

Draincoil®

Corrugated Subsoil Drainage Systems



Including:

Draincoil® Pipe and Fittings

StormFlex® Pipe and Fittings

Greywater Diverter Hose and Fittings

Rainwater Diverter Hose and Fittings

Introducing Draincoil®

Draincoil® corrugated drainage pipe is of a consistent high quality and comes in a broad range of sizes and grades.

It is available slotted or unslotted, with or without standard or RTA filter sock. There is a full range of fittings to suit a wide variety of drainage projects.



Features & Benefits of Draincoil®

- ✓ Range of pipe diameters – 50mm, 65mm, 80mm, 100mm and 160mm.
- ✓ Lightweight, easily handling.
- ✓ Flexible, able to bend around corners, moves with soil and does not crack.
- ✓ Easy to install, ideal DIY product.
- ✓ Minimal fittings required, ease of installation, moves with ground.
- ✓ Pipe and fittings made in Australia.
- ✓ Pipe made from consumer collected recycled polyethylene plastic.
- ✓ Range of push-together fittings which lock to the corrugations pipe.
- ✓ All fittings are barcoded for ease of check-out scanning.

Features & Benefits of Fittings

Moulded couplings are available together with a comprehensive range of simple 'push on, clip over' fittings for Draincoil®. The fittings provide the following benefits:

- ✓ Easy jointing – simple 'push on, clip over' joint. No slitting or wiring or tapping of pipe for manual joints.
- ✓ Comprehensive range makes major project installation easy (coupling, cap, 45° junction, tee, cross & adaptor are available).
- ✓ High strength moulded fittings.
- ✓ Adaptability – custom fabricated adaptor available for jointing 100mm Draincoil® drainage pipe with 90mm PVC stormwater pipe.
- ✓ Custom fabricated fittings are also available.

Why Draincoil?

Ease of Installation

Draincoil® is available in easy-to-handle coils ranging in length from 10 to 200 metres. Because of its light weight, it can be transported over difficult terrain and across wet areas during installation. The long lengths facilitate high speed installation using a backhoe, chain digger or direct ploughing into the soil.

Flexible

Draincoil® pipes can be installed continuously around curves and corners of 300mm radius without the need for additional fittings. Any soil movement is accommodated by the flexibility of Draincoil®.

Robust

The corrugated structure provides excellent strength to resist external loads from either soil backfill or vehicles, once installed.

Effective Drainage

Drainage water enters Draincoil® through the uniform slot patterns in the protected valleys of the corrugations. An even entry of water along the pipe length provides efficient and effective drainage.

Uniformly arrayed small holes and high hole density give optimum drainage, creating a uniform hydraulic gradient through the filter medium, and slots with an aspect ratio minimum of 4:1 enable arch formation of small grains without clogging.

Corrosion Resistant

Draincoil® is unaffected by aggressive soil conditions. The chemical resistance of the polyethylene and polypropylene materials used in its manufacture is well established and documented.



Applications

Drainage pipes are installed to take excess water away from an area to prevent water logging. Draincoil® is ideally suited to the following applications.

Civil Projects

Changes in moisture content of the subsoil, particularly those with clay content, cause expansion and contraction, ground heaving and cracking. Excess water can greatly reduce the soil's load bearing capacity and shear strength. Subsoil drainage effectively pegs the watertable and stabilises the soil.

Roads and structures dependant on soil strength and stability should all be provided with adequate subsoil drainage. Such structures include retaining walls and the foundations of buildings and houses.

Draincoil® can also prevent water penetration of underground masonry, which can cause damage to mortar and internal walls.

Mining projects use Draincoil® for sand leaching/heap leaching and sludge pits for quarries.

Land Drainage

Recreational areas such as sports ovals, race tracks, golf courses and parks and gardens require surface water to drain away quickly after intense rainfall.

