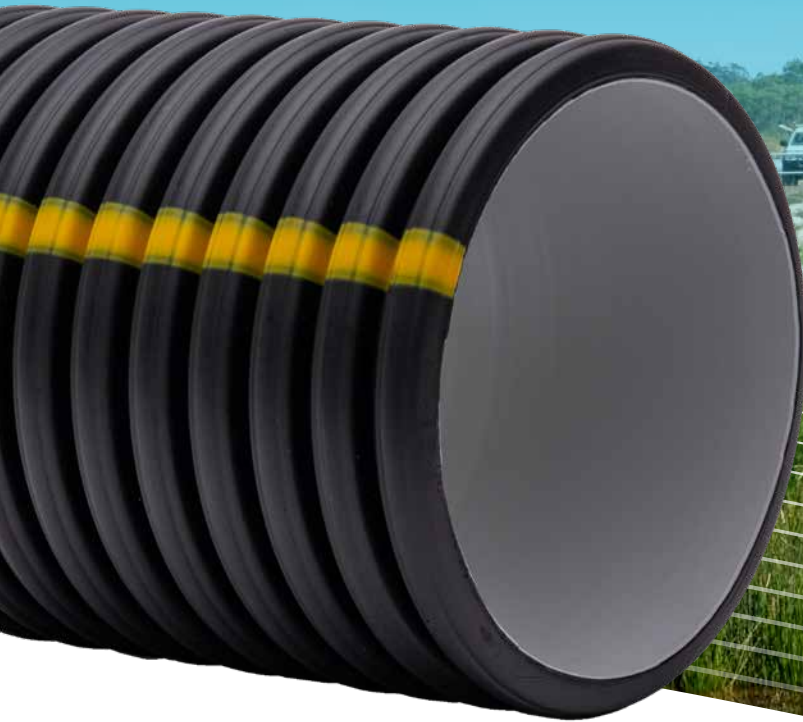




Australian Made



100% Recyclable



## StormFLO® Civil

The environmental choice for  
stormwater and drainage installations

### INCLUDING:

- Land development – residential and industrial
- Roads – infrastructure, stormwater, asset renewal
- Rail – stormwater run-off
- Mining – stormwater and aggressive ground
- Rural – culverts and land drainage



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INTRODUCTION

Vinidex StormFLO® Civil provides the stormwater market with an alternative to our premium StormPRO® product. Vinidex offers a full system of pipes and fittings for non-pressure drainage applications.

StormFLO® Civil pipes are twin-wall, corrugated polyethylene pipes for non-pressure applications, manufactured in accordance with AS/NZS 5065.

StormFLO® Civil uses the latest co-extrusion techniques to manufacture a smooth internal bore to optimise hydraulic performance, and an external corrugated outside wall for a high stiffness to weight ratio.

StormFLO® Civil offers a value alternative for stormwater drainage applications and has its own fittings range specifically designed for the needs of drainage systems.

StormFLO® Civil can be installed in trafficable areas including under road pavements and non-trafficable areas. StormFLO® Civil should be designed in accordance with AS/NZS 2566.1 and installed in accordance with AS/NZS 2566.2.

Rigid pipes are more susceptible to cracking compared with StormFLO®. This means that StormFLO® pipes are less likely to leak and less likely to have loss of surrounding soil causing consequential environmental issues.

Applications

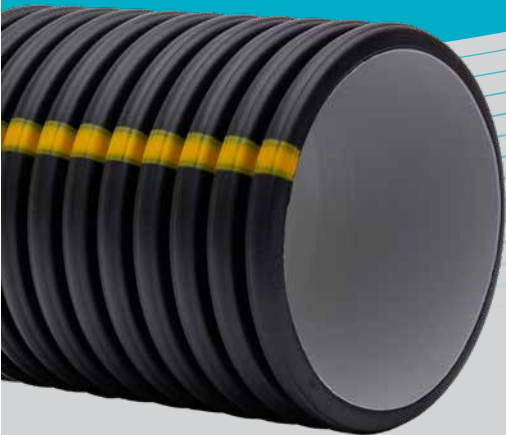
Land development: Residential and industrial

