and higher tensile strength than other organic geotextiles with longevity of around 3-5 years. This allows ample time for natural vegetation to establish and therefore stabilise the area.

TEC Mat® Coir is ideally suited for preventing and controlling erosion even on steep slopes. When installed according to our recommendations and planted into or seeded, the TEC Mat® Coir will not only stabilise the area but also retain moisture and assist seed germination.

CODE	DESCRIPTION
COIRM4/2/50	Mesh 400gsm, 2m x 50m
COIRM7/2/25	Mesh 700gsm, 2m x 25m
COIRM9/2/25	Mesh 900gsm, 2m x 25m

TEC Mat® Coir Specifications

Conditions	TEC Mat® Coir 4	TEC Mat® Coir 7	TEC Mat® Coir 9
Water Flow Velocity (m/s) (observed)	2.7	3.8	4.8
Slope/Profile	<70°	<70°	<85°
Open area measured (per sqm)	65%	50%	39%
Mass per unit area	400gsm (nominal)	700gsm	900gsm
Thickness (at 2kPa)	7mm (nominal)	7.5mm	7.5mm
Roll Size	2m x 50m	2m x 25m	2m x 25m

Jute Mesh (Soil Saver)

Jute Mesh is a biodegradable open weave erosion control mesh suitable for short term erosion protection to batters and open drains. Jute Mesh helps retain moisture and allows water and light infiltration to encourage vegetation growth. Used for slope protection, roadside shoulders, drainage areas, landscape projects, also used in conjunction with Hydroseeding and Seed & Bitumen emulsion spraying.

Jute Mesh Specifications

Properties	Unit	Values
Weight	g/m^2	500
Width	m	1.22
Length	m	68, 549

CODE	PRODUCT
JM12-68M	Jute Mesh Biscuit 1.2mx68m

CODE	PRODUCT
JM12-BALE	Jute Mesh Bale 1.2mx549m

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TEC Mat® Jute

APPLICATIONS

- Erosion Control
- Slopes
- Soil Stabilisation
- Landscaping
- Roadside Shoulders
- Hydroseeding

TEC Mat® Jute is 100% organic and is the traditional erosion control blanket used to protect soils in areas exposed to wind or high rainfall. The heavier grades of TEC Mat® Jute are also used as weed suppressants while the TEC Mat® Jute - 280gsm provides an ideal media for seed germination as it protects the soil from erosion while still allowing the seed to grow through the matting. The innate characteristic of "moulding" to the ground, allows TEC Mat® Jute to reduce moisture loss from the soil that aids the growth of desired plants. It has a life expectancy varying from 6 to 24 months depending on grade and climatic conditions.

CODE	DESCRIPTION
30-JM280	Light 280gsm, 2m x 50m
30-JM600	Thick, 1.83m x 25m
30-JM600S	Thick Pre-Slit, 1.83m x 25m
30-JM750	Heavy 750gsm, 1.83m x 25m
30-JM750S	Heavy 6/Slit, 1.83m x 25m

TEC Mat® Jute Specifications

Product	Weight	Roll Size	Material
TEC Mat®Jute Light	280g/m^2 (nominal)	2m x 50m	Jute Fibres, needle punched to form a matting
TEC Mat®Jute Thick	600g/m^2 (nominal)	1.83m x 25m	
TEC Mat®Jute Heavy	750g/m^2 (nominal)	1.83m x 25m	
TEC Mat®Jute Heavy (Pre-slit)	750g/m^2 (nominal)	1.83m x 25m	

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Ecolog® Coir

APPLICATIONS

- Water Diversion
- Sediment Filtration
- Spill Containment
- Stream Bank Stabilisation
- Flood Control
- Coastal Erosion
- Erosion Control
- Slope Contouring

EcoLog® are coir logs made from 100% natural coconut fibre compacted into an outer mesh of bristle coir twine. They incorporate biological, ecological and engineering aspects of erosion control into their design, producing a structure, that when vegetated controls shoreline and stream bank erosion.

EcoLog® stabilises the bank and permit the establishment of vegetation. The coir fibre accumulates sediment and degrades as plant roots develop and can become the stabilising element.

EcoLog® are fully biodegradable within 5-10 years, decomposing into a natural medium that promotes plant growth. As this happens a well established root system develops that will blend into aquatic environments and successfully hold banks and shorelines in place which help prevent further erosion by diminishing the force of waves and stream flow. This is why vegetating is recommended. Once wetland plants are established, EcoLog® also provide a natural habitat for wildlife.

CODE	DESCRIPTION
30-COIRL2-1.5	200mm x 1.5m, 7 kg
30-COIRL2	200mm x 3m, 14 kg
30-COIRL3	300mm x 3m, 21 kg

EcoLog Specifications

Size	Outer Net Size	Weight	Material
200mm (diameter) x 3m	50mm x 50mm	14kg	Coir
300mm (diameter) x 3m	50mm x 50mm	21kg	Coir
200mm (diameter) x 1.5m	50mm x 50mm	7kg	Coir

Ecolog Coir Stakes

For use with installing EcoLog® to the soil or ground.

Ecolog Coir Stake Specifications

Log Size	Stake Size
200mm Coir Logs	50 x 25 x 450mm
300mm Coir Logs	50 x 25 x 600mm

CODE	DESCRIPTION
30-5025450	Hardwood Stakes (Unpainted), 50x25x450mm
30-5025600	Hardwood Stakes (Unpainted), 50x25x600mm

Consult Polyfabrics or a certified Engineer for site specific installation instructions. Polyfabrics reserves the right to change its product specification at any time. It is the responsibility of the specifier and purchaser to ensure that product specifications used for design and procurement purposes are current and consistent with the products used in each instance.

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COASTAL PROTECTION

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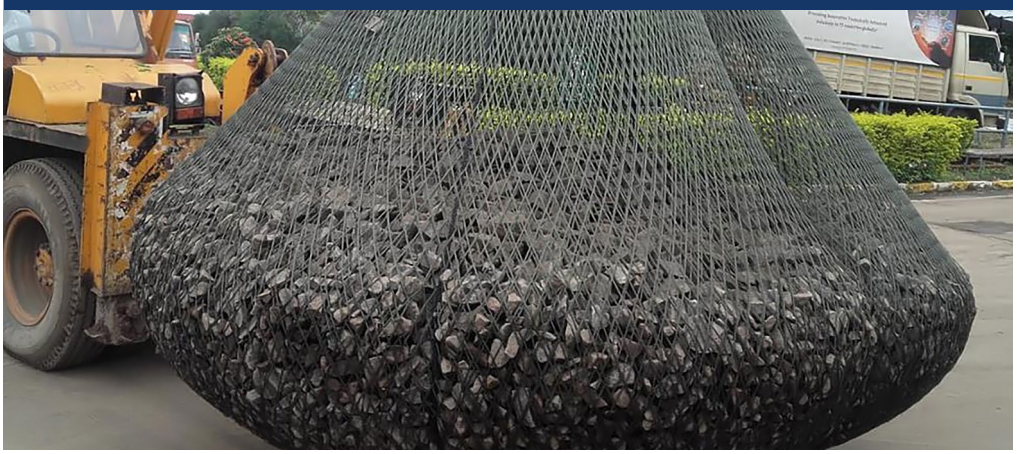
EROmasta FastRock



APPLICATIONS

- River training
- Erosion control
- Scour Protection
- Bank protection
- Flood control
- Embankment works

Flexible Rope Net Gabion are made from polyester yarn, HDPE or other suitable polymers. The product consists of netting and polymer ropes which are fabricated together in controlled environment. It comes with a lifting ring which aids in connecting the bag safely with lifting equipment.

Polymers are inert to corrosive coastal environment; these gabions are highly preferred for under water and coastal protection works. Boulder fill can be done in situ or gabions can be pre-filled and installed in place with the help of suitable equipment. These gabions after filling are placed adjacent to each other to form a continuous structure. Based on the test reports from BTTG-Shirley Tech UK, we can offer products with up to 50 years design life when covered and maintained as stipulated on EN/ISO/BS codes.

CODE	DESCRIPTION
FASTROCK2.0	2T, 1.97m x 0.65m
FASTROCK4.0	4T, 2.2m x 0.85m

EROmasta FastRock Specifications

Essential Characteristics	**Test Standard**	**Performance**	
Tensile strength MD Tensile strength CMD	EN ISO 10319	MD- 25 kN/m minimum CMD- 8.5 kN/m minimum	
Elongation at Maximum load MD Elongation at Maximum load CMD	EN ISO 10319	MD- 15 % minimum CMD- 75 % minimum	
Mass/ unit area	ISO 9864	195 gms/sq. Meter	
Thickness @ 2 kPa	ISO 9863-1	2 mm	
Static Puncture strength (CBR)	ISO 12236	1500 N	
Resistance to hydrolysis test	NF EN 12447	% Strength Retention > 85	
Microbiological resistance test	ENV ISO 12225	% Strength Retention > 80	
Resistance to chemical degradation mention A	ISO TR 12960	% Strength Retention > 90	
Resistance to chemical degradation mention B	ISO TR 12960	% Strength Retention > 90	
Resistance to weathering test	EN 12224	% Strength Retention > 85	
Product Type	**Diameter (m)**	**Height(m)**	**Recommended Stone Fill Size**
2T	1.97	0.65	> 50mm
4T	2.2	0.85	> 50mm

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SoftRock Geotextile Sand Bags

APPLICATIONS

- River training
- Erosion control
- Scour Protection
- Bank protection
- Flood control
- Embankment works

Geotextile sand containers (GSC) are sand-filled container, manufactured from geotextiles and used for coastal structures, dune security and scour protection. An alternative to conventional rock materials.

CODE	DESCRIPTION
SOFTROCK0.75	Sand Bags - 0.75m³
SOFTROCK2.5	Sand Bags - 2.5m³

SoftRock Geotextile Sand Bags Specifications

Mechanical Properties	**Standard**	**Units**	**Stats**	**SOFTROCK 900PP**
Tensile Strength	AS3706.2	kN/m	Typical	40
Tear Strength	AS3706.3	N	Typical	1,200
CBR Burst Strength	AS3706.4	N	Typical	11,000
Grab Tensile	AS3706.2	N	Typical	4,000
UV Resistance	AS 3706.11	%	Typical	>50%
Mass	AS 3706.1	gsm	Typical	900
Geotextile Sand Container Details	**Units**	**Stats**	**0.75m³ Container**	
Layflat Length	m	Typical	2.0	
Layflat Width	m	Typical	1.5	
Depth	m	Typical	0.40	
Filled Weight (Sand)	kg	Typical	1,100	
Factory Seams	**Stitch Type**	**Polymer**	**Breaking Strength**	**UV Stability**
Primary	Chain	Polyester	>30kg	70%
Secondary	Over-Lock	Polyester	>30kg	70%

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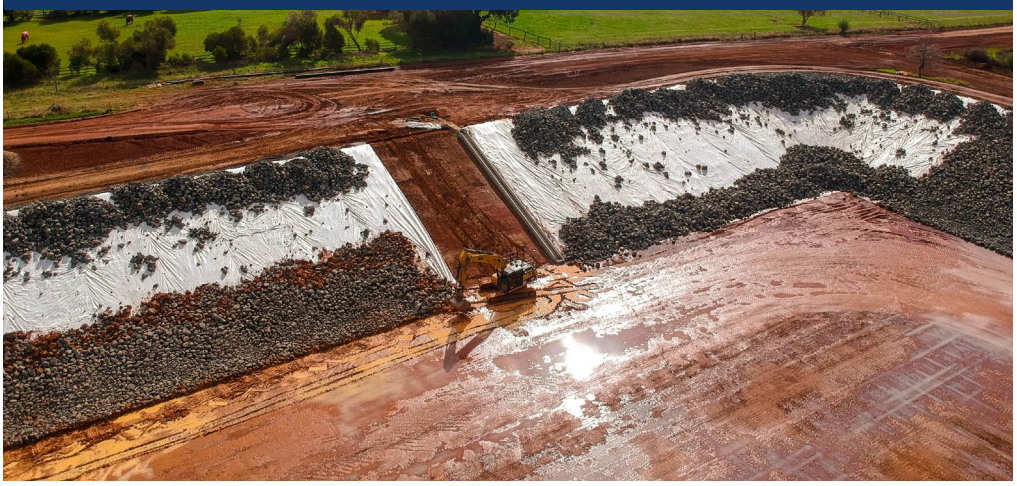
TerraTex® (PP) Non-Woven



APPLICATIONS

- Coastal Protection
- Subgrade Separation
- Slope Stabilisation
- Liner Protection

The TerraTex® PP Non Woven geotextile range is a 100% polypropylene staple filament that is highly needled for the use of a wide range of geotechnical applications including separation, filtration and reinforcement procedures. TerraTex® PP Non Woven geotextile is manufactured according to ISO 9001 quality standards. The product is wrapped in highly UV stable outer wrap and may be left outside, on-site or for later use provided the wrapper is not removed prior to deployment and use. It is recommended installation occur within a month of delivery.

TerraTex® nonwoven geotextiles enhance the performance and design life of granular layers by providing the filtration and separation functions. Typical uses for TerraTex® standard geotextiles include ground stabilisation (between the sub-base and sub-grade) around drainage materials and the protection of impermeable liners.

CODE	DESCRIPTION
TTPP600	TerraTex (PP) Non-Woven 600
TTPP900	TerraTex (PP) Non-Woven 900
TTPP1200	TerraTex (PP) Non-Woven 1200

TerraTex®PP Non-Woven Specifications

				Coastal & Cushioning Grades		
Properties	**Standard**	**Units**	**Stats**	**600**	**900**	**1200**
Tensile Strength Minimum of MD/CD	AS3706.2-12	kN/m	Typical	49.0	56.0	75.0
Tear Strength Minimum of MD/CD	AS3706.2-12	N	Typical	900	1200	1650
CBR Burst Strength	AS3706.4-12	N	Typical	8000	9800	10000
G Rating	Austroads	-	Typical	8500	11000	23000
Grab tensile Minimum of MD/CD	AS3706.2-12	N	Typical	2900	3100	4400
Flow Rate @ 100mm head	AS3706.9	$L/m^2/s$	Typical	120	70	40
Permittivity	AS3706.9-12	s-1	Typical	1.2	0.7	0.4
Pore Size (O_{95})	AS3706.7	Micron	Typical	75	75	75
UV Resistance	ASTM D4355	%	Typical	70 Retained		

The specification is compiled from MQA testing. To ensure this is current, contact Polyfabrics
MD = Machine Direction; CD = Cross Machine Direction;
Typical Values = Arithmetic Mean (50% will exceed value & 50% will not); MARV = Minimum Average Roll Value (Typical less 2 standard deviations or 97.5% will exceed this value)
TerraStop® is a registered trademark of Polyfabrics. The information contained herein is to the best of our knowledge accurate.
As part of our continual improvement. Polyfabrics reserve the right to amend the properties in this data sheet without prior notice.

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TREE PLANTING

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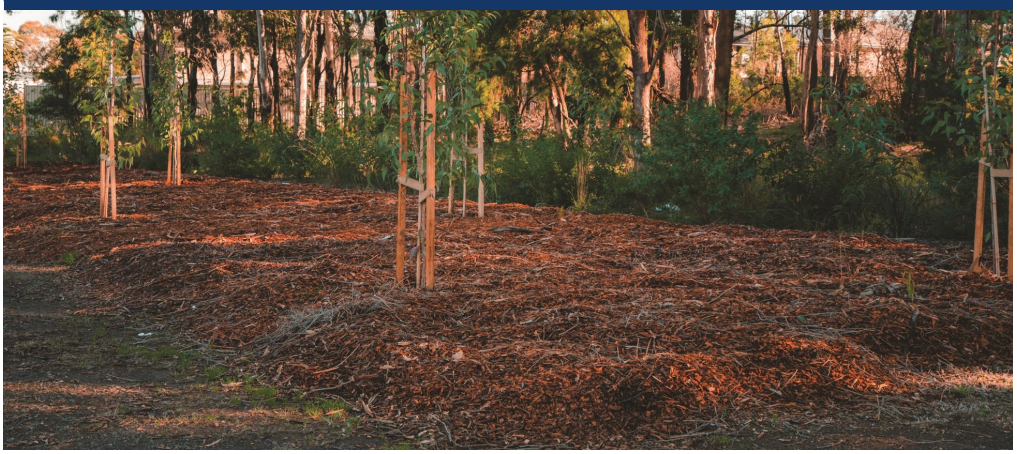
Plant Assist



APPLICATIONS

- Create ideal root establishment environment
- May reduce transplant shock
- Organic compounds assists root development
- Contains beneficial microbes & fungi

Plant Assist™ is a specially blended soil additive to support newly planted tube stock and plants through the critical establishment period.

Plant Assist™ is a brilliant new product that incorporates soil & microbe friendly nutrients as well as organic water saving inputs that will provide an environment to give plants the best possible chance of establishing in all type of soil conditions. The high carbon base means that the product will have ample food for the biomass to establish around the root zone of the plants while also providing nutrient for the early stages of growth, with limited chance of burn. The silica rich, diatomaceous earth input, retains water while supplying silica for the plant: a known plant cell strengthener as well as a pathway for nutrient into the root.

Added zeolites further retain water and house all important microbes while not affecting the hydraulic conductivity of the soil in heavy conditions. Microbes, including mycorrhiza fungi & trichoderma help support and protect the root system and assist in supplying nutrient from beyond the root zone. Kelp, containing alginates and natural growth hormones, not only support cell division and reduce transplant shock but also holds many times its weight in water to further assist the new plantings. Water crystals and a natural surfactant, derived from saponin, completes this sophisticated product.

CODE	DESCRIPTION
30-PASS25	Plant Assist 25kg

Typical Applications

Tubes :	12g (2 teaspoons) in hole.
Pots :	80g (small handful) per 140mm pot or in hole
Large Tubs :	Up to 5% potting mix volume
Soil Application :	200g / m2 turned into top 10cms soil.
Under Turf :	200g / m2 raked into topsoil.
Commercial :	Apply 1 Tonne per Hectare

Plant Assist Specifications	
Typical Analysis	
N-1.25%	Cu– 40ppm
P-0.4%	Mo- 19ppm
K-0.8%	Si- 14.5%
Ca- 2.2%	Zn- 110ppm
C-7%	Mn- 100ppm
S-0.5%	Se- 0.4ppm
Fe- 0.11%	Na - .03%
Mg- 0.21%	B– 150ppm

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Jaybro CONSIDER IT DONE.