Agricultural Drainage

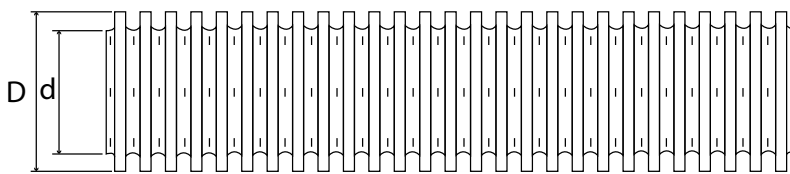
Draincoil® assists in overcoming such problems as salinity, high rainfall, high watertable and hillside soaks.

- ✓ Improves soil aeration
- ✓ Improves soil structure
- ✓ Improves plant growth
- ✓ Reduces surface pugging by vehicles and stock

Product Data

SN	Nominal Diameter DN (mm)	Outside Diameter D (mm)	Inside Diameter D (mm)	No. of slotted rows	Clear water opening (mm ² /m)	Coil Length (m)	Coil Mass Approx (kg)
8	50	50	44	6	1500	10/20/200	1.75/3.5/35
8	65	65	55	6	1500	10/20/200	2.3/4.6/46
8	80	80	68	6	1500	20/100	7.0/35
8	100	100	86	6	1500	10/20/100	4.75/9.5/48
8	160	160	138	6	1500	40	34.4
20	100	100	86	6	1500	100	70

• Filtersock can be supplied separately or fitted on Draincoil®



Classification

Pipe Stiffness

Australian Standard AS2439 .1 establishes classes of pipe based on stiffness, i.e. the force required to achieve a particular deflection. This class rating may be used as a guide to the product application and loads to be encountered in service.

Identification	SN	Materials	Stiffness (N/m/m) 5% Deflection	Application
Draincoil® (Black)	8	High Density Polyethylene (HDPE)	8000	Surface land drainage and road or civil engineering works not subjected to heavy traffic loads
StormFlex®	12	Polypropylene PP	1200	Stormwater redirection - Domestic
Draincoil® (White)	20	PP	20000	Works subject to heavy vehicular traffic loads

Average Slot Size

Slot sizes shown are an average based on a manufacturing tolerance as defined in Australian Standards. For further details refer to AS2439.1.

Water Entrance, Clear Water Opening

1500mm²/m clear water opening is the minimum requirement for the Australian Standard AS2439.1. Manufacturing tolerances and punching will generally result in larger clear water opening.

Sock Material

Sock Material is available in the standard “POLYESTER” material for general applications and as a special chemical resistant “POLYPROPYLENE” for mining and industrial applications.

Pipe Selection

The table below provides a guide to the flow capacity of each pipe. For computational purposes, the following coefficients are suggested.

Darcy-Weisbach / Colebrook-White

Hydraulic Roughness: 2.5 - 3.0mm

Hazen-Williams C: 80

Manning n: 0.014

These values are conservative but assume no silting.

Gradient	Flow	DN50	DN65	DN80	DN100	DN160
1:50	m ³ /h	2.5	4.6	8.3	15.8	57.7
	m/s	0.5	0.5	0.6	0.8	1.1
1:100	m ³ /h	1.8	3.3	5.8	11.1	40.5
	m/s	0.3	0.4	0.4	0.5	0.8
1:200	m ³ /h	1.2	2.3	4.1	7.8	28.4
	m/s	0.2	0.3	0.3	0.4	0.5
1:300	m ³ /h	1	1.9	3.3	6.3	23.1
	m/s	0.2	0.2	0.3	0.3	0.4
1:500	m ³ /h	0.8	1.4	2.6	4.9	17.8
	m/s	0.1	0.2	0.2	0.2	0.3
1:750	m ³ /h	0.6	1.2	2.1	4	14.5
	m/s	0.1	0.1	0.2	0.2	0.3
1:1000	m ³ /h	0.5	1	1.8	3.4	12.5
	m/s	0.1	0.1	0.1	0.2	0.2

Gradient

The following table shows generally recommended gradients for Draincoil® drainage installations.