Roads: Infrastructure stormwater, asset renewal

Rail: Stormwater run-off

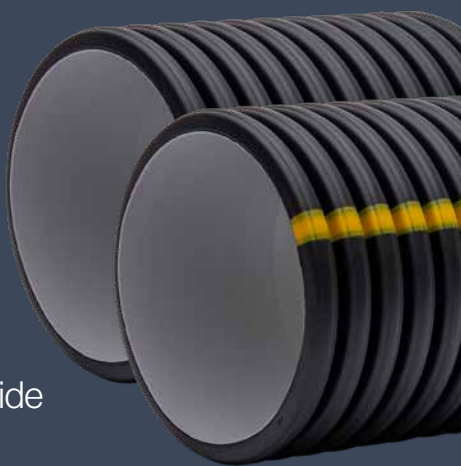
Mining: Stormwater and aggressive ground

Rural: Culverts and land drainage



### Why choose StormFLO®?

- ✓ Uncompromised performance
- ✓ An environmentally sustainable solution
- ✓ Good hydraulic flow
- ✓ Easy to install
- ✓ Light internal wall for easy inspection
- ✓ Full project support including new design guide
- ✓ Vinidex 60 years strong



#### Uncompromised performance

- Australian users can have confidence that Vinidex StormFLO® Civil is made to the same US standards accepted by US road authorities. HDPE corrugated drainage pipe made to these standards is now accepted by road authorities in all 50 US states and by many rail authorities throughout USA.
- StormFLO® Civil is manufactured in accordance with AS/NZS 5065.

#### An environmentally sustainable solution

- StormFLO® Civil is manufactured incorporating recycled material further enhancing the sustainability of plastic pipe systems and genuinely contributing to the circular economy.
- StormFLO® Civil pipes are fully recyclable at the end of their long service life.

#### Smooth inner bore for hydraulic flow

#### Easy to install

- Easy to cut and easy to join.
- StormFLO® fittings offer easy transition between other Vinidex non-pressure application pipe materials.
- All fabricated fittings rated SN8.

#### Light internal colour to facilitate CCTV inspection

#### High resistance to cracking

#### Flexible pipe

#### Exceptional jointing performance

- Reduced jointing forces.
- Enhanced joint performance under adverse soil movement and deflection conditions.
- Effective rubber ring design.

#### Abrasion resistance

#### Can be used in aggressive or saline soils, sensitive to the environment

#### Accessories compatibility

- Vinidex also offers accessories and tools specifically designed for StormFLO® Civil applications.
- The PROSaw works with the StormFLO® Civil pipe profile enabling house connections and the PRO Grommet is also compatible with the StormFLO® Civil range.
- Special fittings can also be provided, contact Vinidex for more information.

#### Design Tool - project support

- Vinidex has released a Design Calculator to assist engineering consultants and designers with buried flexible pipe structural design.

## PRODUCT RANGE

#### Pipe Attributes

StormFLO® Civil has a black corrugated external surface with a light grey internal to assist with post installation CCTV inspections. StormFLO® Civil is easily identifiable on site with a gold identification stripe on the outside of the pipe.

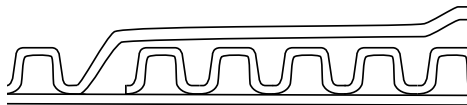
StormFLO® Civil is available in standard RRJ Spigot/Socket configuration (Sp/So).

StormFLO® Civil is supplied with one rubber ring per socket joint.

#### Pipe Dimensions

A schematic of the wall profile is shown in Figure A and significant dimensions are given in Table 1.

**Figure A: Wall Profile**  
**DN225 to 600**



#### Dimensions & Effective Lengths

StormFLO® Civil is available in Sp/So configuration in nominal 6m lengths only.

The effective length of pipes is the overall length minus the insertion depth into the socket. The effective lengths of StormFLO® Civil are given below.

Note: Nominal overall lengths are longer than effective length due to socket length.