Typhoon Tree Tablets

APPLICATIONS

- Labour saving
- Perfect for landscapers
- Feeds for up to 12 months
- Incorporates essential trace elements
- To compensate for local soil deficiencies

Typhoon® plant tablets contain slow release fertilisers & deliver nutrients & organic carbon to plants as per the plants' nutrient demand & feed all types of trees, shrubs & ground cover plants for up to one year. However, the release of Nitrogen is through microbial breakdown & we recommend to reapply after 7 –8 months to effectively match the nutrient supply as per the plants nutrient demand.

CODE	DESCRIPTION
30-TTAB10	10g, 1000 Pack
30-TTAB20	20g, 500 Pack

Typhoon Tree Tablets Specifications

Macro Elements	**General Purpose**	**Native**
Total Nitrogen (N)	20.00 % w/w	20.07 % w/w
Nitrogen (N) as Urea	2.00 % w/w	1.41 % w/w
Nitrogen (N) as Ureaform	16.00 % w/w	17.29 % w/w
Nitrogen (N) as Nitrate	1.00 % w/w	1.00 % w/w
Nitrogen (N) as Ammonium	1.00 % w/w	1.00 % w/w
Total Phosphorus (P)	4.40 % w/w	1.20 % w/w
Water Soluble	3.55 % w/w	0.93 % w/w
Citrate Soluble	0.55 % w/w	0.27 % w/w
Insoluble	0.30 % w/w	N/A
Total Potassium (K)	8.00 % w/w	10.50 % w/w
Micro Elements		
Sulphur (S) as Sulphate	4.12 % w/w	4.60 % w/w
Magnesium (Mg) as Sulphate	0.64 % w/w	0.45 % w/w
Iron (Fe) as Sulphate	0.36 % w/w	0.36 % w/w
Zinc (Zn) as Sulphate	0.32 % w/w	0.08 % w/w
Copper (Cu) as Sulphate	0.31 % w/w	0.05 % w/w
Manganese (Mn) as Sulphate	0.17 % w/w	0.08 % w/w
Boron (B)	0.02 % w/w	0.01 % w/w
Molybdenum (Mo)	0.01 % w/w	N/A

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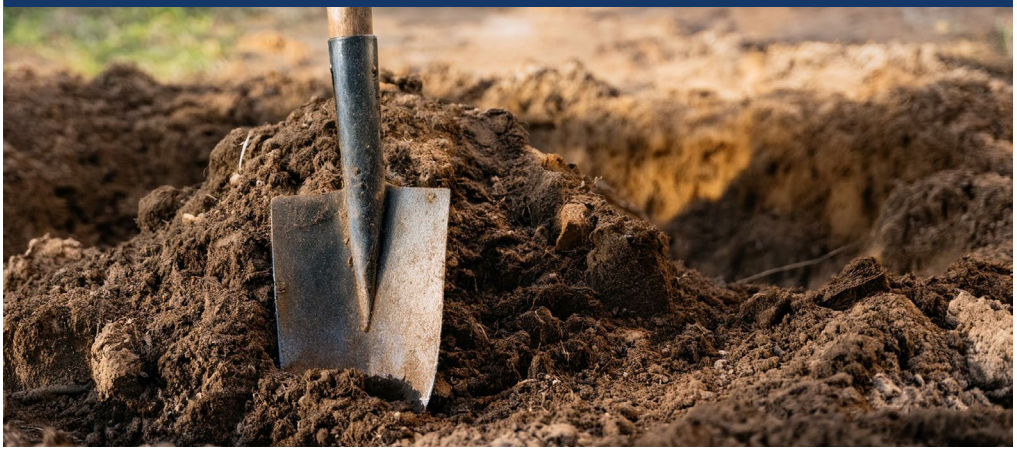
Natural Gypsum



APPLICATIONS

- Improves soil structure
- Increases water penetration
- Enhances aeration
- Promotes better root development

Natural Gypsum will improve soil structure, increase water penetration and increase aeration which will enhance root development. Natural Gypsum will improve the soil structure of heavy clay soils.

- Clay breaker
- Grade 1 – Natural Gypsum
- 20kg bag

CODE	DESCRIPTION
41-GYPS	Natural Gypsum 20kg

PRECAUTIONS FOR SAFE HANDLING:

- Avoid contact with eyes and skin
- Avoid breathing dust
- Wash thoroughly immediately after handling.
- Wash work clothes regularly

CONDITIONS FOR SAFE STORAGE:

- Store in a cool, dry well ventilated location, isolated from diazomethane, aluminium and phosphorus
- Keep containers sealed against exposure to air and water. Long term storage may result in caking.
- Store away from foodstuffs

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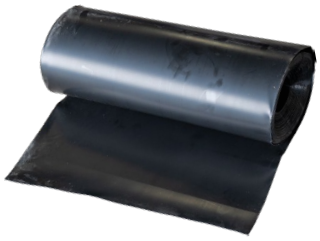
Root Barrier HDPE

CODE	SIZE
RBPE45	450mm x 30m
RBPE06	600mm x 30m
RBPE09	900mm x 30m
RBPE12	1200m x 30m



Root Barrier is a cost-effective way to prevent root and moisture problems. Made from UV Stabilised, black medium density polyethylene, the product creates an impermeable barrier that deflects roots away from the protected area.

Root Barrier is designed for the protection of sub-surfaces (including paved areas, foundations or water features) as well as the foundations of buildings and roads.

Root Barrier HDPE Specifications		
Size	**Unit**	**Values**
Polymer	-	HDPE
Thickness	mm	1
Roll Width	mm	450, 600, 900, 1200
Roll Length	m	30

Tree Squares Mats

CODE	SIZE
30-JMSQ370	Jute Squares 370mm 100pk
30-JMSQ600	Jute Squares 600mm 50pk

Jute Mat Tree Squares mats can absorb up to three times their original mass, ensuring trees get all the required nutrition and enabling stable growth. The key benefit of them is longevity. While other natural fibre mats will withstand weed growth for up to 1-2 years depending on environmental conditions, Jute Mat Tree Squares has already surpassed weed growth for 3 years and is still going strong.

Jute Mat Tree Square Specifications		
Size	**Unit**	**Values**
Material	-	Jute Fibre
Width	mm	370, 600
Length	mm	370, 600

Hardwood Tree Stakes

Durable hardwood timber stakes are the ideal solution for many applications, from roadside tree planting to supporting seedlings, up to mature tree planting in urban projects.

Hardwood Tree Stakes Specifications	
Size	**Colours**
2400 x 50 x 50mm	Natural or Black
2100 x 50 x 50mm	Natural or Black
1800 x 50 x 50mm	Natural or Black
2100 x 38 x 38mm	Natural
1800 x 38 x 38mm	Natural
1500 x 38 x 38mm	Natural

CODE	SIZE
30-50502400	50 x 50 x 2400mm
30-50502400-B	50 x 50 x 2400mm (Black)
30-50502100	50 x 50 x 2100mm
30-50502100-B	50 x 50 x 2100mm (Black)
30-50501800	50 x 50 x 1800mm
30-50501800-B	50 x 50 x 1800mm (Black)

CODE	SIZE
30-38382100	38 x 38 x 2100mm
30-38381800	38 x 38 x 1800mm
30-38381500	38 x 38 x 1500mm

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Water Wells

Water Well are ideal for assisting Councils, Urban Landscapers & Land Division Developers to help efficiently water trees during establishment as well as directing nutrients to the root zone.

CODE	DESCRIPTION
WWLRG-BLK	50L
WWMED-BLACK	26L

Water Wells Specifications		
Properties	**Water Well Medium**	**Water Well Large**
Sizes	430mmø x 190mm H	600mmø x 190mm H
Water Retention	26L	50L
Material	Recycled UV Stabilised Plastic	
Colours	Heritage Green, Black	

Cardboard TreeGuard

GEOmasta® 2L Cardboard Tree Guards are a biodegradable cost effective way of protecting new tube stock revegetation project planting. The 2L cardboard carton guards will provide shelter for young plants from wind and browsing animals during the early stages of growth. Being manufactured from cardboard similar to milk cartons, natural elements will break them down into the soil over time meaning you can leave them on site, not having to return to site to remove them.

- Totally biodegradable
- Easily installed with bamboo canes through the pre slotted guards
- Easy to store and transport
- Dimensions: 95mm x 95mm x 300mm

Cardboard TreeGuard Specifications	
Tree Guard	**Material**
2 Litres	Cardboard

CODE	DESCRIPTION
30-TGC2L	2 Litres, 250pk

Corflute Tree Guards

Tree shelters for protection against pesticides and grazing from larger animals like deer & wallabies.

Our tree guards come in a wide range suitable for all environments. The range includes one time use degradable Poly tree Guards. Corflute guards are designed for 2-3 seasons, meeting local council guidelines.

These are installed with tree guard pegs or bamboo stakes.

Tree Guard Specifications	
Tree Guard	**Material**
450mm x 200mm	Corflute
600mm x 200mm	Corflute

CODE	SIZE
30-TG450-2	450mm x 200mm
30-TG600-2	600mm x 600mm

Tree Guard Stake Specifications	
Stake Size	**Material**
25 x 16 x 900mm	Hardwood
25 x 16 x 750mm	Hardwood
38 x 11 x 750mm	Hardwood

CODE	SIZE
30-2516900	25 x 16 x 900mm
30-2516750	25 x 16 x 750mm
30-3811750	38 x 11 x 750mm

***Plastic sleeves also available**

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Jute Webbing

- Also known as Hessian Tree Tie
- For use with stakes and tree ties to limit the movement and support newly planted trees and plants
- Biodegradable
- Lasts up to 12 months

CODE	SIZE
30-HTT	50mm x 33m Roll

Poly Tree Tie

- For use with stakes and tree ties to limit the movement and support newly planted trees and plants
- UV Stabilised
- Made from polypropylene
- Can be cut to any length to suit application

CODE	SIZE
30-BTT	50mm X 100m Roll

Interlocking Tree Tie

For use with stakes and tree ties to limit the movement and support newly planted trees and plants

- UV Stabilised
- Made from recyclable plastic
- Can be cut to any length to suit application

CODE	SIZE
30-ITT	12mm x 100m Roll

Bamboo Stakes

- Ideal for young tree planting where plastic sleeve tree guards are being used to protect plants. Machine rounded bamboo, forming a solid flower stick
- Used to support newly planted trees and plants
- Inexpensive and easy to use

CODE	SIZE
30-BS10600	8-10mm x 0.6m
30-BS12750	10-12mm x 0.75m

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mastaVAULT TreeLite

APPLICATIONS

- Roads
- Streetscaping
- Car Parks
- Plaza Paving

mastaVAULT TreeLite are modular units that assemble to form a skeletal matrix that supports relevant pavement loads while providing large volumes of uncompacted soil within the structure for free root growth.

The open, skeletal matrix provides a maximum growth zone for tree roots. More than 95% of the Internal Void volume is available for uncompacted soil and root growth.

Traditionally rock and soil mix use to provide support for pavement, while permitting some root growth within the pavement. mastaVAULT MegaTree System have moved this principle forwarded by entirely replacing the rock (80% of the total volume), the engineered modules provide the structural strength for pavement loads whilst providing free uncompacted soil for root zone to grown and trees to flourish in an urban environment.

CODE	SIZE
MV1-HALF	715 x 400 x 240mm
MV1-SINGLE	715 x 400 x 440mm
MV1-DOUBLE	715 x 400 x 860mm

mastaVAULT TreeLite Specifications

Properties	**Unit**	**Half Module^**	**Single Module^**	**Double Module^**
Length	mm (in)	715 (28.75)	715 (28.75)	715 (28.75)
Width	mm (in)	400 (15.75)	400 (15.75)	400 (15.75)
Height	mm (in)	240 (9.45)	440 (27.16)	860 (33.86)
Module Volume	L	68.52	125.77	245.94
Soil Storage Volume	L	65.12	119.47	233.64
Void Area	%	95	95	95
Surface Void Area	%	95	95	95
Service Temperature	°C (°F)	7 to 60°C (-44 to 140°F)	7 to 60°C (-44 to 140°F)	7 to 60°C (-44 to 140°F)
Recycled Content	%	90% Selected Recycled Polypropylene + 10% proprietary mix.		
Biological & Chemical Resistance	-	Unaffected by moulds, algae, Soil borne Chemical, bacteria and bitumen, polypropylene is very inert		
Short Term Compressive Strength*	ton/sqm (PSI)	18 (25.60) - Vertical and Lateral		
Rib Thickness & Weight	mm Kgs /Cbm (Lbs/Cbm)	19-20 per piece - Plate Thickness 57-59 (125-130) (Minimum 5 internal support plates per single unit)		
Long Term Deflection Unconfined - Used to determine long-term performance of the system *Single Module tested				
Loads Applied		Initial & Sustained		
Vertical Creep	65 kN/sqm (6.62t/sqm)	1.15% (5.06mm) (Estimated long term deflection (Vertical creep) projected 40 yrs ** applied test load of 65 kN/m^2)		
Lateral Creep	65 kN/sqm (6.62t/sqm)	1.05% (4.20 mm) (Estimated long term deflection (Lateral creep) projected 40 yrs ** applied test load of 65 kN/m^2)		

*All compressive strength listed is for single cell unit, recommended safe design value to be worked out, safety factors to be incorporated.
**Derived from long term Extrapolated Creep testing data, 415 day minimum
^Other sizes available

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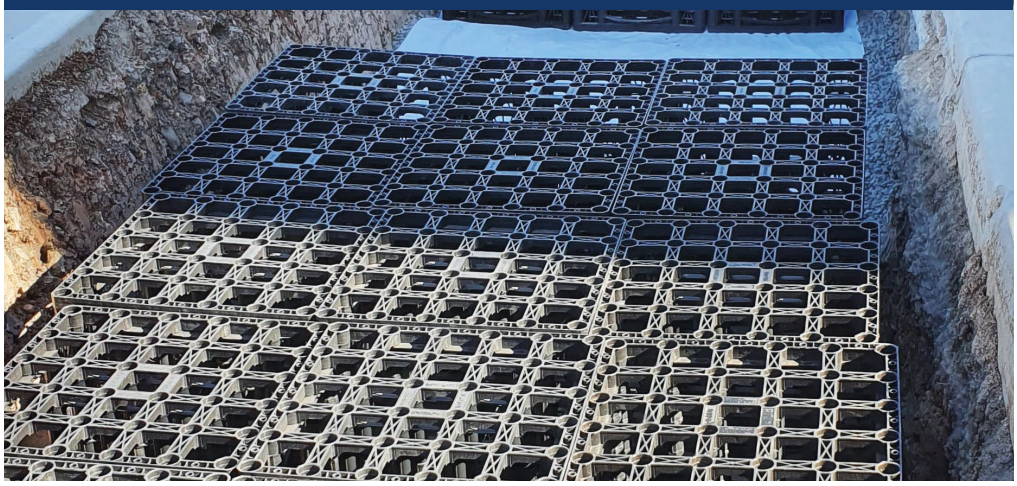
mastaVAULT MegaTree



APPLICATIONS

- Roads
- Streetscaping
- Car Parks
- Plaza Paving

mastaVAULT MegaTree are modular units that assemble to form a skeletal matrix that supports relevant pavement loads while providing large volumes of uncompacted soil within the structure for free root growth.

The open, skeletal matrix provides a maximum growth zone for tree roots. More than 95% of the Internal Void volume is available for uncompacted soil and root growth.

Traditionally rock and soil mix use to provide support for pavement, while permitting some root growth within the pavement. mastaVAULT MegaTree System have moved this principle forwarded by entirely replacing the rock (80% of the total volume), the engineered modules provide the structural strength for pavement loads whilst providing free uncompacted soil for root zone to grow and trees to flourish in an urban environment.

CODE	SIZE
MV2-SINGLE	600 x 600 x 360mm
MV2-DOUBLE	600 x 600 x 690mm

mastaVAULT MegaTree Specifications			
Properties	**Unit**	**Single Module^**	**Double Module^**
Length	mm (in)	600 (23.62)	600 (23.62)
Width	mm (in)	600 (23.62)	600 (23.62)
Height	mm (in)	360 (14.72)	690 (27.16)
Module Volume	L	129.60	248.40
Soil Storage Volume	L	123.12	235.98
Void Area	%	95	95
Surface Void Area	%	95	95
Rib Thickness	mm (in)	4.3-4.4 (0.16 -0.17) (Minimum thickness of the load bearing members to full depth of the plate)	
Service Temperature	°C (°F)	-10 to 75°C (-14 to 167°F)	-10 to 75°C (-14 to 167°F)
Recycled Content	%	85% Selected Recycled Polypropylene + 15% proprietary mix	
Biological & Chemical Resistance	-	Unaffected by moulds, algae, Soil borne Chemical, bacteria and bitumen, polypropylene is very inert	
Ultimate Unconfined Vertical Crush Strength	ton/sqm (PSI)	65 (92.45) (Using a full -size plate that completely covers the top of the unit determines the pressure required to crush the entire unit)	
Ultimate Unconfined Lateral Load Crush Strength on side	ton/sqm (PSI)	7.5 (10.66) (Using a full -size plate that completely covers the top of the unit determines the pressure required to crush the entire unit)	
Short Term Deflection	per mm	Vertical Deflection 42.00kN/ m^2 Lateral Deflection 2.8kN/ m^2	
Long Term Deflection	95kN/m^2	1.08% 3.88mm (Estimated long term deflection (vertical creep) projected 50 years **Applied test load of 95 kN / m^2)	
Projected Creep	15kN/m^2	1.41% 8.46mm (Estimated long term deflection (lateral creep) projected 50 years **Applied test load of 15 kN/m^2)	

*All compressive strength at yield, maximum recommended safe design value, safety factors to be incorporated.
**Derived from long term Extrapolated Creep testing data, 516 day minimum
^Other sizes available

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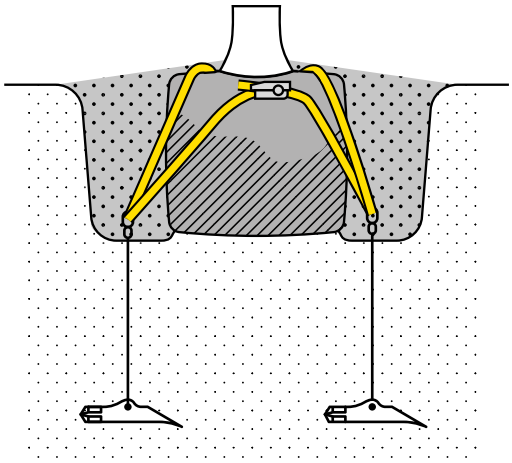
Rootball Kit



APPLICATIONS

- Erosion Control
- Tree Support
- Tree Anchoring

CODE	DESCRIPTION
68RBK	Model 68, 6 units at 14.5kg (32lbs)
88RBK	Model 88, 6 units at 14.5kg (32lbs)

The DUCKBILL® Root Ball Kit is the anchoring solution of choice when guy pole or stake systems are not possible or desirable in locations such as playgrounds, parks or where sidewalk plantings are required.