- Careful attention must be given to control of trench/pipe grade
- The grade should fall continuously without any low spots which may silt up and cause a blockage
- Laser-graded machines are increasingly used to obtain required tolerances

Recommended minimum flushing velocities are:

0.2 m/s – clay particles or fine silts that may enter pipe

0.5 m/s – fine sands or coarse silts that may enter pipe

Preferred Gradients

Application	Minimum Gradient	Preferred Gradient
Agricultural	0.2% or 1:500	0.4% or 1:250
Civil Engineering	0.5% or 1:200	1% or 1:100
Recreational	0.3% or 1:200	Between 1.0 % & 3.0% or 1:100 & 1:33

Transport & Storage

Draincoil® is easily transported, providing cost savings and convenience.

General precautions should be taken for potential damage from forklift forks, overtightening of strapping and sharp or heavy objects.

Coils of Draincoil® should be stacked flat for any extended period of time. Long term storage under cover and in a cool place is recommended.

Installation

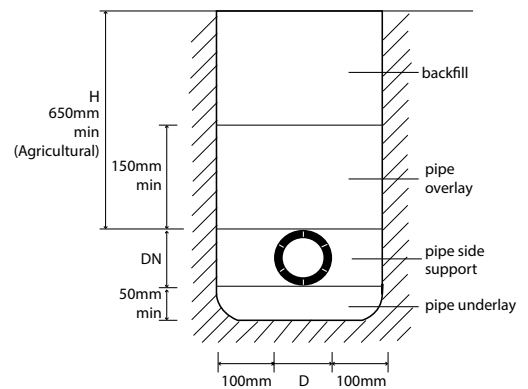
Draincoil® can be easily installed due to its long coil lengths, flexibility and light weight. Subsoil drains can be installed by:

- Trenching
- Ploughing into the ground

Draincoil® pipes are flexible and when buried, develop an interaction with the surrounding soil to resist the loads on the system. Therefore, adequate soil support at the sides of the pipe is essential for proper performance.

Main Installation Features

- Trench width should be as narrow as practicable but approximately 200mm greater than pipe diameter to allow for compaction of pipe bedding material under the haunches.
- Selected overlay material to a minimum of 150mm over pipe.
- The above two features provide a filter zone.
- For agricultural applications, a minimum of 650mm cover should be maintained to avoid deep rippers and heavy machinery.
- A 50mm minimum pipe underlay of filter material should be first placed in the trench to take out any irregularities in the trench bed and provide a drainage path underneath the Draincoil® pipe.
- Ensure that appropriate filter material aggregate or coarse sand is used. A maximum filter aggregate size of 13mm should be used.
- Trenches should have clearly cut sides to avoid contamination of the filter during construction.



GENERAL DIMENSIONS FOR MINIMUM COVER ARE GIVEN IN TABLES

Minimum Cover Over Pipe (Dimension H)

Draincoil®	Minimum Cover Height
Not subject to vehicular loading	300mm
Subject to vehicular loading:	
Not in roadways	450mm
In sealed roadways	600mm
Under unsealed roadways	750mm
Pipes in embankment conditions or subject to construction equipment loading	750mm
Agricultural applications subject to deep rippers & heavy machinery	650mm

Pipe Laying

- As most water enters the pipe from underneath, there is little point in installing a drain deep into a solid clay layer. Where such a layer occurs within the planned depth zone of the drainage system, the pipe should be installed just into this layer. In heavy clay soils, granular backfill should be brought to the top of the clay layer in order to keep the pipe at a minimum depth of 650mm.
- Always ensure that the pipe has only porous soil above, avoiding heavy clay backfill which restricts the flow of water to the pipe.
- The pipe should be kept in the centre of the trench and the filter material compacted under the haunches, around the sides and above the pipe.
- Draincoil® may be connected to the stormwater system or to a soak pit.
- Draincoil® connections must never be made into the sewerage system.

Depth and Spacing

Typical Depth & Spacing for Agricultural Subsurface Drains

The following table should be used as a guide only. The design of a subsoil drainage system is influenced by a number of factors, including for example, topography, soil texture, tree spacing, vehicle access and proposed crop requirements. The advice of relevant authorities and design specialists should be sought.

