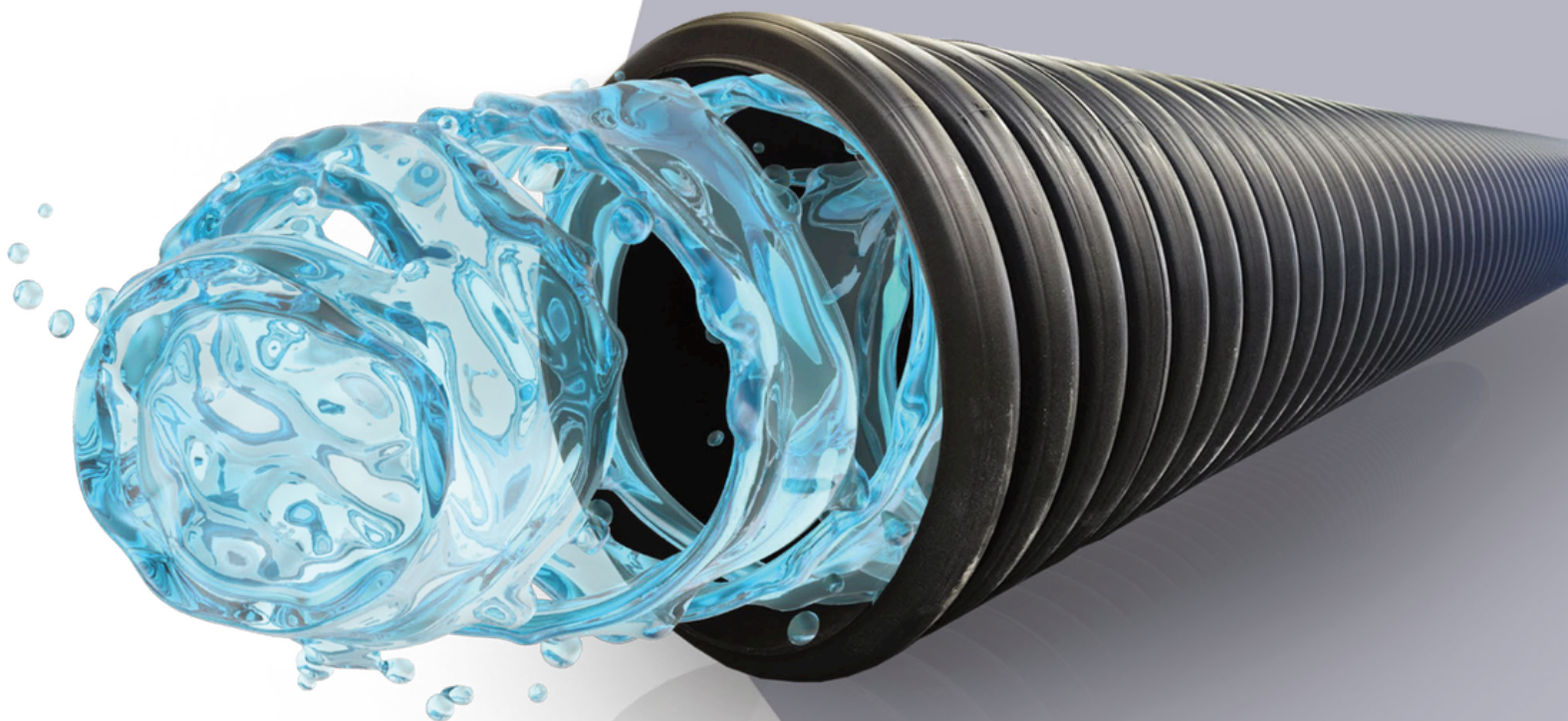




Data Sheet

HDPE Stormwater Pipes

Product Details

Properties

Accreditations

Usage & Features

Design & Install



SEVEN STAR
INFRASTRUCTURE PTY LTD

PH 1300 778 277

HDPE Pipes from 7 Star Infrastructure are offered as factory seconds, providing a cost-effective solution for many applications. Please note that rubber rings and jointing lubricant are not included.