The DUCKBILL® Root Ball Kit is specifically designed to hold the tree's root ball firmly in place, with only the tree protruding above the ground. Each Root Ball Kit comes with 3 DUCKBILL® anchors with D-ring and 1 strap with hand ratchet

Saving time and labour, patented Duckbill® Anchors work like toggle bolts in the soil. Duckbill Anchors are driven into the ground (with no holes, no digging and no concrete), providing a safe and environmentally sensitive installation.

An upward pull on the anchor tendon rotates the Duckbill Anchor into a perpendicular "load lock" position in undisturbed soil. Duckbill Anchor systems offer the most effective, lightweight, economical solutions to any anchoring application, large or small.

How to Select Power Drive Steel

- Determine the Duckbill Anchor to be installed.
- Measure hex size (D) across flats of a shank that fits the hammer.
- Measure shank length (L) from top of hex to bottom of collar.
- Call with special shank sizes or if you need more information on determining what drive steel is needed.

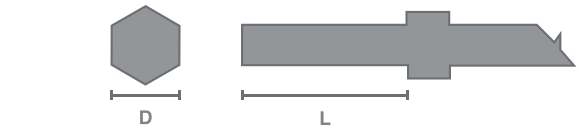
Each Duckbill Anchor has unique drive steel determined by the jack hammer and the anchor model.

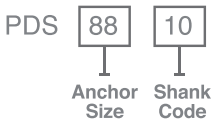
Advantages:

- Fast, easy, safe installation
- No poles or stakes
- Completely underground

*One kit anchors one tree. Drive steel additional.

EXAMPLE: For a Model 88 Anchor with 1 in x 4 ¼ in shank, drive steel is PDS8810.





To get the Shank Code, multiply the hex size (D) by the shank length (L).

D x L = Shank Code **1 in x 4¼ in = 10**

Rootball Kit Specifications

Properties	Model 40 RBK Kit	Model 68 RBK Kit	Model 88 RBK Kit
Tree Size	For trees up to 2 in 50mm (2 inch) diameter	For trees up to 3 in 75mm (3 inch) diameter	For trees up to 6 in 150mm (6 inch) diameter
Kit Contents	3x DUCKBILL® anchors with D-ring 1x 6ft strap with hand ratchet	3x DUCKBILL® anchors with D-ring 1x 20ft strap with hand ratchet	3x DUCKBILL® anchors with D-ring 1x 21ft strap with hand ratchet
Capacity (Per Anchor)	300 lbs (1.33 kN) in normal soil	1,100 lbs (4.89 kN) in normal soil	3,000 lbs (13.39 kN) in normal soil
Standard Case and Weight	6 units at 6kg (13lbs)	6 units at 14.5kg (32lbs)	6 units at 32 lbs (14.5 kg)

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DRAINAGE SYSTEMS

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TerraDrain®

APPLICATIONS

- Basement Foundations
- Retaining Walls
- Planters
- Bridge Abutments
- Rooftop Gardens

TerraDrain® is a dimpled plastic sheet that provides effective drainage and waterproof membrane protection on foundation walls and other underground structures. The integrated non-woven geotextile covering the dimples prevents soil particles blocking the drainage sheet, creates an air gap for reliable ventilation and allows inflow and with its dimple structure effectively captures and transports high water volumes and resists high loads from earth and formwork.

TerraDrain® products perform a multi-faceted role by providing protection for waterproofing systems and managing sub-surface water around building foundations. Soil backfill is retained by a filter fabric while allowing water to pass into the drainage core providing hydrostatic relief. Collected water is then conveyed to a proper collection system.

TerraDrain® products all consist of an impermeable polymeric sheet cuspated under heat and pressure to form a high flow dimpled drainage core. Cuspation/dimples can be on one side giving a flat surface on the opposite side (TD10 & TD20) or cuspated/dimpled on both sides (TD18). The core is then bonded to a layer of non woven filter fabric. The filter fabric retains soil or sand particles as well as freshly placed concrete or grout, allowing filtered water to pass into the drainage core.

The double cuspated (TD18) provides an additional void space between the wall and wall membrane, and Drainage Composite for air and water to circulate. In addition it maintains a very high flow rate while providing a higher compressive strength for greater depths.

CODE	DESCRIPTION
SDS-TD10	10mm x 1.1m x 20m
SDS-TD18	18mm x 1.1m x 30m
SDS-TD20	20mm x 1.1m x 30m

TerraDrain® Specifications

HDPE Core Properties	Unit	TD10 Single	TD18 Double	TD20 Single
Compressive Strength (ASTM-1621)	kN/m²	250	250	250
Nominal Thickness	mm	10	18	20
Flow (ASTM-4716) i=1.0 @ 100 kPa	l/min/m width	180	150 (Single)	250
Roll Length	m	20	30	30
Roll Width	m	1.1	1.1	1.1
Roll Weight	kg	18	26	35
Geotextile Properties				
Flow (AS3706.9)	l/m²/s	>180	>150	>180
CBR (AS3706.7)	N	>1400	>1700	>1400
EOS (AS3706.4)	mm	<0.12	<0.12	<0.12
Grab (AS3706.2)	N	>500	>700	>500

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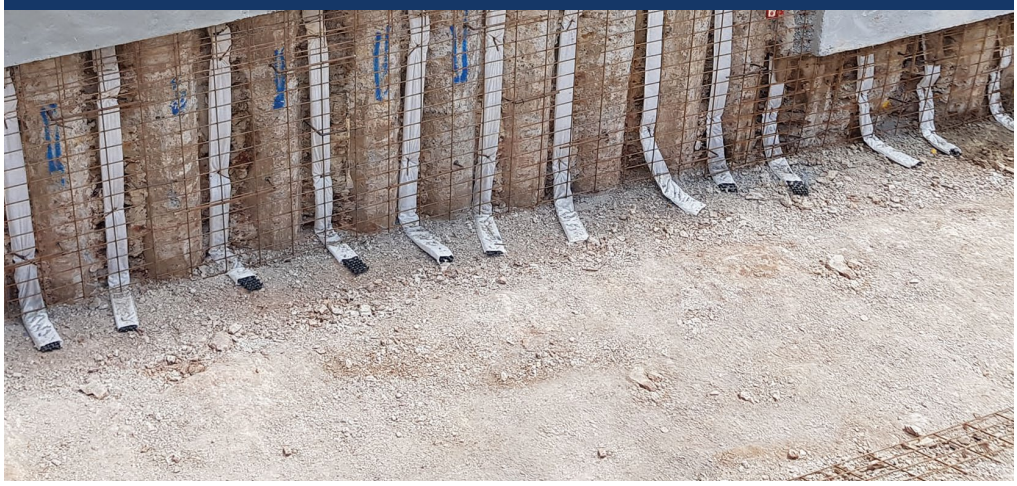
FREDrain® Strip Filter



APPLICATIONS

- Subsoil Drainage
- Shotcrete Walls
- Concrete Piles
- Slope Drainage
- Sports Field Drainage
- Basement Walls

FREDrain® Strip Filter is a composite drain and collection system consisting of a three dimensional, high-flow drainage core which is wrapped with a non-woven filtration geotextile. It is designed to replace a conventional sand or gravel covered pipe drains by providing a far greater surface area for water to pass, resulting in faster more efficient drainage. Available in 100mm, 200mm and 300mm widths, either 25 or 40mm thick and come in 50m Rolls. A full range of fittings are available with the system for fast and easy installation.

The most important characteristic of any subsurface drainage system is its ability to collect water from the surrounding soil. Pipe and stone systems have major limitations when compared to FREDrain® Strip Filter. The open area in FREDrain® (60%) far exceed that of a perforated pipe (1.1%) and rigid strip filters (2.5%).

- Lower installed cost - Combined installation and material cost is usually less than half of that for aggregate drains.
- Easy to handle and install - Lightweight
- Reduces drainage system space requirements
- Strong and durable - Crush strength of core resists damage during installation.
- High flow capacity - Structure of core provides multiple channels for vertical and horizontal water flow. Geotextile filter fabric permits high volume of water into core while restraining soil.

CODE	SIZE
30-SD100	40mm x 100mm x 50m
30-SD200	40mm x 200mm x 50m
30-SD300	40mm x 300mm x 50m
SD25100	25mm x 100mm x 50m
SD25200	25mm x 200mm x 50m
SD25300	25mm x 300mm x 50m

End outlets, Universal tee outlets and Side outlets are available

SIDE OUTLET

RIGHT ANGLE OUTLET

END OUTLET

COUPLER

FREDrain® Specifications			
HDPE Core Properties	**Unit**	**25**	**40**
Compressive Strength (ASTM-1621)	kPa	>200	>200
Minimum Stiffness (RMS 3556)	mm	>11.0 for width 200 - 400mm	
Thickness (ASTM-1777)@ 4mm deflection	mm	25.0	40.0
Flow (ASTD-4716) i=1.0	l/min/m	110	130
Material	-	HDPE	
Core Profile	-	Raised Cups both sides	
Roll Length	m	50	50
Roll Width	mm	100, 150, 200, 300	
Roll Weight	kg	18, 35, 54	26, 52, 78
Geotextile B1 Properties			
Flow (AS3706.9)	$l/m^2/s$	>150	>150
EOS (AS3706.4)	mm	< 0.12	< 0.12
G Rating	-	>1350	>1350
Tear	N	>250	>250
Grab (AS3706.2)	N	>500	>500

CODE	DESCRIPTION
SD200-CP	FREDrain® 200mm Coupler
SD200-EC	FREDrain® 200mm End Cap
SD200-EO	FREDrain® 200mm End Outlet
SD200-SO	FREDrain® 200mm Side Outlet
SD200-RAO	FREDrain® 200mm Right Angle Outlet
SD300-CP	FREDrain® 300mm Coupler
SD300-EC	FREDrain® 300mm End Cap
SD300-EO	FREDrain® 300mm End Outlet
SD300-SO	FREDrain® 300mm Side Outlet
SD300-RAO	FREDrain® 300mm Right Angle Outlet

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FREDrain® ULTRA Strip Filter

APPLICATIONS

- Road Edge Drainage
- Subsoil Drainage
- Shotcrete Walls
- Concrete Piles
- Slope Drainage
- Basement Walls

FREDrain® ULTRA Road Edge strip filter is a composite cuspated drain consisting of a three dimensional, high-flow drainage core which is wrapped with a non-woven filtration geotextile. It is designed to replace a conventional sand or gravel covered pipe trench drain by providing a far greater surface area for water to infiltrate/pass, resulting in faster, more efficient drainage.

Available in 300mm widths, by 25mm thick and come in 50m Rolls. A full range of fittings are available with the system for fast and easy installation.

CODE	DESCRIPTION
SD300-ULTRA	FREDrain Ultra, 25mm x 300mm x 50m

FREDrain Ultra® Specifications				
General Properties	**Test Method**	**Unit**	**Value**	
Core Thickness	ASTM D1777	mm	>25	
FREDrain® Depths	Manufacturer QA	mm	300	
FREDrain® Roll length	Manufacturer QA	m	50	
Percentage Open Area of FREDrain®	Manufacturer QA	%	10	
Geocomposite Performance Properties	**Test Method**	**Unit**	**Value**	
Flow Capacity @ 200kPa confining pressure and 0.5 hydraulic gradient	ASTM D4716	l/min/m	>300	
Horizontal Compressive Strength @ 20% deflection	ASTM D2412 & ASTM D1621	kPa	>200	
Change in Core Area at nominated load of 157 kPa	ASTM D6244	% loss of cross sectional area	<5	
Geotextile Properties	**Test Method**	**Unit**	**MRTS 27 and RMS R63 Requirements**	**FREDrain Geotextile Property (Characteristic Q Value)**
Elongation	AS3706.4	%	>30	>30
Grab Tensile	AS3706.2	N	>700	>700
Trapezoidal Tear	AS3706.3	N	>250	>250
G Rating	Austroads	-	>1350	>1350
Filtration Properties	**Test Method**	**Unit**		
Flow Rate	AS3706.9	$l/m^2/sec$	≥ 50	≥ 50
Permittivity	AS3706.9	s^{-1}	≥ 0.5	≥ 0.5
EOS_{O95}	AS3706.7	microns	≤120	≤120

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DRAINmasta DrainCel®

APPLICATIONS

- Roof Top Gardens
- Retaining Walls
- Underground Water Retention
- Planter Boxes
- Sports Fields

Drainage Cell is an ideal structural and lightweight system designed for planter box and roof garden applications. It allows optimal growing conditions for vegetation through ideal moisture conditions and aeration. Only excess water is removed and the soil profile retains a high moisture content.

Drainage Cell features water storage cups used for passive irrigation and due to the structural design of the cell, a void space is created, providing aeration and promoting growth for root systems. It will also function as a protective membrane for waterproofing on concrete slabs, walls and provide ventilation for concrete slabs, alleviating heat-induced stress and cracking.

CODE	DESCRIPTION
DMC20-M2	20mm x 500mm x 600mm, 1.2m²
DMC30-M2	30mm x 500mm x 600mm, 1.2m²
DMC50-M2	50mm x 500mm x 600mm, 1.2m²

DRAINmasta DrainCel® Specifications

Properties	Standard	20mm		30mm		50mm	
Width	-	500mm	1,64’	500mm	1,64’	500mm	19.68 in
Length	-	600mm	1,97’	600mm	1.97’	600mm	23.62 in
Height	-	20mm	0.787”	30mm	1.18”	50mm	1.96 in
Surface Void Area	-	>70% void		68% void		>90% void	
Internal Void Area	-	95%		95%		95%	
Internal Storage Volume when used as Roof Attenuation System	-	-		27 Lts/ sqm based on 95% Internal void ratio.		-	
Material	-	90% recycled polypropylene +10%Propriety Mix					
Colour	-	Black					
Biological & Chemical Resistance	-	Unaffected by moulds and algae, soil-borne chemicals, bacteria and bitumen, Oils & light Acid, Alkaline Solutions."					
Service Temperature	-	-10°C to 85°C					
		-14F to 185 °F					
Compressive Strength/ Ultimate Load	ASTM D1621	>164 t/m2	> 233.26 psi	>105 t/m2	> 149.34 psi	>225 t/m2	>320.02 psi
Average Flow Rate	ASTM D4716	>1.25 (L/s/m width) @1% gradient		>1.86 Ltrs/s/m width @1% gradient		>4.73 lt/m.s @ 1% gradient	

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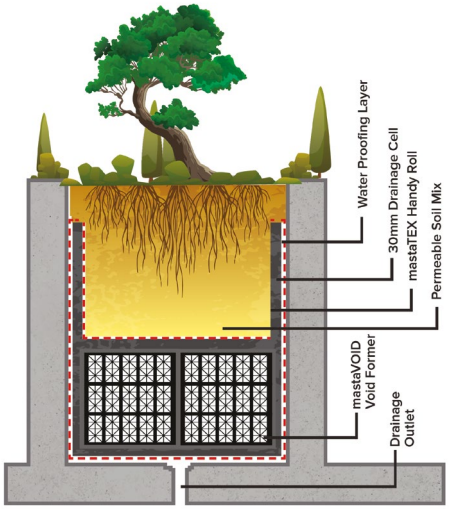
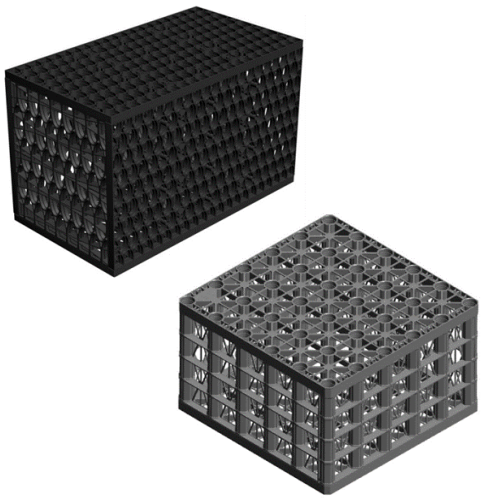
mastaVOID Void Former Module



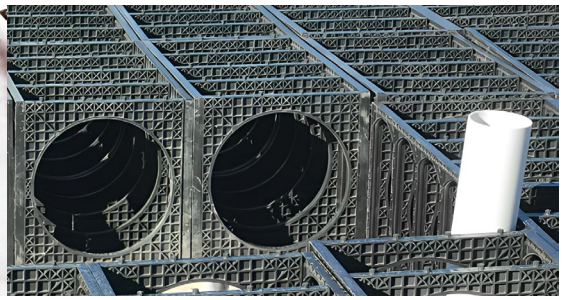


ADVANTAGES

- 95% Recycled
- Lightweight
- Easy to handle
- 24 tons/sq crush strength

APPLICATIONS

- Planter Boxes
- Roof Gardens
- Pool Infill
- Void Former



mastaVOID modules are an ideal solution for structural void fill in applications where fill levels need to be raised without the use of heavy and potentially expensive fill materials. Typical applications include decorative landscape mounds, raising levels of planter boxes, podiums and retaining walls. mastaVOID modules can also be used as a structural base suitable for paving or decking and a foundation for aesthetic landscape design. The permeable and modular nature of mastaVOID modules also provide outstanding drainage outcomes and can even provide reticulated recycled water.