#### STORMFLO® CIVIL EFFECTIVE LENGTH

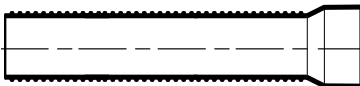
Nominal Diameter	StormFLO Length (SP/SO) Effective Length (m)
DN225	5.96m
DN300	5.88m
DN375	5.79m
DN450	5.78m
DN525	5.69m
DN600	5.56m

### StormFLO® Civil pipe dimensions

Nom. Dia. (mm)	Mean Pipe Outside Dia. (mm)	Mean Pipe Internal Dia. (mm)	Profile Pitch (mm)	Min. Profile Thickness (mm)	Inner Skin Thickness (e) (min)	Pipe Weight/Length (kg)	Number of Pipes per Crate
225	252	218	17	2.6	1.4	19	12
300	344	294	25	3.2	1.7	29	6
375	423	363	30	4	2.1	47	4 or 6
450	504	435	34.5	5	2.8	73	2
525	601	519	41	5.6	3.2	100	2
600	688	589	49.5	5.2	3.5	113	3
600	688	589	49.5	5.2	3.5	113	3



StormFLO® Civil SN 8 Pipe Range



Vinidex Code	Nominal Diameter (mm)	Effective Length (m)	Overall Length (m)	Approximate Pipe Mass (kg/length)	Number of Pipes per Crate	Semi Truck Load	B-Double Truck Load
29520	225	5.96m	6.10m	19	12	144	216
29521	300	5.88m	6.05m	26	6	72	108
29522	375	5.79m	6.02m	47	4 or 6	60	90
29523	450	5.78m	6.00m	73	2	40	60
29524	525	5.69m	5.96m	100	2	32	48
29525	600	5.56m	5.90m	113	3	18	27

Note: Rubber Rings supplied separately with all pipes and fittings. Lubricants are also supplied with pipes. Additional rubber rings may be ordered if required.

15° FLO Bends



Vinidex Code	Nominal Size (mm)	Material	Angle (°)	Stiffness (SN)	Type	Carton Quantity
31516	225	PVC	15	8	FF	1
31517	300	PVC	15	8	FF	1
31518	375	PVC	15	8	FF	1

30° FLO Bends



Vinidex Code	Nominal Size (mm)	Material	Angle (°)	Stiffness (SN)	Type	Carton Quantity
31519	225	PVC	30	8	FF	1
31520	300	PVC	30	8	FF	1
31521	375	PVC	30	8	FF	1

45° FLO Bends



Vinidex Code	Nominal Size (mm)	Material	Angle (°)	Stiffness (SN)	Type	Carton Quantity
31522	225	PVC	45	8	FF	1
31523	300	PVC	45	8	FF	1
31524	375	PVC	45	8	FF	1
31525	450	PE	45	8	MF	1
31526	525	PE	45	8	MF	1
31527	600	PE	45	8	MF	1

Please check availability of these sizes.

88° FLO Bends



Vinidex Code	Nominal Size (mm)	Material	Angle (°)	Stiffness (SN)	Type	Carton Quantity
31530	225	PVC	88	8	FF	1
31531	300	PVC	88	8	FF	1
31532	375	PVC	88	8	FF	1
31533	450	PE	88	8	MF	1
31534	525	PE	88	8	MF	1
31535	600	PE	88	8	MF	1

Please check availability of these sizes.

FLO Socket to PVC SWJ Socket



Vinidex Code	Nominal Size (mm)	Material	Stiffness (SN)	Type	Carton Quantity
31540	225	PVC	8	FF	3
31541	300	PVC	8	FF	1
31542	375	PVC	8	FF	1

FLO LIT Reducers



Vinidex Code	Nominal Size (mm)	Material	Stiffness (SN)	Type	Carton Quantity
31537	300 x 225	PVC	8	FF	1
31538	375 x 225	PVC	8	FF	1
31539	375 x 300	PVC	8	FF	1

FLO Plain Couplers



Vinidex Code	Nominal Size (mm)	Material	Stiffness (SN)	Carton Quantity
31500	225	PVC	8	2
31501	300	PVC	8	1
31502	375	PVC	8	1
31503	450	PE	8	1
31504	525	PE	8	1
31505	600	PE	8	1

Please check availability of these sizes.