Soil Type	Depth (m)*	Spacing (m)
Deep light sand	1.8 – 2.1	27 – 40 †
Loam	1.2	13
Clay loams & clay	0.9 – 1.1	7 – 13

* The depth of the impermeable soil layer is the critical factor in determining maximum drain depth. Spacing varies depending on the soil texture. The relevant authority in each state is available to advise a drainage depth and spacing for the appropriate crop.

† Good results have been achieved at spacing up to 80 metres.

Pipe Corrugated

Draincoil® SN8 (CL400)

Material, Polyethylene PE



Vinidex Code	Nominal Size DN (mm)	Type	SN	Coil Length (m)	Approx. Weight (kg/length)
24582	50	Slotted	8	10	1.61
24580	50	Slotted	8	20	3.22
24590	50	Slotted	8	200	32.2
24597	65	Slotted	8	10	2.2
24600	65	Slotted	8	20	4.4
24620	65	Slotted	8	200	44
24630	80	Slotted	8	20	6.3
24641	80	Slotted	8	100	31.5
24707	100	Slotted	8	10	4.5
24700	100	Slotted	8	20	9
24710	100	Slotted	8	100	45
24745	160	Slotted	8	40	34.4

Draincoil® SN20 (CL1000)

Material, PP, Twinwall*



Vinidex Code	Nominal Size DN (mm)	Type	SN	Coil Length (m)	Approx. Weight (kg/length)
24723	100	Unslotted	20	100	68
24724	100	Slotted no filter sock	20	100	68
24749*	160	Unslotted	20	20	47
24750*	160	Slotted no filter sock	20	20	47

*Twinwall

Draincoil® Unslotted SN8 (CL400)

Material, Polyethylene PE



Vinidex Code	Nominal Size DN (mm)	Type	SN	Coil Length (m)	Approx. Weight (kg/length)
24585	50	Unslotted	8	20	3.22
24603	65	Unslotted	8	20	4.4
24635	80	Unslotted	8	20	6.3
24820	100	Unslotted	8	20	9
24840	100	Unslotted	8	100	45
24741	160	Unslotted	8	40	35

Diverter Hose

Material, Polyethylene PE

34mm hose fitted with 25mm cuff to suit most washing machine hoses or 25mm micro irrigation fittings. Large 34mm diameter increases flow, reduces back pressure on washing machine pump and prevents back up in laundry tub. 50mm diverter hose suitable for extra high flows.



Vinidex Code	Nominal Size DN (mm)	Coil Length (m)	Type	Approx. Weight (kg/length)
65573	34	10	Corrugated Greywater Diverter Hose	0.87
65574	34	20	Corrugated Greywater Diverter Hose	1.73
65575	50	20	Corrugated Greywater Diverter Hose	2.6

* Products made to order, minimum order QTY applies.

StormFlex® Pipe SN12

Material, Polypropylene

StormFlex® is a flexible alternative to rigid PVC stormwater pipe, replacing multiple fittings when joining to the downpipe. StormFlex® is manufactured from UV stabilised white polypropylene. StormFlex® can be used as a temporary above ground stormwater diversion. StormFlex® may be used for longer term below ground applications for single dwelling drainage, if approved by the relevant authority. For all buried applications, the minimum cover requirements of Table 6.2.5 of AS/NZS 3500.3 should be applied.



Vinidex Code	Nominal Size DN (mm)	Outside Diameter (mm)	Inside Diameter (mm)	Coil Length (m)	Approx. Weight (kg/length)
24979	100	98-101	83-85	10	4
24980	100	98-101	83-85	30	12

Draincoil® SN8 (CL400) with Filtersock

Materials, Pipe - Polyethylene, Sock - Polyester



Vinidex Code	Nominal Size DN (mm)	Type	SN	Coil Length (m)	Approx. Weight (kg/length)
24581	50	Slotted with Standard Filtersock	8	20	3.22
24608	65	Slotted with Standard Filtersock	8	20	4.4
24625	65	Slotted with Standard Filtersock	8	200	42
24638	80	Slotted with Standard Filtersock	8	20	6.3
24703	100	Slotted with Standard Filtersock	8	20	9
24712	100	Slotted with RTA Filtersock	8	100	45
24746	160	Twin Wall Slotted with RTA Filtersock	8	40	34.4