TerraDrain® Specifications

Product Code	Description	Length (mm)	Width (mm)	Height (mm)
MVOID240	MastaVoid 240 Void Former	715mm	400mm	240mm
MVOID360	MastaVoid 360 Void Former	600mm	600mm	360mm
MVOID440	MastaVoid 440 Void Former	715mm	400mm	440mm
MVOID660	MastaVoid 660 Void Former	715mm	400mm	660mm
MVOID690	MastaVoid 690 Void Former	600mm	600mm	690mm
MVOID860	MastaVoid 860 Void Former	715mm	400mm	860mm
MVOID1020	MastaVoid 1020 Void Former	600mm	600mm	1020mm
MVOID1080	MastaVoid 1080 Void Former	715mm	400mm	1080mm
MVOID1280	MastaVoid 1280 Void Former	715mm	400mm	1280mm
MVOID1350	MastaVoid 1350 Void Former	600mm	600mm	1350mm
MVOID1500	MastaVoid 1500 Void Former	715mm	400mm	1500mm
MVOID1680	MastaVoid 1680 Void Former	600mm	600mm	1680mm
MVOID1700	MastaVoid 1700 Void Former	715mm	400mm	1700mm
MVOID1920	MastaVoid 1920 Void Former	715mm	400mm	1920mm
MVOID2010	MastaVoid 2010 Void Former	600mm	600mm	2010mm
MVOID2120	MastaVoid 2120 Void Former	715mm	400mm	2120mm

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mastaTANK Stormwater Module

APPLICATIONS

- Infiltration Tanks
- Stormwater Tanks
- Detention Tanks
- Attenuation Tanks
- O.S.D Onsite Detention
- Underground Drainage
- Void Former in Planter Boxes

mastaTANK Stormwater Modules are suited to any subsurface infiltration, retention or detention Stormwater applications. Manufactured using recycled materials, the Tank Modules are lightweight, engineered design, structural component developed through research & development. It is ideally used for the construction of underground Infiltration, Reuse, Detention Tanks, Grass Swale, Subsurface interception channels, Septic Leach Drains and light weight void fillers for roof gardens and planter boxes applications.

mastaTANK Stormwater Module system supersedes traditional gravel and pipe based systems by far.
The system provides a void space ratio of over 95% compared to 30% in typical gravel and pipe based systems. Consequently, the mastaTANK system offers a smaller footprint for the same storage volume, significantly saving the amount of excavation, soil transport, importing clean aggregate and thus reducing earthworks related installation costs, and causes minimum site disruption.

CODE	DESCRIPTION
RWTANK-SI4	STD Module - Single
RWTANK-SI5	HD Module - Single
RWTANK-DB4	STD Module - Double
RWTANK-DB5	HD Module - Double

mastaTANK Stormwater Module Specifications

Properties	Unit	Single Tank SD	Single Tank HD
Length	mm (in)	715 (28.75)	715 (28.75)
Width	mm (in)	400 (15.75)	400 (15.75)
Height	mm (in)	440 (17.32)	440 (17.32)
Tank Volume	L	125.94	125.94
Water Volume	L	119.47	119.47
Void Area	%	95	95
Surface Void Area	%	95	95
Rib Thickness	mm (in)	5 (0.18)	5 (0.18)
Service Temperature	°C (°F)	-10 to 75 (-14 to 167)	-10 to 75 (-14 to 167)
Min Soil Cover required	mm	300 - 400 minimum	600 minimum
Flow Rate	m^3/sec	0.04 (through single module 400mm x 440mm side)	
Ultimate Unconfined Crush Strength	ton/sqm (PSI)	24.20 ton/sqm	26. ton/sqm
Unit Weight.	kg	57.15 (Weight of the plastic per Cbm of tanks)	
Sizes	mm (L x W x H)	Double Tank 715mm x 400mm x 460mm Triple Tank 715mm x 400mm x 1280mm Quad Tank 715mm x 400mm x 1700mm	
Recycled Content	%	85% Selected Recycled Polypropylene + 15% proprietary mix	
Biological & Chemical Resistance	-	Unaffected by moulds, algae, Soil borne Chemical, bacteria and bitumen, polypropylene is very inert	

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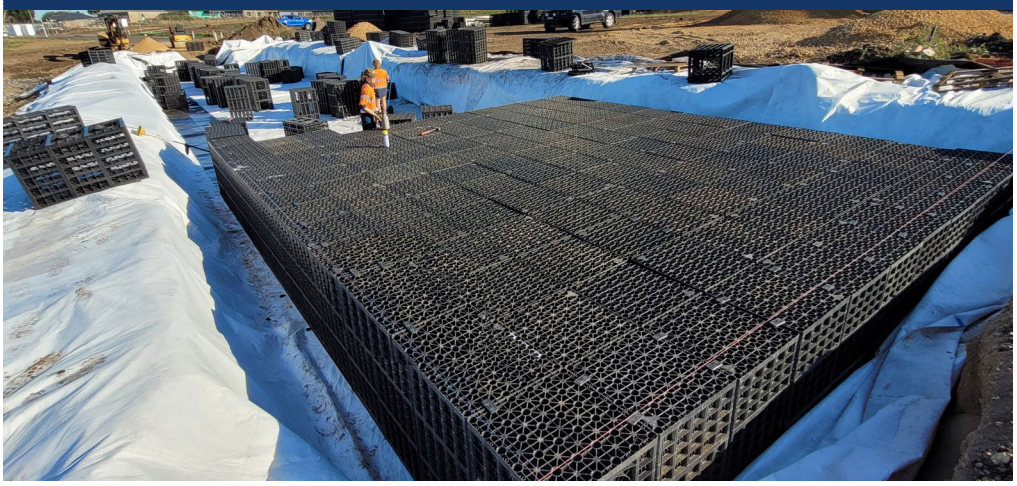
mastaTANK STM



APPLICATIONS

- Trafficable Online Detention System
- Trafficable Offline Detention System
- Retention System
- Stormwater Tanks
- Infiltration Tanks
- Modular Onsite Detention System (OSD)

mastaTANK STM stormwater Modules are suited to any subsurface infiltration, retention or detention Stormwater applications. Manufactured using recycled materials, the STM Tank Modules are lightweight, engineered design, structural component developed through research & development. It is ideally used for the construction of underground Infiltration, Reuse, Detention Tanks, Grass Swale, Subsurface interception channels, Septic Leach Drains and light weight void fillers for roof gardens and planter boxes applications.

mastaTANK STM stormwater Module system supersedes traditional gravel and pipe based systems by far. The system provides a void space ratio of over 95% compared to 30% in typical gravel and pipe based systems. Consequently, the mastaTANK STM stormwater offers a smaller footprint for the same storage volume, significantly saving the amount of excavation, soil transport, importing clean aggregate and thus reducing earthworks related installation costs, and causes minimum site disruption.

CODE	DESCRIPTION
STMTANK-SINGLE	600 x 600 x 360mm
STMTANK-DOUBLE	600 x 600 x 690mm
STMTANK-TRIPLE	600 x 600 x 1020mm
STMTANK-QUAD	600 x 600 x 1350mm

mastaTANK STM Specifications

Properties	Unit	Single Module	Double Module
Length	mm (in)	600 (23.62)	600 (23.62)
Width	mm (in)	600 (23.62)	600 (23.62)
Height	mm (in)	360 (14.72)	690 (27.16)
Module Volume	L	129.60	248.40
Water Storage Volume	L	123.12	235.95
Void Area	%	95	95
Surface Void Area	%	95	95
Service Temperature	°C (°F)	7 to 60°C	7 to 60°C
Recycled Content	%	90% Selected Recycled Polypropylene + 10% Proprietary mix	
Biological % Chemical Resistance	-	Unaffected by moulds, algae, Soil borne chemical, bacteria, and bitumen, polypropylene is very inert	
Ultimate Unconfined Vertical Crush Strength	ton/sqm (PSI)	85 (120.8) (Using a full-size plate that completely covers the top of the unit determines the pressure required to crush the entire unit)	
Ultimate Unconfined Lateral Load Crush Strength on side	ton/sqm (PSI)	9.5 (13.51) (Using a full-size plate that completely covers the top of the unit determines the pressure required to crush the entire unit)	
Short Term Deflection	per mm	Vertical Deflection 54.8 kN/m^2 Lateral Deflection 3.2 kN/m^2	
Long Term Deflection	135 kN/m^2	1.08% 3.88mm) (Estimated long term deflection (vertical creep) projected 50 yrs **applied test load of 135 kN/m^2)	
Projected Creep	23 kN/m^2	1.41% 8.46mm) (Estimated long term deflection (vertical creep) projected 50 yrs **applied test load of 23 kN/m^2)	

*All compressive strength at yield, maximum recommended safe design value, safety factors to be incorporated.
*Derived from long term Extrapolated Creep testing data, 516 day minimum.
*Other sizes available

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AgFlo® Drainage Pipe

APPLICATIONS

- Subsoil Drainage
- Gas Venting
- Cable Conduits
- Stormwater Retention

Agflo® is a corrugated subsoil pipe available in Class 400 & Class 1000 grades. Both types are available in plain, slotted & socked. Various diameters available include 50mm, 65mm, 100mm & 160mm. Agflo® offers a superb range of flexible sub-soil corrugated drainage pipes available for various subsoil applications. Agflo® delivers the highest standard of durability and strength in drainage for civil applications such as internal road structures and in-land areas such as gardens, parks or sporting fields. Agflo® can also be used to overcome or mitigate such problems as salinity, high rainfall, high water tables and hillside soak.

Agflo® sub-soil corrugated drainage pipes are available in two classes, 400 & 1000 and the benefits include flexibility of pipes designed for quick installation time for both heavy loading and medium loading conditions.

Agflo® Class 400 single wall HDPE subsoil drainage pipe is manufactured in accordance with AS2439.1 and used in medium load-bearing subsoil applications. Agflo® Class 400 is a very flexible and durable pipe designed for medium loading conditions. It is supplied in either 20 or 100m lengths.

Agflo® Class 1000 single wall PVC subsoil drainage pipe is manufactured in accordance with AS2439.1 and is used in higher load bearing subsoil applications. Agflo® Class 1000 is designed for heavy loading and usage.
It is supplied in 100m lengths, reducing loading costs, and speed of installation.

CODE	DESCRIPTION
FDP04-S100	100mm x 100m Slotted
FDP04-U100	100mm x 100m U-Slotted
FDP04-SK100	100mm x 100m Socked

*Class 400

CODE	DESCRIPTION
FDP10-S100	100mm x 100m Slotted
FDP10-SK100	100mm x 100m U-Slotted
FDP10-U100	100mm x 100m Socked

*Class 1000

AgFlo® Specifications

Pipe Properties	**Test Method**	**Unit**	**Class 400**	**Class 1000**
Material	-	-	HDPE	PVC
Nominal Diameter	-	mm	65Ø, 100Ø	100Ø
Pipe stiffness deflection @ 5%	AS2439.1	l/min/m	>400	>1000
Pipe stiffness deflection @ 10%	AS2439.1	kN/m/m	>300	>800
Perforation length	-	mm	7.0 - 8.0	7.0 - 8.0
Perforation width	-	mm	1.2 - 1.4	1.2 - 1.4
Coil Lengths	-	m	20, 100	100
Knitted Sock Properties				
Laddering/Unravelling/De-weave	-	mm	<5	>5
Weave stability	-	mm	<5	>5
Opening index	-	m	>136	>136
Pore Size O_{95}	AS3706.7	µm	200 < 095 < 500	

*Both Class 400 & Class 1000 are available in plain piping, slotted piping, and socked piping.
The corrugated perforated PVC drainage pipe conforms to Type 1, Class 1000, as specified in AS2439.1 and RMS QA specification 3552.
The knitted sock complies with RMS QA specification 3553, Seamless Tubular Filter Fabric.
Associated accessories for example Joiners and end caps are available upon request

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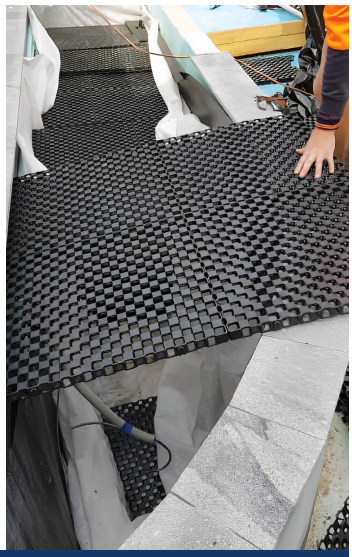

DrainCel® & mastaTANK®, Doncaster VIC

Project Overview

NewGrow is a civil landscaping specialist in Victoria, who was contracted to complete a large scale commercial project for Westfield Shopping Centre in Doncaster. The major shopping precinct in Melbourne is undergoing significant expansion to its retail footprint, along with 18,000 sqm of new commercial office space, improved pedestrian access and additional car parking. As part of this $500 million project, the NewGrow team were engaged to provide hard landscaping including efficient and reliable drainage for large planter boxes scattered around the centre.

Challenges

The team was engaged to construct large planter boxes for the outside of the centre, which required smart drainage solutions. Designed for the long term, the planter boxes needed to be resistant to seepage and water damage issues whilst also providing a moist and healthy environment for plants to thrive. The contractors required a polypropylene drainage cell system that could create a large volume permeable subsurface layer. Using a geosynthetic solution for the planter boxes would reduce disruption on site, as well as reducing soil volume and subsequent weight. This would also ensure a fast and easy installation without the need for special equipment, speeding up the project delivery.

The Solution

The customer chose a combination of Polyfabrics DrainCel® and mastaTANK® modular drainage cell units for this project. Both of these products provide a lightweight structural system specifically designed for planter box applications.

Using drainage cells in place of bulk soil not only saves cost and weight, but it also allows optimal growing conditions for vegetation through ideal moisture conditions and aeration. Only excess water is removed which means the soil profile retains a high moisture content. The profile of this polypropylene cell features water storage cups used for passive irrigation. Due to the structural design of the cell. a void space is created, providing aeration and promoting growth for root systems. It also functions as a protective membrane for waterproofing on concrete slabs and walls,
which when combined with Polyfabrics TerraStop® non-woven geofabric, provided a complete drainage solution for the project. Mature trees and understory plants could be installed quickly and easily, helping the customer to complete the project on time and within budget.

Key Benefits

- Easy to achieve the best result with various cell depths and modular tank kits available that precisely fits the space.
- Both products provide high compressive strength, offering excellent load-bearing capacity whilst reducing earthworks, installation cost and site disruption.
- Both products comply with the principles of Water Sensitive Urban Design and offer best-practice environmental management for Council approvals.
- Offers less carbon footprint than competitor products, whilst still offering better serviceability performance under dead load and vehicular traffic.

Project Overview		
Products Used	**Total Area/Quantity**	**Application**
DRAINmasta DrainCel®	18,000m²	Roof Top Gardens, Retaining Walls, Underground Water Retention, Planter Boxes, Sports Fields
mastaTANK® Stormwater Module		Infiltration Tanks, Stormwater Tanks, Detention Tanks, Attenuation Tanks, O.S.D Onsite Detention, Underground Drainage, Void Former in Planter Boxes

Location	Customer	Engineer
Doncaster, Victoria	NewGrow	NewGrow

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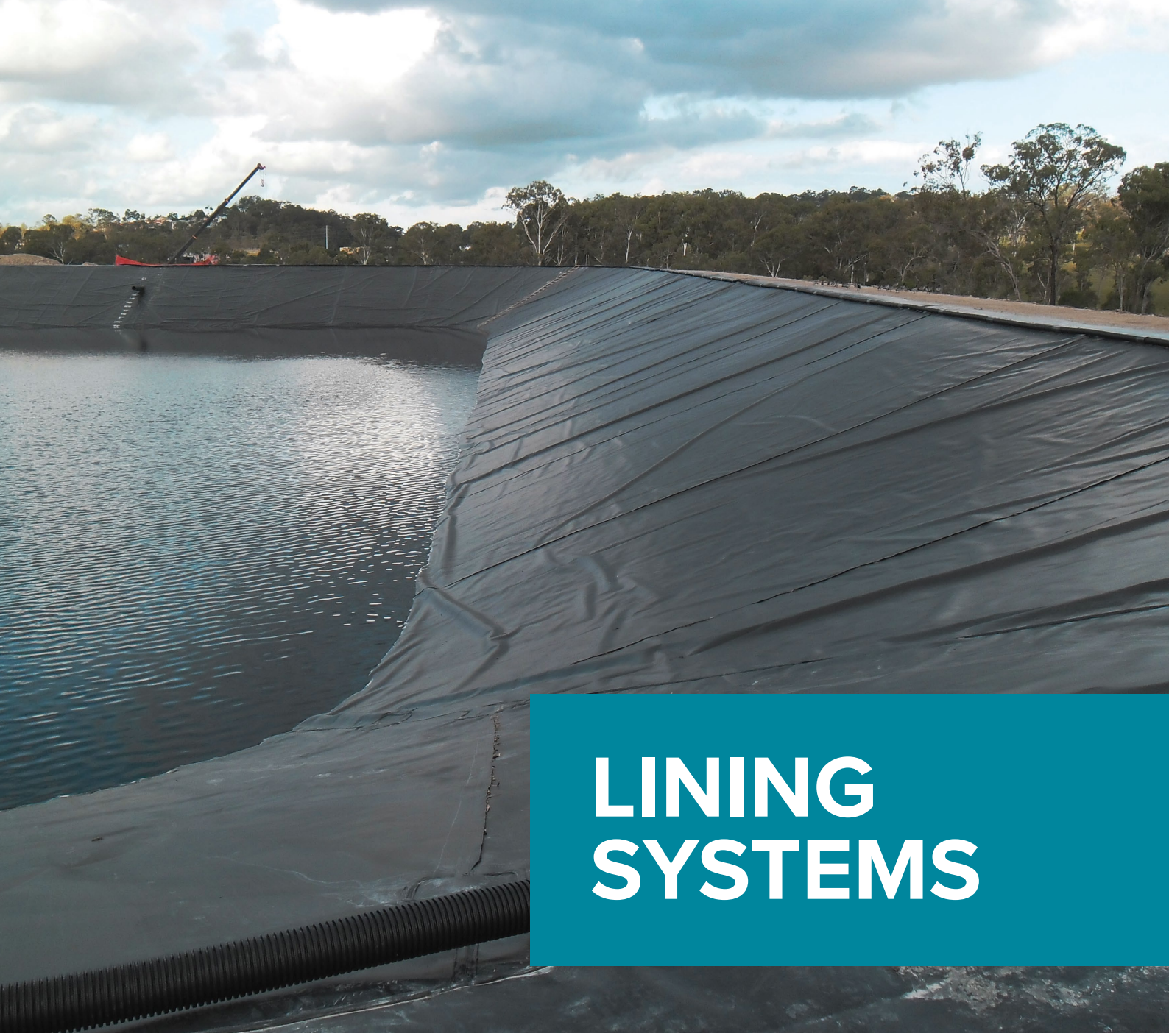

LINING SYSTEMS

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GEOmasta® HDPE Bio-Liner

APPLICATIONS

- Pond Liner
- Dam Liner
- Bioretention Trenches
- Creeks
- Channels

GEOmasta® HDPE Bio-Liner is a premium woven 100% polyethylene (PE) fabric with 2 layers of interlocked high-density polyethylene (HDPE) reinforcing mesh built into the liner. The HDPE woven base with LDPE coatings offers excellent tensile and tear strength.