FLO Transition Couplers



Vinidex Code	Nominal Size (mm)	Material	Stiffness (SN)	Carton Quantity
31550	225	PVC	8	2
31551	300	PVC	8	1
31552	375	PVC	8	1
31553	450	PE	8	1
31554	525	PE	8	1
31555	600	PE	8	1

Please check availability of these sizes.

FLO Push On Caps



Vinidex Code	Nominal Size (mm)	Material	Stiffness (SN)	Carton Quantity
31543	225	PVC	8	14
31544	300	PVC	8	4
31545	375	PVC	8	2
31546	450	PE	8	1

Please check availability of these sizes.

FLO Rubber Rings



Vinidex Code	Nominal Size (mm)	Type	Carton Quantity
82738	225	EPDM	100
82739	300	EPDM	50
82740	375	EPDM	20
82741	450	EPDM	12
82742	525	EPDM	10
82743	600	EPDM	10

Note: Rubber Rings are normally supplied separately with all pipes and fittings.  
Additional rubber rings may be ordered if required.  
Please check availability of these sizes.

FLO Slip Couplings



Vinidex Code	Nominal Size (mm)	Material	Stiffness (SN)	Carton Quantity
31500	225	PVC	8	2
31501	300	PVC	8	1
31502	375	PVC	8	1
31503	450	PE	8	1
31504	525	PE	8	1
31505	600	PE	8	1

Please check availability of these sizes.

PRO Grommets to suit FLO Range



Vinidex Code	Nominal Size (mm)	Inlet Size (mm)	Material	Carton Quantity
30220	225/300	100	EPDM/PVC	30
30221	375/450/525	100	EPDM/PVC	25
30222	300/375	150	EPDM/PVC	10
30223	35/450/525	150	EPDM/PVC	1
30224	600/750/900	150	EPDM/PVC	1

PRO Saw to suit FLO Range



Vinidex Code	Nominal Size (mm)	Nominal Size (mm)	Carton Quantity
30231	100 Diameter - 127 PROsaw	100	1
30232	150 Diameter - 182 PROsaw	150	1

Rubber Ring Jointing Lubricant



Vinidex Code	Quantity	Min. (Pack) Quantity	Carton Quantity
82393	500g	1	18
82395	1kg	1	12
82396	2kg	1	5
82397	4kg	1	4

Lubrication per Joint		
Diameter	Approx. Joints/500ml	Approx. Joints/1kg
225	13	26
300	9	18
375	8	16
450	6	12
525	5	10
600	4	8

### JOINT DETAILS

StormFLO® Civil have a simple and effective Rubber Ring Joint system, which is easy to assemble and effective against soil intrusion.

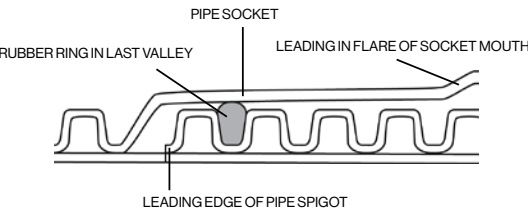
The rubber ring is located on the spigot in the last valley between the the corrugations for the StormFLO® Civil pipe range. Note: this is different from some of our competitors products.

StormPRO® and StormFLO® Civil sockets and spigots are not compatible. Vinidex offer a range of transition fittings to suit.

See product section.

The Standard material for Rubber Rings is EPDM. Rubber Rings and pipe are interchangeable with StormFLO® Civil pipe.

**Figure B: Joint cross section DN225 to 600**



### DURABILITY

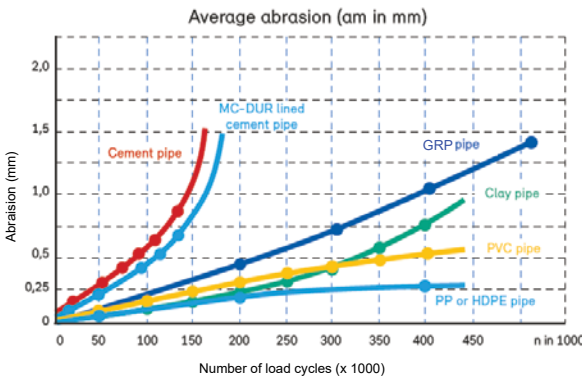
StormFLO® Civil pipes have excellent corrosion and chemical resistance. StormFLO® Civil polyethylene pipes are resistant to corrosion by aggressive soils, chemicals and substances typically found in stormwater run-off. The question of chemical resistance is therefore likely to arise only if the pipes are used in unusual circumstances.