Draincoil® SN20 (CL1000) with Filtersock

Material, Pipe - PP, Sock - Polyester, Twinwall *



Vinidex Code	Nominal Size DN (mm)	Type	SN	Coil Length (m)	Approx. Weight (kg/length)	Material
24725*	100	Slotted with RTA Filtersock	20	100	73	PP
24751*	160	Slotted with RTA	20	20	50	PP

*Twinwall

Filter Sock

Filter sock is a geotextile sleeve manufactured from high tensile strength polyester yarn. It is fitted over Draincoil® corrugated drainage pipe to prevent small particles of soil (fines) from entering the pipe and reducing the drainage capability. There are two grades to choose from. The heavier RTA grade conforms to the specifications of the New South Wales Road and Traffic Authority (RTA), hence its name. It has more continuously extruded fibres per yarn and can withstand higher loads of abrasion, strain and mechanical installation without tearing.



Vinidex Code	Nominal Size DN (mm)	Type	Coil Length (m)	Approx. Weight (kg)
84656	65	Filter Sock Only	100	2
84658	100	RTA Filtersock Only	100	4

Draincoil® Fittings

Couplings



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65620	50	33
65670	65	20
65015	80	16
65561	100	20

Coupling SN20 (CL1000)



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65030	100	20

Reducing Couplings



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65567	100 - 50	24
65568	100 - 65	24

Tee



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65571	50	30
65569	65	24
65600	100	26

Y Junctions



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65572	65	30
65580	100	10

Crosses



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65564	65	18
65610	100	18

End Caps



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65565	50	30
65566	65	30
65570	100	30

End Grates



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65013	65	150

Adaptors



Vinidex Code	Nominal Size DN (mm)	Carton Quantity
65563	DN 100 Draincoil to DN 90 PVC Stormwater	24
65560	DN 100 Draincoil to DN 100 PVC DWV	24

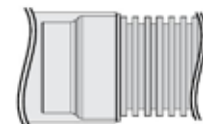
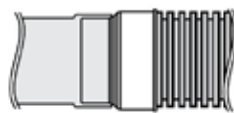
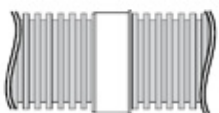
StormFlex® Fittings

PVC Fittings



Vinidex Code	Nominal Size DN (mm)
65012	100 - Coupling
65011	100 x 90 - Adaptor

StormFlex® Fittings Applications



StormFlex® to StormFlex® Coupling 65012

90mm PVC to StormFlex® Adaptor 65011

100mm DWV to StormFlex® Adaptor 65011

Greywater Fittings

Greywater Diverter Hose Connector Cuffs



Size	Product Code	Order QTY	Carton QTY
34 x 34mm Connector Cuff	65017	20	240
34x 25mm Hose Adaptor Cuff	65018	10	300

Greywater Hose Adaptor



Vinidex Code	Nominal Size DN (mm)	Type	Carton Quantity
65562	50mm DWV to 25mm LD	GREYWATER - 50mm PVC to 25mm Hose & Tube Adaptor	25
65019	50mm DWV to 50mm	RAINWATER - 50mm DWV to 50mm Diverter Hose Adaptor	18

Rainwater Fittings

Adaptors

A full range of adaptors are available for connecting Rainwater Diverters to diverter hose. There are two styles of downpipe adaptors to ensure “leak-proof” connections when converting from round to rectangular or rectangular to round.



Size	Product Code	Order QTY	Carton QTY
50mm DWV Socket to 50mm Diverter Hose	65019	10	200
90mm Stormwater Socket to 50mm DWV	65024	10	70
100mm x 50mm Rectangular Downpipe to 90mm Stormwater Adaptor	65025	10	50
90mm Stormwater to 100mm x 50mm Rectangular Downpipe Adaptor	65026	10	60

*Please contact Vinidex for ordering information.



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