- Cost & time efficient
- No welding required
- Easy to install by site staff (i.e. expert installers not required)
- Made-to-order pre-assembled sheets
- Liners can be made usually at a short notice within 3-5 days depending on the shape and total area required
- Liners reinforced with 2 layers of interlocked HDPE mesh (i.e. built into the liner)

CODE	SIZE
HDPEBL-M2	20m x 40m / 35m x 35m squares

HDPE Composite Liner Specifications	
Properties	**Values**
Construction	1440 (1300D) (denier)
Yarn(/sq. cm^2)	14 x 14
Weave Style	Single folded yarn
Coating Thickness	50 micron
Total Thickness	0.43mm
Weight	260 gsm
Tensile Strength	Warp 1809N/5cm Weft 1569N/5cm.
Tear Strength	Warp 223N/5cm Weft 211N/5cm.
Colours	Blue, Black, Green
Roll Width	205cm, 250cm, 366cm
Roll Length	50m, 15m, 10m
Burst Strength (AS4878.7 - Method B)	3400 kPA
Hydrostatic Pressure (AS2001.2.17)	>220kPA
Temperature	-30°C to +70°C
R Values	0.642

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Bentoliner® 4000 SPL GCL4000

APPLICATIONS

- Subsoil Drainage
- Gas Venting
- Cable Conduits
- Stormwater Retention

Bentoliner GCL is a reinforced Geosynthetic Clay Liner composite, consisting of a layer of sodium bentonite granules encapsulated by layers of durable geotextiles and shear reinforced by needle punching together all components.

The material is typically anchored in a trench around the perimeter of a containment basin to provide the required pullout resistance. Bentoliner GCL should be placed in the trench extending down the inside wall face and along the entire trench floor, secured by the controlled placement and compaction of backfill into the trench prior to placing cover soil on the slopes.

Bentoliner GCL is ideal for containment applications and provides a cost-effective engineered solution for clients and consultants.

Granular Bentonite is available is 25kg bags for edge treatment.

Minimum 300mm soil cover required over the GCL.

CODE	SIZE
GCL4000-5/40	5m x 40m

Bentoliner® 4000 SPL Specifications			
Material Properties	**Test Method**	**Typical Value**	**Test Frequency**
Index Flux	ASTM D 5887	$1x10^{-8}$ (m^3/m^2)/s	2500m^2
Hydraulic Conductivity	ASTM D 5887	$2.0x10^{-11}$ m/sec	2500m^2
Bentonite Mass/ Unit Area	ASTM D 5993	3700 g/m^2	2500m^2
Tensile Strength	ASTM D 6768	8.0 kN/m	2500m^2
Puncture Resistance (CBR)	EN ISO 12236	1800 N	2500m^2
Peel Strength	ASTM D 6496	>360 N/m	2500m^2
Thickness	EN ISO 9863-1	7.0mm	2500m^2
Internal Shear Strength	ASTM D 6243	24KPa@200psf	
Roll Length	-	30m, 40m	
Roll Width	-	5m	
Bentonite Properties			
Free Swell	ASTM D 5890	Min 25ml/2g	2500m^2
Fluid Loss	ASTM D 5890	Max 18ml	2500m^2
Geotextile Properties			
Cover Non Woven Mass/ Unit area	EN ISO 9864	200g/m^2	
Carrier Woven Mass/ Unit area	EN ISO 9864	100g/m^2	

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HDPE Liner

APPLICATIONS

- Channels, Ponds, Lakes
- Containment Areas
- Landfill Liner & Caps
- Golf Course Ponds
- Irrigation Reservoirs
- Waste Water Treatment

Due to its excellent chemical resistance and low material cost, HDPE is extremely popular in lining applications requiring low permeability and high strength/density ratio. HDPE Liners are becoming more widely used as the implications of contaminated soil conditions on structures and the general environment. Polyfabrics' HDPE Liners are most commonly used in lining of channels, small dams and other containment structures.

HDPE is known for its large strength to density ratio. The density of HDPE can range from 930 to 970 kg/m3. Although the density of HDPE is only marginally higher than that of low-density polyethylene, HDPE has little branching, giving it stronger intermolecular forces and tensile strength than LDPE. The difference in strength exceeds the difference in density, giving HDPE a higher specific strength. It is also harder and more opaque and can withstand somewhat higher temperatures (120°C/ 248°F for short periods).

CODE	SIZE
HDPEL1.0-5.8/50	1mm Liner – 5.8m x 50m
HDPEL15-5.8/50	1.5mm Liner – 5.8m x 50m
HDPEL2-5.8/100	2mm Liner – 5.8m x 100m

Smooth HDPE Liner Specifications					
Index Properties	**Units**	**Standard**	**1MM**	**1.5MM**	**2MM**
Thickness Average	mm	ASTM D 5199	1	1.5	2
Density	g/cm^3	ASTM D 792		0.94	
Tensile Properties					
Yield Strength	kN/m	ASTM D 6693	15	22	29
Break Strength	kN/m	ASTM D 6693	27	40	53
Yield Elongation	%	ASTM D 6693		12	
Break Elongation	%	ASTM D 6693		700	
Tearing Resistance	N	ASTM D 1004	125	187	249
Puncture Resistance	N	ASTM D 4833	320	480	640
Stress Crack Resistance	Hr	ASTM D 5397		500	
Carbon Black Content	%	ASTM D 1603		2-3	
Carbon Black Dispersion	Cat	ASTM D 5596	For 10 different views: 9 in Categories 1 or 2 and 1 in Category 3		
Oxidative Induction Time	Min	ASTM D 3895	100min in standard OIT		
Oven Aging at 85°C					
Standard (90 days)	%	ASTM D 5721		55	
High Pressure (90 days)	%	ASTM D 3895		88	
UV Resistance (1600 hours)	%	ASTM D 5885		50	
Dimensions					
Sizes	m	-	5.8 X 50	5.8 x 50	5.8 x 100
Weight	kg/m^2	-	0.94	1.41	1.88

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mastaTEX® Concrete

APPLICATIONS

- Embankments
- Replacing Shotcrete
- Bund Lining
- Slope Stabilisation
- Mattress Spillways
- Trenches/Swale Drains

mastaTEX® Concrete is a needle punched composite, consisting of concrete-sand mix, embedded and fixed between two layers of geotextile. It is much faster and cheaper to install than conventional materials, and our strict quality control of raw materials makes the finished product fail-proof. It provides a substrate for direct applications of a thin protective layer of regular concrete, which may be used in various weather conditions.
The fabric is fastened to an outer part with nails, which provides a solid water-resistant surface stabilisation, further braced thanks to internal reinforcing fibres.

CODE	SIZE
MTC40/10/2.5/20	40MPA Roll 7mm – 1.1 x 20m
MTC40/10/5/20	40MPA Roll 7mm – 2.5 x 20m
MTC40/7/1.1/20	40MPA Roll 7mm – 5 x 20m
MTC40/7/2.5/20	40MPA Roll 10mm – 2.5 x 20m
MTC40/7/5/20	40MPA Roll 10mm – 5 x 20m

mastaTEX® Concrete Specifications		
Properties of Geotextile	**Test Method**	**40MPA**
Carrier Layer - PP Nonwoven Composite	EN ISO 9864	350 g/m^2
Cover Layer - PP Nonwoven	EN ISO 9864	200 g/m^2
Properties of Concrete		
Chemical Composition	XRF	Sand-cement mix
Density	Typical	1,42 g/cm^3
Setting Start	PN-EN 196-3	> 90 min
Properties of mastaTEX (1)		
Tensile Strength MD/CMD	EN ISO 10319	≥ 20,0 / 20,0 kN/m (±10%)
CBR Puncture Strength	EN ISO 12236	≥ 3,0 kN (±10 %)
Properties of mastaTEX (2)		
Compressive Strength	ASTM C 109-02	40 Mpa
Bending Tests Based	PN EN 12467:2016-08 5.4.3	6.0 MPa – Class 1
Water Impermeability	PN EN 12467:2016-08 5.4.5-6	No drop of water
Durability against Freeze-thaw	PN EN 12467:2016-08 5.5.2	RL ≥ 0,75 Pass
Durability against Heat-rain	PN EN 12467:2016-08 5.5.3	RL ≥ 0,75 Pass
Durability against warm water	PN EN 12467:2016-08 5.5.4	RL ≥ 0,75 Pass
Durability against Soak-dry	PN EN 12467:2016-08 5.5.5	RL ≥ 0,75 Pass
Reaction to fire	PN EN 12467:2016-08 5.6	B-s1, d0*
Properties of mastaTEX (1)	**mastaTEX Concrete 10**	
Mass per unit area of concrete EN 14196	10000 g/m^2 (±10%)	
Mass per unit area of mastaTEX EN 14196	10550 g/m^2 (±10%)	
Thickness EN ISO 9863-1/-2	10,0 mm (±1mm)	
Width x Length	5,0 x 20 m / 2,5 x 20 m	
Area	100 m^2 / 50 m^2	

(1) before hydration (2) after hydration *complies with EN 13501-1 *Specifications as per manufacturer

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mastaTEX® Concrete, Central Coast Council, NSW

Project Overview

This important connection road is being upgraded to support future growth in the region, including a plan to potentially build a residential development in the township of Mardi. Existing local residents will benefit from these road safety improvements which include widening of the road shoulder, high friction pavement, better drainage and installation of crash barriers.

Challenges

Central Coast Council required a quick and affordable option for the planned swale drains alongside the road, with traditional paving methods deemed unsuitable for the area. Some swales were located up to 3m above road level and not easily accessible by plant and equipment. A flexible and creative approach was needed to avoid having to bring in concrete pumps and the associated time and cost involved.

The Solution

Central Coast Council selected mastaTEX® Concrete 40MPA 7mm & 10mm as the ideal solution. Durable, fast, and cost-effective to install, the 2.5m wide rolls solves geotechnical problems on embankments, trenches and swale drains, helps to stabilise slopes, and can be used for mattress spillways and bund lining.

Key Benefits

- Faster installation and less wastage with the use of a dispenser
- Minimal labour requirements and easy hydration
- A solid water diversion swale directing all the runoff from above directly into the water catchment drains.

Project Overview		
Products Used	**Total Area/Quantity**	**Application**
mastaTEX® Concrete 40MPA 7mm	400m^2	Embankments, trenches & swale drains, slope stabilization, mattress spillways, and bund lining
mastaTEX® Concrete 40MPA 10mm		

Location	Customer	Engineer
Old Maitland Road, near Tuggerah on NSW's Central Coast	Central Coast Council	Central Coast Council

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GEOTEXTILES

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mastaTEX® (PET) Non-Woven

APPLICATIONS

- Pavement Stabilisation
- Subgrade Separation
- Slope Stabilisation
- Liner Protection

mastaTEX® Non-Woven is a non-woven needle-punched geotextile made from polyester, providing separation, filtration, protection or reinforcement functions in engineering projects. It enhances the performance and design life of granular layers by providing the filtration and separation functions.

mastaTEX® provides specific advice and recommendations in construction through specialist laboratories and technical support.

mastaTEX® F Range is manufactured in accordance to ISO 9001:2008.

CODE	DESCRIPTION
PF14	Non-Woven 14 – 2m / 3m / 4m / 6m x 100m
PF24	Non-Woven 24 – 2m / 3m / 4m / 6m x 200m
PF34	Non-Woven 34 – 2m / 3m / 4m / 6m x 150m
PF44	Non-Woven 44 – 3m / 6m x 100m
PF54	Non-Woven 54 – 6m x 75m
PF64	Non-Woven 64 – 6m x 75m

mastaTEX® PET Non-Woven Specifications

Mechanical Properties	**Standard**	**Units**	**Stats**	**PF14/A**		**PF24/B**		**PF34/C**		**PF44/D**		**PF54/E**		**PF64**	
Tensile Strength MD/CD	AS3706.2-12	kN/m	Typical	11.0	10.0	15.0	14.0	20.0	18.0	26.0	25.0	35.0	33.0	38.0	36.0
Tear Strength MD/CD	AS3706.3-12	N	Typical	280	270	350	340	460	450	590	560	850	820	1000	950
CBR Burst Strength	AS3706.4-12	N	Typical	1750		2540		3300		4200		5600		6300	
G Rating	Austroads	-	Typical	1300		1900		2600		3400		5000		5800	
Grab Tensile MD/CD	AS3706.2-12	N	Typical	600	580	950	890	1200	1100	1700	1600	2200	2100	2400	2300
UV Resistance	ASTM D4355	%	Typical	>50 Retained											
Hydraulic Properties															
Flow Rate @ 100mm Head	AS3706.9-12	$l/m^2/s$	Typical	200		200		180		130		90		50	
Permittivity	AS3706.9-12	s^{-1}	Typical	2.2		2.0		1.8		1.3		0.9		0.5	
Pore Size O_{95}	AS3706.9-12	micron	Typical	<150		<120		<120		<110		<90		<75	
Product Dimensions															
Roll Length		M		100 / 250		200		150		100		75		75	
Roll Width		M		2 / 3 / 4 / 6		2 / 3 / 4 / 6		2 / 4 / 6		3 / 6		6		6	

The specification is compiled from MQA testing. To ensure this is current, contact Polyfabrics
MD = Machine Direction; CD = Cross Machine Direction;
Typical Values = Arithmetic Mean (50% will exceed value & 50% will not); MARV = Minimum Average Roll Value (Typical less 2 standard deviations or 97.5% will exceed this value)
The information contained herein is to the best of our knowledge accurate.
As part of our continual improvement. Polyfabrics reserve the right to amend the properties in this data sheet without prior notice.

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TerraTex® (PP) Non-Woven

APPLICATIONS

- Pavement Stabilisation
- Subgrade Separation
- Slope Stabilisation
- Liner Protection

The TerraTex® PP Non Woven geotextile range is a 100% polypropylene staple filament that is highly needled for the use of a wide range of geotechnical applications including separation, filtration and reinforcement procedures. TerraTex® PP Non Woven geotextile is manufactured according to ISO 9001 quality standards. The product is wrapped in highly UV stable outer wrap and may be left outside, on-site or for later use provided the wrapper is not removed prior to deployment and use. It is recommended installation occur within a month of delivery.

TerraTex® non-woven geotextiles enhance the performance and design life of granular layers by providing the filtration and separation functions. Typical uses for TerraTex® standard geotextiles include ground stabilisation (between the sub-base and sub-grade) around drainage materials and the protection of impermeable liners.

CODE	DESCRIPTION
TTPP600	TerraTex® (PP) Non-Woven 600
TTPP900	TerraTex® (PP) Non-Woven 900
TTPP1200	TerraTex® (PP) Non-Woven 1200

TerraTex® PP Non-Woven Specifications

				Coastal & Cushioning Grades		
Properties	**Standard**	**Units**	**Stats**	**600**	**900**	**1200**
Tensile Strength Minimum of MD/CD	AS3706.2-12	kN/m	Typical	49.0	56.0	75.0
Tear Strength Minimum of MD/CD	AS3706.2-12	N	Typical	1200	1200	1650
CBR Burst Strength	AS3706.4-12	N	Typical	8000	9800	10000
G Rating	Austroads	-	Typical	8500	11000	23000
Grab tensile Minimum of MD/CD	AS3706.2-12	N	Typical	2900	3100	4400
Flow Rate @ 100mm head	AS3706.9	$L/m^2/s$	Typical	120	70	40
Permittivity	AS3706.9-12	s-1	Typical	1.2	0.7	0.4
Pore Size (O_{95})	AS3706.7	Micron	Typical	75	75	75
UV Resistance	ASTM D4355	%	Typical	70 Retained		

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TerraStop® is a registered trademark of Polyfabrics. The information contained herein is to the best of our knowledge accurate.
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mastaTEX® Handy Rolls

APPLICATIONS

- Roads
- Play areas
- Site works
- Drives
- Paths
- Patios

mastaTEX™ Handy Rolls are non-woven geotextiles made from a staple fibre PET recycled mix, designed for landscaping and small civil works. This filter fabric is most commonly used as a filtration layer in trenches, as a pipe and aggregate wrap or behind retaining walls.

mastaTEX® Handy Rolls Specifications

Mechanical Properties	Standard	Unit	Typical Value
Wide Width Tensile Strength (MD/CD)	AS 3706.2	kN/m	6.0
CBR Puncture Resistance	AS 3706.4	N	1200
G Rating	Austroads	Robustness	>900
Elongation	AS 3706.2	%	>50
Hydraulic Properties			
Pore Size Distribution	AS 3706.7	Microns	<200
Flow Rate (10cm Constant Head)	AS 3706.9	L/m²/sec	>250

CODE	SIZE
PF12-06-50	0.6 x 50m
PF12-1-50	1 x 50m
PF12-2-50	2 x 50m
PF12-2-100	2 x 100m
PF12-4-100	4 x 100m

mastaTEX® Hi Vis Layer

APPLICATIONS

- Warning Layer for future excavations
- Filtration
- Segregation of contaminated soil

The mastaTEX® HVL is a Orange geotextile, extremely well manufactured for separating contaminated and non-contaminated soils with its high visibility layer needled punched Non-woven Polyester Geotextile. This enables the user to leave contaminated soils in place. The mastaTEX HVL will separate the mediums ensuring they do not intermix, while providing confidence that if future excavations are done, they are warned about hazardous materials below.