For more details or to check resistance to specific chemicals, refer to the Vinidex Chemical Resistance Guide on the Vinidex website.

StormFLO® Civil pipes have excellent abrasion resistance as well as stress crack resistance.

StormFLO® Civil pipes have high temperature resistance. Continuous service temperatures of up to 80°C and short term

applications of up to 90°C will not adversely affect the performance of StormFLO® Civil pipes



Abrasion resistance of various pipe materials determined using the Liarmstadt abrasion test.

StormFLO® Civil pipes are manufactured from compounds containing additives which ensure their resistance to ultraviolet light and weathering during handling and storage.

PE pipe systems have structural integrity, are flexible and tolerate ground movements and considerably lower failure rates compared with traditional concrete and cast iron materials.

Some of the additional benefits of polyethylene pipe include:

- Material and energy efficient; enhancing environmental sustainability
- High stiffness
- Greater damage tolerance; High flow capacity.

This combination of environmental and engineering benefits mean that StormFLO® Civil is the high-performance, cost effective pipe material choice for non-pressure applications.

### MANUFACTURE

Vinidex StormFLO® Civil twin-wall corrugated polyethylene pipe is proudly manufactured in Australia for civil and rural drainage non-pressure applications.

StormFLO® Civil pipes incorporate the latest manufacturing technology using continuous polyethylene dual extrusion combined with a vacuum controlled corrugating process.

The twin-wall structure consists of simultaneously extruded smooth inner wall and corrugated outer wall. At the valley of each corrugation, where the inner and outer walls meet, the two surfaces are fused together for the full circumference of the pipe.

### AUSTRALIAN STANDARDS

StormFLO® Civil pipe and fittings are manufactured in accordance with AS/NZS 5065:2005 “Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications”.

### PIPE STIFFNESS

AS/NZS 5065 classifies pipes according to their minimum ring-bending stiffness. This is a measure of the ability of a pipe to resist deformation due to an external load. Stiffness classes are identified by an SN number where a higher number indicates greater resistance to deflection.

StormFLO® Civil has a stiffness classification of SN8.

### PIPE DIMENSIONS

According to AS/NZS 5065, StormFLO® Civil is considered a Type B pipe (ribbed or corrugated construction) with dimensions based on the internal diameter (ID) series.

**TABLE 1: TYPICAL MATERIALS OF PROPERTIES OF STORMFLO®**

Property	Value	Units	Standard
Melt Index @ 190°C, 5.0kg	0.3 - 0.6	g/10min	ASTM D1238
Density	0.95 - 0.961	g/cm³	ASTM D1505/D2839
Flexural modulus (1% secant)	1150	MPa	ASTM D790
Tensile stress at yield (50mm/min)	25	MPa	ASTM D638
Elongation at break	760	%	ASTM D638
Durometer Hardness	63	Shore D	ASTM D2240
Coefficient of thermal expansion	2 x 10 <sup>-4</sup>	/°C	
Pipe ring bending stiffness (min)	8,000	N/m.m	AS/NZS 1462.22
Ring Bending Modulus (3 minute)	950	MPa	ref AS/NZS 2566.1
Ring Bending Modulus (50 y)	260	MPa	ref AS/NZS 2566.1

## Leading the way, from the ground up.

For over six decades, we've been leading the way – setting the industry benchmark for pipeline systems and solutions. Our legacy spans across building, infrastructure, and agriculture sectors. We make life flow with groundbreaking, high-quality products, connecting everything from water, gas and energy throughout Australia.

Today, we maintain our commitment to innovative solutions that meet our customers' needs and exceed their expectations. Core to our approach are smarter solutions that are more sustainable throughout the manufacturing process and over their lifetime. Globally backed by Aliaxis, and a wide-reaching national footprint, our team of passionate technical experts support our customers throughout their projects – working to deliver solutions for today and the future.

**Vinidex. We make life flow.**

**Vinidex Pty Limited**  
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