HVL, which include a vivid colour that warns any of any potential danger at the point for future excavations - preventing the upward movement of contaminated solid particles, and allows the free flow of water.

mastaTEX® Hi Vis Layer Specifications

Mechanical Properties	Standard	Units	Typical Value
Wide Width Tensile Strength MD/CD	AS 3706.2	kN/m	8.0/8.0
Grab Tensile Strength MD/CD	AS 2001.2.3.2	N	500/550
Hydraulic Properties			
Pore Size Distribution	AS 3706.7	microns	<200 (Typical)
Flow Rate (100mm Constant Head)	AS 3706.9	l/m²/sec	>200 (Typical)

CODE	SIZE
GFO-3-200	3 x 200m
GFO-6-200	6 x 200m

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TerraStop® PP Woven

APPLICATIONS

- Embankment Reinforcement
- Basal Reinforcement
- Piling Platforms
- Sub-grade Improvement

TerraStop® PP Woven Geotextiles are used for separation, reinforcement and stabilisation in the construction of pavements. The separation action prevents the mixing of dissimilar soils allowing each layer in the pavement structure to function as intended. The high tensile strength and low elongation properties of TerraStop® PP Woven Geotextiles provide reinforcement and stability into the pavement section reducing rutting and extending pavement life.

TerraStop® PP Woven Geotextiles are manufactured from durable, high-modulus PP yarns and woven into a robust, dimensionally stable geotextile.

CODE	DESCRIPTION
PP30/4/100	Woven 30 – 4m x 100m
PP60/5.3/100	Woven 60 – 5.3m x 100m
PP80/5.2/100	Woven 80 – 5.2m x 100m
PP100/5.2/100	Woven 100 – 5.2m x 100m

TerraStop® PP Woven Specifications

Mechanical Properties	**Standard**	**Units**	**Stats**	**TS202**		**TS203**		**TS204**		**TS205**	
Code/Part No.	-	-	-	PP30		PP60		PP80		PP100	
Tensile Strength MD/CD	AS3706.2-12	kN/m	Typical	32.0	32.0	61.5	60.9	85.4	85.2	103.3	101.0
Tensile Elongation MD/CD	AS3706.2-12	%	Typical	<24							
Tensile Strength @ 2% Strain	AS3706.2-12	kN/m	Typical	6	6	10	10	14	14	17	17
Tensile Strength @ 5% Strain	AS3706.2-12	kN/m	Typical	15	15	26	26	33	33	38	38
Tear Strength MD/CD	AS3706.3-12	N	Typical	420	420	1200	1000	1300	1000	1700	1100
CBR Burst Strength	AS3706.4-12	N	Typical	4000		7000		11000		13000	
G Rating	Austroads	-	Typical	4200		7500		14000		22000	
Grab Tensile MD/CD	AS3706.2-12 AS2001.2.3b	N	Typical	1100	1000	2400	2200	2550	2400	3590	3630
UV Resistance	ASTM D4355	%	Typical	>70 Retained							
Hydraulic Properties											
Flow Rate @ 100mm Head	AS3706.9-12	l/m²/s	Typical	14		15		10		5	
Permittivity	AS3706.9-12	s^{-1}	Typical	0.14		0.15		0.10		0.05	
Pore Size O_{95}	AS3706.9-12	micron	Typical	300		300		230		200	

The specification is compiled from manufacturers QA testing.
MD = Machine Direction; CD = Cross Machine Directions;
Typical Values = Arithmetic Mean (50% will exceed value & 50% will not); MARV = Minimum Average Roll Value
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TerraStop® High Strength Woven PET

APPLICATIONS

- Embankments
- Slope Stabilisation
- Retaining Structures
- Subgrade Improvement
- Piling Platforms
- Basal Reinforcement

High strength polyester fabrics ranging in strength from 100-1200kN/m suitable for solving complex engineering problems. They are used to reinforce soils where extremely high tensile strength with low elongation is required. TerraStop® PET High Strength Woven Geotextiles are manufactured from high tenacity polyester (PET) yarns, knitted to form a structured matting. TerraStop® PET High Strength Woven Geotextiles are manufactured under ISO 9001. The design factors stated are based on manufacturers independent research and testing. Product strength and stiffness are affected both by temperature and by rate or duration of loading. For these reason it's important that standard methods of tensile testing are used, so that temperature and strain rate are defined.

TerraStop® PET High Strength Woven Geotextiles, quality control (QC) tensile testing is carried out using the method given in International Standard BS EN ISO10319:1996. This is a wide width method with specimen width of 200mm. Strain rate is 20% per minute and test temperature is 20°C.

TerraStop® High Strength Woven PET Specifications

Properties	Symbol	Unit	100/50	200/50	300/50	400/50	600/50	700/50	800/50	1000/50	1200/100
Ultimate Tensile Strength MD	Tu	kN/m	100	200	300	400	600	700	800	1000	1200
Elongation (+/- 2%)		%	<10	<10	<10	<10	<10	<10	<10	<10	<10
Characteristic tensile creep rupture strength @ 120 years	Tcr	kN/m	71.4	142.9	214.3	285.7	428.6	500.0	571.4	714.3	857.1
Characteristic initial tensile strength with maximum 5% strain	Tcs	kN/m	45.0	90.0	135.0	180.0	270.0	315.0	360.0	400.0	480.0
Partial factor for - Material manufacture consistency & variability	f_{m11}		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Partial factor for - Extrapolation of test data to design life (SIM Method)	f_{m12}		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Partial factor for - Susceptibility to installation damage Table 3 Select Fill: silt, clay or sand	f_{m21}		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Partial factor for - Environmental or chemical effects	f_{m22}		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Reinforcement material factor = (f_{m11} x f_{m12}) x (f_{m21} x f_{m22})	f_m		1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
Structure Classification Factor	SCF		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Long term design strength for Ultimate Limit State	TD	kN/m	59.0	118.1	177.1	236.1	354.2	413.2	472.3	590.3	708.4
Long term design strength for Serviceability Limit State	TD	kN/m	33.1	66.1	99.2	132.2	198.3	231.4	264.5	330.6	396.7

Note: The above HS Woven Range is typical. Other strengths can be made to order. Tested to ISO 10319.

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Road Tape Bitumen

APPLICATIONS

- Pavement Joint Sealing
- Basement Waterproofing
- Concrete Crack Treatment

Road Tape is a non-woven polyester geotextile which is laminated onto a bitumen compound polymer. It is resistant to high temperatures allowing hot asphalt to be laid directly onto the product. Road Tape has exceptional adhesion to bitumen and concrete.

Its flexibility along with its self adhesive composite membrane, high tensile strength as well it's puncture and heat resistance define it as the best solution in treating road and bridges. It is used to treat cracking in road pavements and can also be used to seal concrete culvert joints.

CODE	SIZE
RTB166	166mm x 20m
RTB250	250mm x 20m
RTB330	330mm x 20m
RTB500	500mm x 20m

Road Tape Specifications			
Index Properties	**Test Method**	**Units**	**Values**
Thickness	AS3706.1 (at 2kPa)	mm	2.2 (average)
Adhesion to Unprimed Concrete (18C)	ASTM D1000-04	N/mm	21.93 N/10mm
Adhesion to Unprimed Bitumen (18C)	ASTM D1000-04	N/mm	21.93 N/10mm
Wide Strip Tensile Strength	AS3706.2	kN/m	7.8
Wide Strip Tensile Elongation	AS3706.2	%	52
Puncture Strength (8mm diameter rod)	ASTM D4833	N	340 (minimum)
Application Temperature	ASTM D4833	˚C	+5 to +50
Dimensions			
Sizes		166mm x 20m 250mm x 20m	330mm x 20m 500mm x 20m

Flexiseal Primer Specifications	
Physical Properties	**Typical Value**
Wet Film Thickness	90-110 micron
Dry Film Thickness	40-60 micron
Drying Time	5-15 minutes
Flash Point	34°C
Covering Capacity (Concrete/Asphalt)	6-8 m^2/litre
Specific Gravity	0.91
Application Temperature Range	0°C - 50°C

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TerraStop® Paving Fabric

APPLICATIONS

- Road crack prevention
- Road reconstruction with cement-treated bases
- Crack prevention in asphaltic pavement overlays
- "Chip-sealed" highways

TerraStop Paving Fabrics are designed for Australian conditions for the maintenance and repair of road surfaces such as spray sealing and asphalt resurfacing.

TerraStop Paving Fabrics TS-P1 and TS-P2 are made from polyester spun bonded continuous fibres, mechanically bonded by needle punching. All rolls come in continuous lengths up to 450m to minimise installation delays, with plastic cores to avoid collapse during storage and handling.

Installation is carried out using a purpose-built dispenser. It is designed as an attachment to a front-end loader/ backhoe/multi-tyre roller or similar.

The dispenser is a steel frame which contains a free-turning roller and an adjustable rubber squeegee. The roller applies tension to the paving fabric while the squeegee forces the paving fabric into the tacky bitumen while minimising creases.

The roll can be placed to unwind either:

- Clockwise – Feed paving fabric over roller and under squeegee.
- Anti clockwise direction- Feed paving fabric directly under squeegee.

Additional tension on the paving fabric can be applied by tilting frame upwards so that roll is against the free rotating roller.

CODE	DESCRIPTION
TSP1	TerraStop® Paving Fabric – P1
TSP2	TerraStop® Paving Fabric – P2

TerraStop® Paving Fabric Specifications

Mechanical Properties	**Test Method**	**Units**	**TS-P1**	**TS-P2**
Wide Strip Tensile	AS3706.2 (A)	kN/m	>7.0	>11.0
Trapezoidal Tear Strength	AS3706.3	N	>230	>320
CBR Puncture Strength	AS3706.4	N	>1400	>2300
G-Rating	Austroads		>1100	>1500
Hydraulic Properties				
Bitumen retention (Loaded	ASTM D6140-00	l/m^2	>1.0	>1.1
Physical Properties				
Mass	AS3706.1	g/m^2	>135	>180
Thickness	AS3706.1	mm	>1.1	>1.7
Melting Point	ASTM D276-00a	°C	>250	>250
Roll Size		m	Width 3 – 4.4m Length 100 – 450m	

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GEOGRIDS

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mastaGRID® Poly Geogrid

APPLICATIONS

- Subgrade Reinforcement
- Rock Stabilisation
- Erosion Control

mastaGRID® is a rigid biaxial geogrid comprised of punched and stretched polypropylene, and is commonly used for sub-grade reinforcement, rock stabilisation and erosion control.

mastaGRID® provides the following benefits:

- Distribution of loads and therefore reduction in stress concentration over the soil.
- The geogrids structural junctions, rigid ribs and thick walls help lock aggregate, increasing its shear resistance.
- As a result when a vertical load is applied the aggregate is restrained by the ribs reducing deformation. (Lateral Restraint)
- Decrease in long term deformation (creep).
- Reduce subbase thickness.
- Controls differential settlement.

CODE	DESCRIPTION
GGPB2020	Poly Geogrid 20/20 – 3.95m x 50m
GGPB3030	Poly Geogrid 30/30 – 3.95m x 50m
GGPB4040	Poly Geogrid 40/40 – 3.95m x 50m

mastaGRID® Specifications

Properties	Unit	Stats	GGPB2020	GGPB3030	GGPB4040
Tensile Strength [2]	kN/m	MD TD	20 20	30 30	40 40
Tensile Strength @ 2% Strain	kN/m	MD TD	7.0 7.0	10.5 10.5	17.5 17.5
Tensile Strength @ 5% Strain	kN/m	MD TD	14.0 14.0	21.0 21.0	28.0 28.0
Junction Efficiency [4]	%		≥95%	≥95%	≥95%
Radial Secant Stiffness @ 2% Strain	kN/m		380	550	725
Typical Dimensions					
Pitch Size	mm	Pmd Ptd	38 38	38 38	38 38
Rib Width	mm	Wmd Wtd	2.3 3.1	2.4 3.7	2.8 4.2
Rib Depth	mm	Typical	1.5	2.4	3.0
Standard Roll Sizes [3]			197.5m² (3.95m x 50m)	197.5m² (3.95m x 50m)	197.5m² (3.95m x 50m)
Weight of the Product	g/m²		220	300	440

Note 1 Carbon Black content ≥ 0.5%.
Note 2 All Strength and Load figures are based on test results from the manufacturer's laboratory measured in accordance with ISO 10319 at the temperature of 21± 1°C and calculated as a lower 95% Confidence limit in accordance with ISO 2602.
Note 3 Other Roll sizes are available to order.
Note 4 Measured by comparing the results of tests in accordance with test methods GRI/GG2 and GRI/GG1.

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mastaGRID® GT

APPLICATIONS

- Reinforcement
- Filtration
- Pavement Stabilisation
- Sub-grade Separation

mastaGRID® GT is a geocomposite made up of a biaxial geogrid laminated to a non-woven geotextile.

Polymer: Polypropylene Geogrid(PP) and Geotextile Polyester (PET) or Polypropylene (PP).

Benefits Of mastaGRID & Geotextile Geocomposites

- Distribution of loads and therefore reducing stress concentration over the soil.
- The geogrid's structural junctions, rigid ribs and thick walls help lock aggregate, increasing its shear resistance. As a result when a vertical load is applied, the aggregate is restrained by the ribs reducing deformation (lateral restraint).
- Decrease in long term deformation (creep).
- Increase in load distribution (bearing capacity increase).

CODE	DESCRIPTION
GGCB2020	GT Geogrid 20/20 – 3.95m x 50m
GGCB2020-5.9	GT Geogrid 20/20 – 5.9m x 50m
GGCB3030	GT Geogrid 30/30 – 3.95m x 50m
GGCB3030-5.9	GT Geogrid 30/30 – 5.9m x 50m
GGCB4040	GT Geogrid 40/40 – 3.95m x 50m

mastaGRID® GT Specifications

Properties	Unit	Stats	GGCB2020	GGCB3030	GGCB4040
Tensile Strength [2]	kN/m	MD TD	20 20	30 30	40 40
Tensile Strength @ 2% Strain	kN/m	MD TD	7.0 7.0	10.5 10.5	17.5 17.5
Tensile Strength @ 5% Strain	kN/m	MD TD	14.0 14.0	21.0 21.0	28.0 28.0
Junction Efficiency [4]	%		≥95%	≥95%	≥95%
Radial Secant Stiffness @ 2% Strain	kN/m		380	550	725
Typical Dimensions					
Pitch Size	mm	Pmd Ptd	40 40	40 40	38 38
Rib Width	mm	Wmd Wtd	2.3 3.1	2.4 3.7	2.8 4.2
Rib Depth	mm	Typical	1.5	2.4	3.0
Standard Roll Sizes [3]			3.9m x 50m (195m^2) 5.9m x 50m	3.9m x 50m (195m^2) 5.9m x 50m	3.9m x 50m (195m^2)
Geotextile Characteristics					
Refer mastaTEX® PET Non-woven Data Sheet					

Note 1 Carbon Black content ≥ 0.5%.
Note 2 All Strength and Load figures are based on test results from the manufacturer's laboratory measured in accordance with ISO 10319 at the temperature of 21± 1°C and calculated as a lower 95% Confidence limit in accordance with ISO 2602.
Note 3 Other Roll sizes are available to order.
Note 4 Measured by comparing the results of tests in accordance with test methods GRI/GG2 and GRI/GG1.

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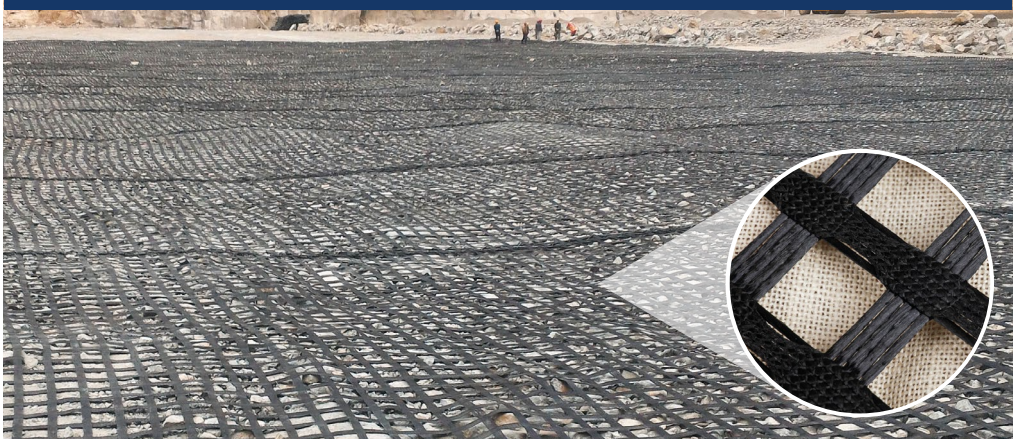
TerraGrid® HSG (PET)



APPLICATIONS

- Embankment Reinforcement
- Retaining Structures
- Basal Reinforcement
- Piling Platforms
- Subgrade Improvement

TerraGrid® HSG is a high strength coated geogrid manufactured from high tenacity polyester (PET) yarns, knitted to form a structured grid. TerraGrid® HSG is used to reinforce soils where extremely high tensile strength with low elongation is required. The range of products is from 100kN through to 1000kN suitable for solving complex engineering problems.

Product strength and stiffness are affected both by temperature and by rate or duration of loading. Therefore, it is important that standard methods of tensile testing are used, so that temperature and strain rate are defined.

TerraGrid® PET High Strength Grid, quality control (QC) tensile testing is carried out using the method given in International Standard BS EN ISO 10319:1996. This is a wide width method with specimen width of 200mm. Strain rate is 20% per minute and test temperature is 20°C.

CODE	DESCRIPTION
GGPET80/80	TerraGrid® PET 80/80
GGPET100/100	TerraGrid® PET 100/100
GGPET200/200	TerraGrid® PET 200/200

TerraGrid® HSG Biaxial Specifications

Properties	Symbol	Unit	60/60	100/100	200/200
Aperture Size		mm	25/25	25/25	25/25
Elongation (+/- 2%)		%	<10	<10	<10
Ultimate Tensile Strength (MD/CD)	Tu	kN/m	60/60	100/100	200/200
Characteristic tensile creep rupture strength @ 120 years	Tcr	kN/m	41.3	69.0	137.9
Characteristic initial tensile strength with maximum 5% strain in MD (40% of Tu)	Tcs	kN/m	24.0	40.0	80.0
Standard Roll Sizes			5.95m x 100m	5.95m x 100m	5.95m x 50m

TerraGrid® HSG Composite Geogrid Non-Woven Component Specifications

Properties	Test Method	Unit	GGPET100/100/150NW
Tensile Strength (MD/CD)	ASTM D4595	kN/m	4.5
Tensile Elongation (MD/CD)	ASTM D4595	%	50
Grab Tensile Strength (MD/CD)	ASTM D4632	N	260
Grab Elongation (MD/CD)	ASTM D4632	%	50
Trapezoid Tear Strength (MD/CD)	ASTM D4533	N	120
CBR Burst Strength	ASTM D6241	N	600
Pore Size O_{90}	ASTM D4751	µm	110
Water Flow Q_{100}	ASTM D4491	$L/m^2/s$	180
Weight	ASTM D5261	g/m^2	150

The specification is compiled from MQA testing. To ensure this is current, contact Polyfabrics
MD = Machine Direction; CD = Cross Machine Direction;
Typical Values = Arithmetic Mean (50% will exceed value & 50% will not); MARV = Minimum Average Roll Value (Typical less 2 standard deviations or 97.5% will exceed this value)
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TerraGrid® Uniaxial PET

APPLICATIONS

- Embankment Reinforcement
- Segmental Retaining Walls
- Reinforced Steep Slopes
- Landslide Repair
- Reinforced Foundations

TerraGrid® is a is a high performance soil reinforcement geosynthetic product.

It is made with polyester yarns that have a high molecular weight and extraordinary tensile strength. These yarns are then knitted into a dimensionally stable-network of apertures to form a geometric grid shape which offers tensile reinforcement to the soil in both the vertical and horizontal directions. TerraGrid® interacts with the soil particles to create a permanent composite soil/geosynthetic structure.

TerraGrid® is coated with a black saturation coating to provide further chemical and mechanical benefits that preserve its durability in any environment. In order to provide the most efficient design possible, TerraGrid® is produced in multiple strengths.

TerraGrid® has been proven in the lab and by its installation in thousands of applications over the past decade. Its success is a attributed to its performance and its ability to solve common civil engineering problems.

CODE	DESCRIPTION
GGPET200/50	Uniaxial PET 200 – 5.2 x 100m
GGPET400/50	Uniaxial PET 400 – 5.2 x 100m
GGPET600/50	Uniaxial PET 600 – 5.2 x 100m

TerraGrid® Uniaxial PET Specifications

Mechanical Properties	**Unit (US Grade)**	**Stats**	**200/50**	**400/50**	**600/50**
Tensile Strength (ASTM D 6637 – Method A)	kN/m	MD CMD	200 50	400 50	600 50
Creep Reduction Factor (at 20°C, 114 years design life)	kN/m		1.45	1.45	1.45
Creep Limited Strength	kN/m	MD	137.9	275.8	413.8
Partial Factor - Installation Damage (ASTM D 5818) In clay, silt or sand	%		1.07	1.07	1.07
Partial Factor - Environmental Effects (GRI-GG7, GRI-GG8) Environment, 4 < pH < 9			1.10	1.10	1.10
Molecular Properties					
Molecular weight (GRI GG8)	g/mol		min. 25,000	min. 25,000	min. 25,000
Carboxyl End Group (CEG) (GRI GG7)	mmol/kg		max. 30	max. 30	max. 30
Physical Properties					
Roll dimensions (width x length)	m		5.2x100	5.2x100	5.2x100
Roll area	m^2		520	520	520

Roll weights are average values including shipping cores. Actual roll weights may vary.
The properties might change at the time of manufacturing, storing, handling or shipping
The above values are subject to change as per discretion of the company

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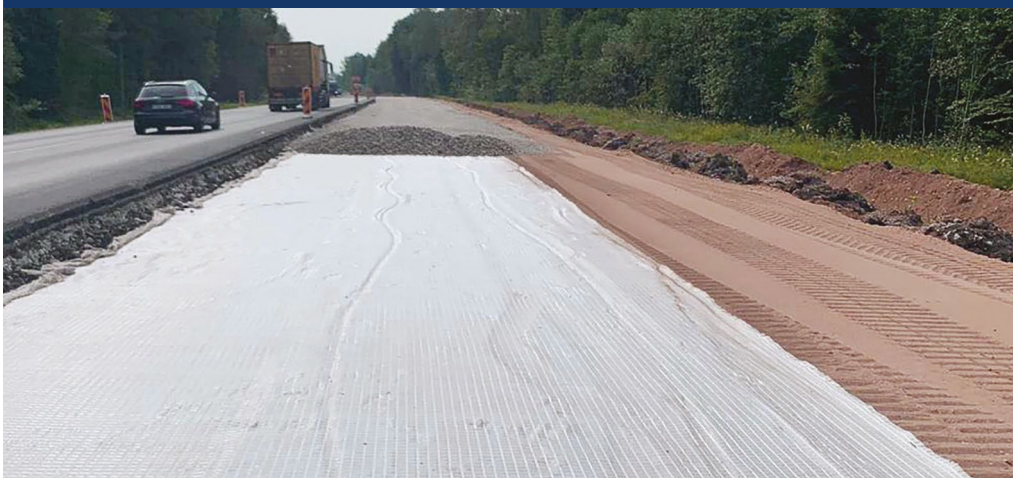
TerraGrid® Asphalt Reinforcement



APPLICATIONS

- Asphalt reinforcement
- Reduce reflective cracking
- Prevent traffic induced shearing
- Extend pavement life

TerraGrid 6060C provides the best solution to prevent reflective cracking in asphalt overlays. It combines a high modulus polyester geogrid with a lightweight non-woven. This product is coated with bitumen to strengthen the bond with the asphalt layers. This increases the tensile strength and results in reducing tensile stress peaks.

As TerraGrid 6060C displays similar thermal expansion properties to asphalt, reflective cracking is reduced. This results in lower maintenance costs and extends the service life of the overlay.

TerraGrid® 6060C is manufactured in accordance to ISO 9001:2008

CODE	SIZE
ARC60-4-150	4m x 150m

TerraGrid® Asphalt Reinforcement Specifications		
Mechanical Properties	**Unit**	**Values**
Polymer	-	Polyester
QC Strength MD/CMD	kN/m	60/60
Load @ 2% Strain	kN/m	12/12
Peak Strain	%	11
Aperture Size	mm/mm	40/40
Maximum Shrinkage @ 1900C for 30min.	%	1
Coating	-	Bitumen
Mass	gr/m^2	360
Geotextile Properties		
Polymer (spun bonded)	-	PP
Mass (typ.)	g/m^2	60
Binder Retention	L/m^2	>0.5
Melting Temperature	˚C	>165

The specification is compiled from MQA testing. To ensure this is current, contact Polyfabrics
MD = Machine Direction; CD = Cross Machine Direction;
Typical Values = Arithmetic Mean (50% will exceed value & 50% will not); MARV = Minimum Average Roll Value (Typical less 2 standard deviations or 97.5% will exceed this value)
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mastaGRID® Mining Grid FRAS

APPLICATIONS

- Recovery Screens
- Mine Roof
- Rib Control
- Temporary Tunnel Support
- Sub-grade Improvement

mastaGRID® Mining Geogrids are made from punched and extruded polypropylene (PP) with an additional FRAS (Flammability Resistance & Anti-Static) coating.

mastaGRID Mining Geogrids are an ideal substitute for traditional steel mesh and other non-FRAS coated materials in long wall mining applications such as:

- Long wall shield recovery screens
- Mine roof & rib control
- Temporary tunnel support
- Sub-grade improvement

CODE	SIZE
GGM2000-2/28	2m x 28m
GGM2000-2/7	2m x 7m

mastaGrid® Asphalt Reinforcement Specifications

Index Properties	**Units**	**MD Values [1]**	**TD Values [1]**
Polymer		Polypropylene	
Aperture Dimensions[2]	mm(in)	61(2.4)	61(2.4)
Minimum Rib Thickness[2]	mm(in)	1.4(0.06)	1.2(0.05)
Ultimate Tensile Strength[3]	kN/m(lb/ft)	21.9(1,500)	21.9(1,500)
Tensile Modulus[3]	kN/m(lb/ft)	380(26,040)	380(26,040)
UV Stabiliser	%	Carbon black	
Structural Integrity			
Junction Efficiency[4]	%	90	
Flexural Stiffness[5]	mg-cm	700,000	
Flammability Resistance[6]			
Maximum Flame Propagation[6]	m(ft)	1.2(4.0)	1.2(4.0)
Average Duration of Burning for Test Set[6]	minute	1.0(max)	1.0(max)
Maximum Duration of Burning for Single Test[6]	minute	2.0	2.0
Dimensions[7]			
Roll Width	m	1.6 to 3.9 max	
Roll Length	m	28 to 100 max	

Note:
1. Unless indicated otherwise, values shown are minimum average roll values determinate in accordance with ASTM D4759-02.
2. Nominal Value(s).
3. True resistance to elongation when initially subjected to a load determined in accordance with ASTM D6637 without deforming test materials under load before measuring such resistance or employing "secant" or "offset" tangent methods of measurement so as to overstate tensile properties.
4. Expressed as a comparison of GRI-GG2 strength to GRI-GG1 strength of the same sample.
5. Resistance to bending force determined in accordance with ASTM D1388 mod.
6. Flammability resistance determined from vertical and horizontal flame in accordance with 30 CFR, Part 7, Subpart A & B and ASTP5011-Standardised Small Scale Flame Test Procedure for the Acceptance of Roof-Rib Grid.
7. Roll widths of 1.5-3.9m and lengths of up to 100m are available to order.

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TerraGrid® Fibreglass Geogrid

APPLICATIONS

- Asphalt reinforcement
- Reduce reflective cracking
- Prevent traffic induced shearing
- Extend pavement life

TerraGrid Fibreglass Geogrid is a fibre glass grid specifically manufactured for the reinforcement of paved surfaces. Terragrid is designed to prevent reflective cracking and reinforce asphalt pavements, providing strength and rigidity in a high strength glass grid.

This geogrid is typically installed under the pavement's wearing course and is designed to reinforce the surface course. It dissipates induced tensions which can lead to the risk of cracks, and can delay their appearance on the surface.

TerraGrid is an engineered geogrid that is suitable for flexible road pavements, asphalt pavements and overall soil reinforcement. When properly installed, it offers a long design life, excellent performance and predictable in situ behaviour.

CODE	SIZE
GGGLASS100/100	4m x 100m rolls

TerraGrid® Fibreglass Geogrid Specifications

Properties	Unit	Test Method	MD / CD Values
Ultimate Tensile Strength	kN/m	ASTM D6637	100 / 100
Strain @ Tensile Strength	%	ASTM D6637	3 / 3
Tensile Strength @ 2% Strain	kN/m	ASTM D6637	80 / 80
Mass per Unit Area	g/m^2	ASTM D5261	420
Melting Point Glass	˚C	ASTM C388	820
Melting Point Coating	˚C	ASTM D276	232
Dimensions			
Grid Size	mm	-	25.4 x 25.4 (Customized)
Roll Width	m	-	4
Roll Length	m	-	100

MD = Machine Direction; CD = Cross Machine Direction;
The technical data are according to our laboratories and testing institution.
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Roadside Slope Reinforcement of Timboon-Nullawarre Road to Protect from Landslip Risk at Moyne Shire VIC

Project

As part of the Victorian Government's $115 million Inland Routes Program, several landslip sites will be reconstructed, stabilised, and retaining walls built, improving the strength of roads throughout Moyne Shire Council.

The Timboon-Nullawarre Road Pavement Reconstruction and Landslip Prevention project aims to improve the resilience of several Victorian roads, funding major pavement rehabilitation work using geosynthetic solutions.

Challenges

The hilly area is prone to heavy and sustained rainfall, occasionally causing landslips and affecting traffic flow.

Moyne Shire Council needed a solution to reinforce the roadside slopes that would offer both reliable landslip protection and cost efficiencies for the project.

Our Solution

To protect the road and reduce the likelihood of potential closures following heavy rainfall events, several Polyfabrics geosynthetics were selected:

- mastaGRID 4040 was used to reinforce and stabilise embankments to create a green reinforced soil slope using the 'over-compaction and trim back' method and to reinforce the slope
- mastaGRID 4040GT for embankment stabilisation
- mastaTEX Non-woven class C geotextiles for sub-grade improvement as part of the new road pavement construction; and
- Polyfabrics mastaGRID 4040GT geogrid with 250mm of crushed rock was used to reinforce the sub-grade to achieve the design level, which allowed the contractor to successfully construct the designed pavement directly over the reinforced soil embankment.
- Tecmat Jute 750gsm was also used in this project for the final landscaping of the slopes, providing erosion control and an optimum environment for planting.

The use of Polyfabrics geogrid products resulted in a huge cost savings for the customer, eliminating the need for additional excavation and bringing in imported fill. This also reduced the carbon footprint of the project, as well as offering an easy-to-install product that ensured no project delays.

Project Overview		
Location	**Customer**	**Engineer**
Timboon-Nullawarre Road at Moyne Shire VIC	Moyne Shire Council	Moyne Shire Council

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Geogrid, Non-Woven and GCL's helps build Water Basin/Ponds inside Boral Quarry at Ormeau QLD

Project

The project involved the construction of two basins/ponds in unstable soils to capture rainwater from the surround hill land, remove the silt and recycle water for use in the quarry for dust control and concrete manufacture.

As a facing, the quarry and concrete batch plant had excess 1m high interlocking waste concrete blocks that they wanted to use.

Construction steps for base/floor included:

- Create a reinforced platform at the base of the pond using TS204.
- Installation of the waterproofing layer using Bentoliner BL100 GCL.
- Placement of Cushion geotextile to protect the GCL from the gravel base.
- Placement of 300-500mm gravel base and compaction.

Construction Steps for the embankment included:

- Trim batter and create anchor trench.
- Installation of the Bentoliner BL100 GCL down the batter and in the anchor trench.
- Placements of the TS202 woven as a weather protection to the Bentoliner GCL and to act as slip plane from the backfill.

Construction steps for the reinforced block wall:

- Design alternative acceptance by Consultants was to use the TS600/50 Geogrid as the primary reinforcement at 1m centres to suit the concrete block. This grid would sit in between the blocks relying on their weight plus nailing and anchored back 7.5-8.0m.
- The TerraGrid TG500 would provide secondary reinforcement as a wraparound behind the concrete blocks at 450-500mm centres. The design assumed there was no resistance provided by the concrete blocks that weighed 2.0-2.4 tonnes each.

Project Overview

Products Used	Total Area/Quantity	Application
TerraStop TS204 (80x80kN/m) Woven	5,000m^2	Basal reinforcement
GCL Bentoliner BI100ST	20,000m^2	Water proofing base and walls
TerraStop TS202 (30x30kN/m) Woven	10,000m^2	Woven protection to wall GCL and to act as a slip plane
TerraStop TS464 nonwoven	5,000m^2	Cushion/protection to base
TerraGrid TG600x50 kN/m	16,000m^2	Main reinforcement/tie back to concrete blocks
TerraGrid TG500 (93x30kN/m)	12,000m^2	Secondary reinforcement wraparound rear wall
7TerraStop C1F nonwoven	5,000m^2	Separation/filtration/drainage

Location	Customer	Engineer
Boral Quarry at Ormeau QLD	AE GROUP Civil & Mining	Cardno

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SEDIMENT CONTROL PRODUCTS

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Silt Warden

GEOmasta™ Silt Warden uses a high tensile, UV Stabilised HDPE shade cloth to provide storm water inlet protection. It also fits inside an existing drain pit while the drain grate holds this inlet protection device in place.

CODE	SIZE
30-SW12	Skirt: 1.3m(L) x 1.3m(W) Basin: 600mm x 600mm Basin Depth: 600mm

Drain Warden

The drain warden is made from fabric. The polypropylene non-woven geotextile fabric is the filter medium – any particulate greater than 90 microns will be trapped by the fabric.

CODE	SIZE
30-DW12	1300mm x 1300mm x 600mm

Dewatering Bags

Dewatering and Sediment Filter bags are perfect for pumping and filtering sediment laden water. The dewatering bags provide a simple yet effective method of removing heavy particles (>90 microns) from excavation water allowing silt free water to be released from the bag.

- 270gsm geotextile fabric
- Double thickness neck for strength
- 90 micron pore size
- Double stitching
- Male camlock connector

CODE	SIZE
30-DB15	1.5m(L) x 0.5m(W), 50mm Neck
30-DB25	2.5m(L) x 1.5m(W), 50mm Neck
30-DB60	6.0m(L) x 4.0m(W), 100mm Neck

Pre-filled Hessian Sand Bags

- Pre-filled with sand
- Size: 830 x 340mm

CODE	SIZE
30-SABGPF	830 x 340mm

Sand Bags – Ready to Fill

- Hessian sand bag

CODE	SIZE
30-SABG	830 x 340mm

- Poly sand bag

CODE	SIZE
30-SABPL	830 x 340mm

Hay Bales & Bags

Hay Bales are often used on site as a permeable barrier across minor drainage paths, swales and channels.

Hay Bale Bags help extend the life of Straw Hay Bales.

CODE	DESCRIPTION
30-HAY	Hay Bale – 800mm x 400mm x 500mm
30-HBBS	Hay Bale Bag – 1600mm x 1m, 270gsm

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Silt Bags

Premium Silt Bag – 1m

Heavyweight UV Resistant with tie strap. Ideal for preventing sediment entering drains. Made from heavy duty polypropylene mesh to last up to 6 years outdoors.

- Pre-filled with blue-metal.
- Pre-filled with sand not available.
- Size: 300mm x 800-1000mm
- Flow rate: 23Lt/m²/min

CODE	DESCRIPTION
30-SIBG	Empty Premium Silt Bag: 300mm x 1m
30-SIBGPF	Pre-filled Premium Silt Bag: 300mm x 0.8 - 1.0m (0.5m - 0.7m long when filled)

Economy Silt Bag

- Economy Silt Bags with tie strap.
- Quantity: 50pk
- Size: 230 x 860mm
- Flow rate: 15Lt/m²/min

CODE	DESCRIPTION
30-ECSB	Economy Silt Bag, 230mm x 860mm

Silt Socks

Pre-filled Silt Sausage

- Made from high strength UV resistant filter fabric, designed to go around drains and trap any sediment but allow water to flow through.
- Pre-filled with blue-metal.
- Pre-filled with sand not available.
- Size: 200mm x 1300mm
- Flow rate: Ø150mm (when filled)

CODE	DESCRIPTION
15-100031	Pre-filled Silt Sausage: 200mm x 1300mm

High Strength Design allows traffic to go over the silt sock and not burst it open.

Silt Sausages – Empty

CODE	DESCRIPTION
30-50MSS	Silt Socks: 200m x 50m Roll
30-4MSS	Silt Socks: 200mm x 4m Length

TerraStop® Silt Fence

Siltmasta SF5000 – Premium Silt Fence

Premium SF5000 Silt Fence is a special, high quality, permeable, technical filter fabric that can be installed as an entrenched vertical barrier fence,
and is designed to intercept and detain runoff, trapping harmful silt through settlement and filtration before it leaves the site.

Roll Height: 750mm
Roll Length: 100mm

Ideal for long term applications.

CODE	DESCRIPTION
30-SF5000	Premium, 750mm x 100m

Siltmasta SF3000 – Standard Silt Fence

Premium Woven Silt Stop with a high flow rate and very long lasting. With woven edges to resist fraying. UV resistant.

Roll Height: 850mm
Roll Length: 100mm

Ideal for long term applications.

CODE	DESCRIPTION
30-SF3000	Standard, 850mm x 100m

Siltmasta SF2000 - Economy Silt Fence

Woven Silt Stop. Green - UV resistant.

Roll Height: 770mm
Roll Length: 100mm

Ideal for long term applications.

CODE	DESCRIPTION
30-SF2000	Economy, 770mm x 100m

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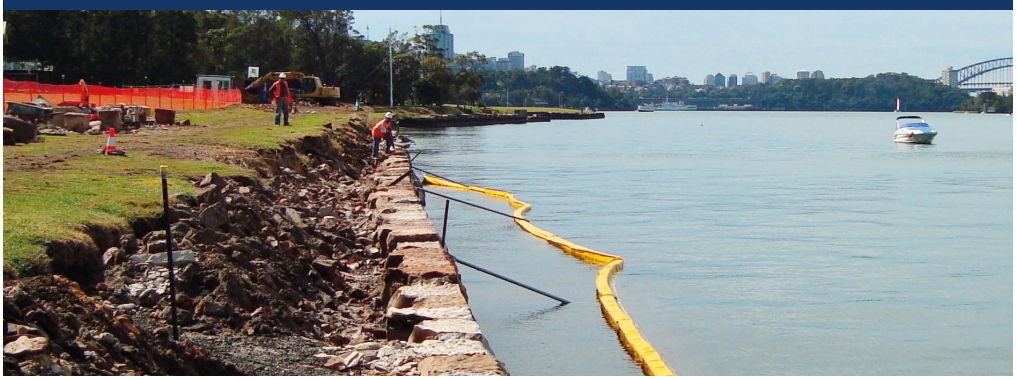
TerraStop® Silt Curtain



APPLICATIONS

- Spillways & Waterways
- Lakes & Rivers
- Harbours
- Open Waters
- Ocean

Silt curtains, also known as Turbidity Curtains, are floating filters designed to control the migration of silt and debris and in most cases, a containment boom for spills on water. They consist of a floating boom and a curtain that sits beneath the surface of the water. The curtain is weighted down with a chain ballast, so it sits vertical in the water and is usually made of a geotextile, woven or non-woven material. It's important to contain silt and debris so it has no impact on nearby aquatic systems.

CODE	SIZE
30-SICRT1-2/25	Type 1: 25m (L) x 2m (Depth)
30-SICRT2-2/25	Type 2: 25m (L) x 2m (Depth)
30-SICR15	15m (L) x 1.5m (Depth)

TerraStop® Silt Curtain Specifications

Properties	Unit	Type 1	Type 2
Section Length (curtain)	m	15, 25	25
Depth (curtain)	m	1.5, 2	2
Materials			
Float	-	PE Closed Cell Foam	
Float Chamber	-	UV Resistant PVC 400gsm	
Tension Member	-	Webbing	
Skirt	-	Non-Woven Stable Fibre Geotextile 260 gsm	
Chain Pocket	-	Geotextile	
Ballast Material	-	Galvanised Chain	
Upper Connection	-	Eyelets	ASTM F962 Z-Connector
Skirt Connection	-	Velcro	Marine Zip #10
Handles	-	Webbing	
Physical Dimensions			
Freeboard	mm	90	140
Number of Handles	qty	4	4
Tension Member Width / Diameter	mm	25	50
Tension Members	qty	1	2
Geotextile Pore Size	micron	90	90
Geotextile Flow Rate @ 10cm head	l/m^2/sec	100	100
Chain Gauge	mm	6	6
Chain Weight	kg/m	0.83	0.83
Float Cross Sectional Area	m^2	0.01	0.01
Float Length	mm	1200	1200
Float Buoyancy (seawater)	kg/m^2	10.3	10.3
Curtain Buoyancy Factor	multiple	5.85	5.85

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PAVING & GRASS PROTECTION

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TurfProtecta™

APPLICATIONS

- Paths
- Pedestrian Areas
- Wheelchair Access Routes
- Occasional use Car Parks
- Access routes

TurfProtecta™ is an extruded polyethylene mesh which is tough, flexible and long lasting. Supplied in two grades (Standard and Heavy) depending on the application, TurfProtecta™ can be effectively employed over stable ground by simply unrolling and fixing adjacent and successive lengths.

TurfProtecta™ lightweight polyethylene mesh is used to reinforce grassed areas intended for very occasional/ infrequent light vehicular or pedestrian use, and which are prone to wear and smearing.

TurfProtecta™ mesh is simple to install. The sward grows through the mesh apertures and knits with the filaments to create a strong, discreetly reinforced surface which is capable of withstanding vehicle loads, limiting damage and helping to reduce compaction by reducing direct contact with the soil surface. The grass can be mown, rolled and fertilised as normal during this period and the mesh soon becomes unobtrusive.

TurfProtecta™ mesh can also be installed onto newly landscaped areas and seeded as required. It is strongly advised that newly-installed.

CODE	SIZE
TURFPROS-2-30	2m x 30m
TURFPROH-2-20	2m x 20m

TurfProtecta™ Specifications			
Characteristics	**Test Method**	**Standard**	**Heavy**
Structure	-	Hexagonal	
Polymer	-	UV Stabilised, Recycled High Density Polyethylene	
Colour	-	Black	
Tensile strength (kN/m) [MD/TD]	ISO10319	5.9 / 7.1	6.2 / 7.5
Yield point elongation (%) [MD/TD]	ISO10319	>500	
Nominal Dimensions			
Mesh aperture size [MD/TD]	mm	25 / 29	22 / 27
Mesh weight/m^2	kg	0.55	0.66
Mesh weight/linear metre	kg	1.1	1.35
Roll width	m	2	2
Roll length	m	30	30
Roll weight	kg	33	40.6
Product Details			
Size	m	2 x 30	2 x 20
Grade	-	Standard	Heavy
Weight	g/m^2	550	660
Material	-	HDPE 100% Recycled	

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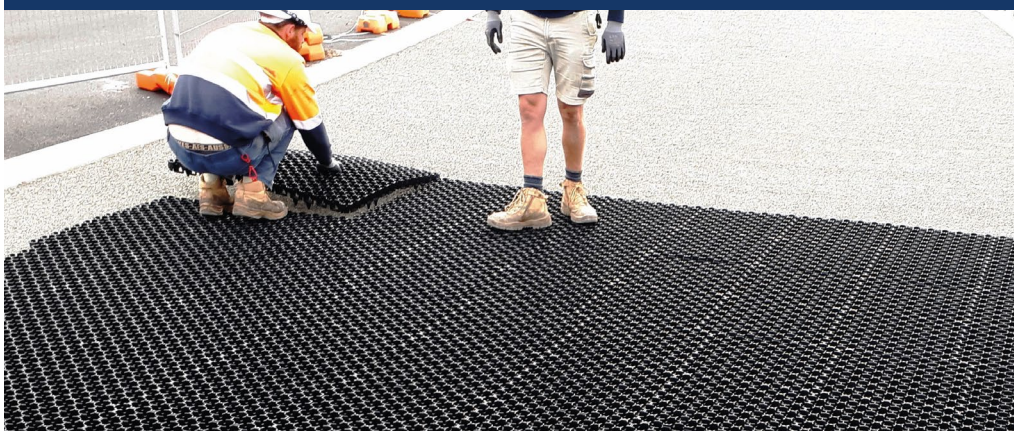
Bodpave™ 85



APPLICATIONS

- Car/Coach Parks
- Driveways/Walkways
- Emergency/HGV Access Routes
- Aircraft Taxiways/ Helipads
- SUDS Source Control

BODPAVE™ 85 is an interlocking cellular porous paving system for ground reinforcement which can be installed with either a grass or gravel filled surface. The design of BODPAVE™ 85 pavers allows them to positively interlock with each other and resist shear. Once filled, they provide a high level of load-bearing performance. They are laid on a free-draining base and can be filled with either gravel for immediate frequent/intensive use, or with a seeded sand/soil to establish a grassed surface for occasional consecutive use. Both options mean that the resulting pavement is porous and in sympathy with the environment.

The unique BODPAVE™ 85 design resists lateral movement whilst accommodating expansion and contraction, promotes surface traction and stability and encourages grass growth by protecting the roots.

Features:

- Natural grass or gravel surface options
- High load-bearing capacity up to 450t/m²
- 92% open surface structure - SUDS source-control compliant
- Can accommodate inclines up to 1:8 / 12% / 7° and localised gradient changes
- No pinning required except on excessive gradients
- Accelerated installation with 1m x 1m panels (four pre-connected pavers supplied as standard)
- Environmentally friendly and aesthetically pleasing
- Suitability for hot and cold climates due to expansion/contraction capability
- Less wastage as pavers can be incrementally off-set connected to accommodate curves/obstructions
- Non-toxic and chemically inert to the chemicals naturally found in soils
- Manufactured in the UK using recycled HDPE with additional UV stabilisation.

CODE	DESCRIPTION
BPAVE85	500mm x 500mm x 50mm deep plus 35mm long ground spike

Bodpave™ 85 Specifications

Characteristics	Values
Paver Size (mm)	500 x 500 x 50 + 35 embedding spike for gradients
Load-bearing capacity (filled)	400 t/m²
Crush resistance (unfilled)	250t
Connection & locking type	Overlapping edge loop & cell connection with integral, self-locking, snap-fit clips
Basal support & anti shear	Integral 35mm long ground spikes (18/paver) with cross & T section
Cell wall thickness	2.5mm - 4.4mm
Nominal internal cell dimensions	67mm (cruciform) & 46mm (round)
% open cell	92% (top) / 75% (base)
Quantity per m²	4 pavers
Weight	1.56kg (6.24kg/m²)
Polymer	Recycled high density polyethylene
Resistance EN ISO 12225	100% 500 hours
UV resistance ASTM D4355	100% retention after 500 hours
Toxicity	Non toxic

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mastaHEX Permeable Paving System

APPLICATIONS

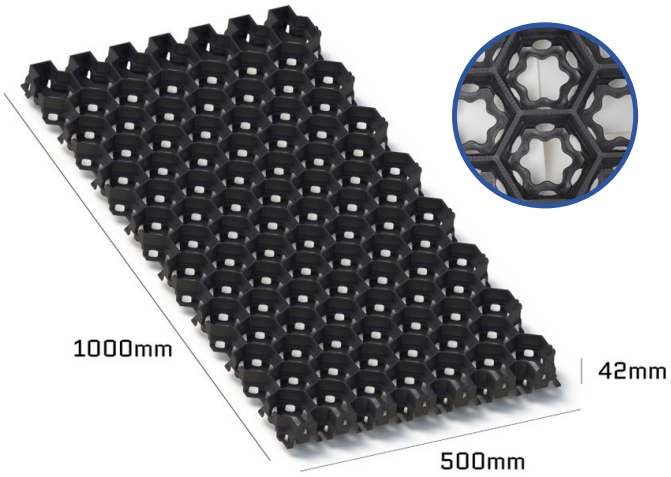
- Mining
- Tailings & Dams
- Landscape Engineering
- Road Works
- Parking Areas
- Landfills
- Sports Ground
- Footpaths

mastaHEX Permeable Paving System (MHPPS) has been engineered for use across a multitude of soil & turf stabilisation applications for the enhancement of water saving measures to the reinforcement of roads in and around mine and construction sites.

With a load rating of 1200 tonnes per square metre, the mastaHEX system is a safe and cost-effective substitute for traditional paving systems in many applications.

It is environmentally friendly and designed to reduce maintenance and logistic costs while at the same time increasing safety and water conservation.

It is a unique and innovative ground stabilisation technology that is easy to use and quick to install. It is made from high impact resistant 100& recycled and recyclable co-polymer polypropylene.



CODE	SIZE
MHPPS	1000mm x 500mm x 42mm

mastaHEX Permeable Paving System Specifications

- Alternatively High Density Polyethylene (HDPE) for sub-zero applications
- Weight per grid: 2.7kg
- 2 pieces of GEOHEX™ = 1 square metre
- Temperature range: -45°C to 155°C
- Water Permeability (installed): 99.7%
- Maximum Load Bearing Capacity (filled): 1200 tonnes square metre
- Colour: Black (Colour on request)
- 100% recyclable
- Injection moulded using high-impact UV-stabilised Copolymer Polypropylene
- Inert and non-reactive to solvents, oils, chemicals or water
- Can be installed in a variety of soil and geological configurations
- Non-toxic to humans, animals, or plants
- Connection methods: clip locking system
- Manufactured from 100% recycled plastics
- Material is impervious to hydrocarbons
- Quantity per pallet: 170 units (85 square metres per pallet)

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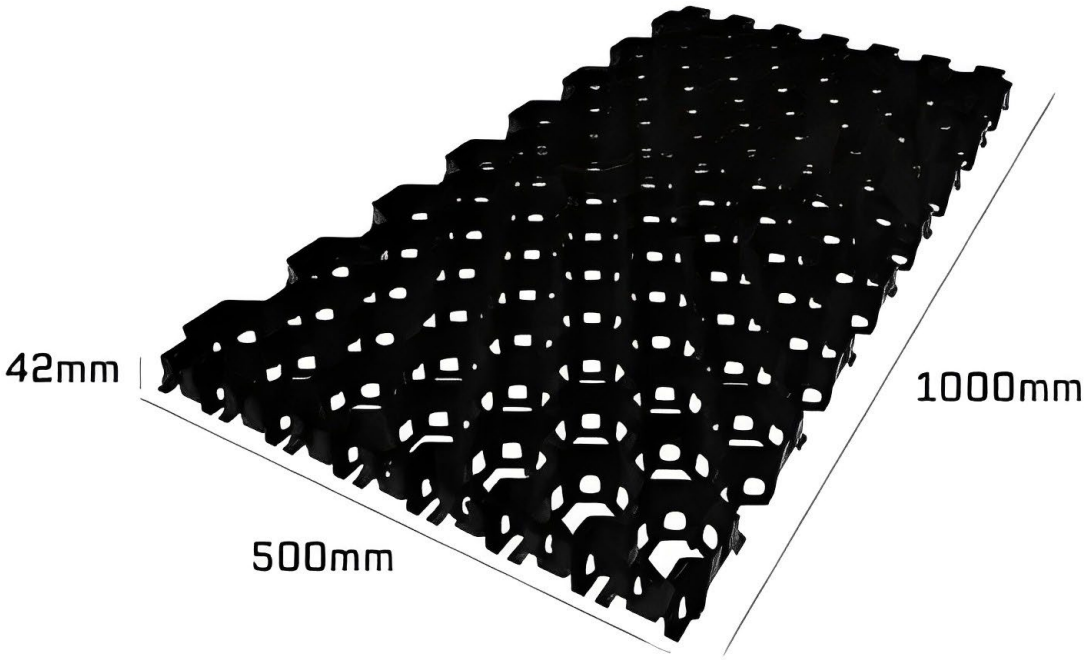
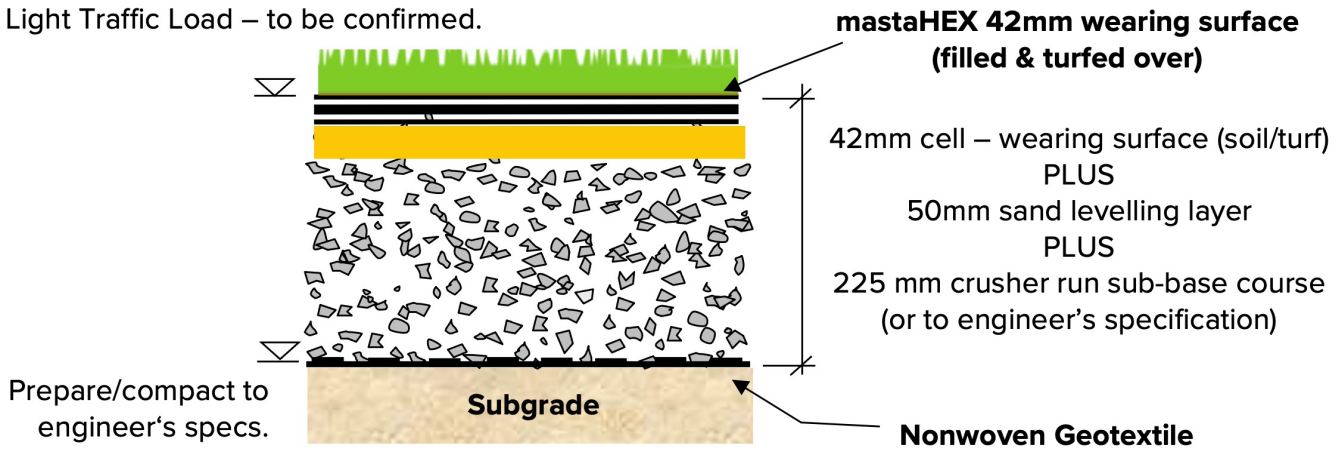
Typical Cross Section (Not to Scale)

Typical Cross Section





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