Product Details

Dimensions

DN (mm)	Nominal Pipe OD (mm)	Minimum Mean Inside Diameter of Pipe (mm)	Stockcode	Effective Length (m)	Approximate Pipe Mass (kg/m)	Stiffness (N/m/m)
225	254	216	PFLOW0225	6.28	3.0	8,000
300	345	292	PFLOW0300	6.18	5.0	8,000
375	424	361	PFLOW0375	6.18	8.0	8,000
450	506	432	PFLOW0450	6.12	12.0	8,000
525	603	515	PFLOW0525	6.03	16.5	8,000
600	689	584	PFLOW0600	5.90	21.0	8,000
750	849	723	PFLOW0750	5.91	33.0	8,000
900	1016	864	PFLOW0900	5.91	44.0	8,000
1050	1186	1008	PFLOW1050	5.97	58.0	8,000

Diameter Range

Our corrugated structured wall polyethylene pipes are available in diameters ranging from DN225 to DN1050.

Stiffness

The ring stiffness of a flexible pipe measures its strength against various pressures such as soil load, external water pressure, internal vacuum, vehicle weight, and loads during construction. This stiffness is tested in labs and is shown in units of N/m/m, based on standards AS/NZS 2566.1 and AS/NZS 1462.22. These corrugated structured wall polyethylene pipes exceed 8,000N/m/m (Classified SN8 in AS/NZS5065).

Lengths

Our corrugated structured wall polyethylene pipes are supplied in standard 6m nominal lengths. Pipes can be simply cut to length on site and re-joined for shorter length adjustments or connections.

Chemical Resistance

Our corrugated structured wall pipes and fittings are manufactured from polyethylene, ensuring outstanding durability against corrosive conditions in drainage environments. Polyethylene demonstrates high resilience to challenging underground environments.



Joints

Our corrugated structured wall polyethylene pipes incorporate an advanced spigot and socket elastomeric joint, designed to meet the requirements set by AS/NZS5065. Each pipe is supplied with a standard elastomer gasket for simple and effective jointing. Lubrication of the gasket is required for jointing to the spigot witness mark.

The elastomeric gasket is positioned in the second last trough near the spigot end and compresses to create a seal as the spigot is inserted into the socket. This innovative design enables installers to cut the pipe at any point along its length and still effectively form a joint.



Corrugated pipe joint diagram EPDM or SBR gaskets comply with the requirements of AS1646 "Elastomeric seals for waterworks purposes".



Properties

Property	Units	Value
Density	kg/m ³	960
Circumferential Flexural Modulus (2mm/min)	MPa	>1000
Pipe Ring Bending Stiffness	N/m/m	≥ 8000
Tensile Yield Stress (50mm/min)	MPa	25
Poisson's Ratio		0.40

Usage & Features

Simplified Connection System

The design incorporates an effective rubber ring joint system that facilitates easy assembly and secure jointing. Designed to meet strict Australian Standards requirements for effective sealing and resistance to root intrusion, the seal simplifies installation.

Eco-friendly materials and manufacturing

Polyflow polyethylene corrugated pipes are 100% recycled and recyclable and a low embodied energy, contributing significantly to its environmental benefits. Choosing materials with lower embodied energy helps reduce the overall carbon footprint of construction projects, aligning with sustainability goals and regulations.

Australian Made

Australian made products guarantee that the products meet strict Australian standards for quality. Reflecting a commitment to supporting local industries and reducing environmental impacts.

Long lasting performance

The durability of polyethylene is a key asset, providing it the ability to resist heavy handling and installation stresses without compromising its integrity or performance. This ensures that the product remains effective over long periods, even in demanding conditions.

Adaptability to Ground Conditions

The inground performance of polyethylene is exceptional, exhibiting a high tolerance to deformation and the ability to accommodate ground movements. This resilience ensures that the infrastructure remains functional and reliable over time.

Light weight design

Polyethylene corrugated pipes are lightweight, making them easy to handle, transport, and install. This makes installation faster and more cost-effective.

Accreditations

Our corrugated polyethylene pipe and fittings and fittings are independently certified to the following Australian Standards:

AS/NZ5065 "Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications"

Approval Mark Watermark Certification LIC WM75078

AS1646 "Elastomeric seals for waterworks purposes"



Applications

Corrugated structured wall polyethylene pipes and fittings offer effective drainage solutions and are suitable for non-pressure and low-head applications.

Typical applications include:

- Gravity stormwater and drainage pipelines
- Gravity sewer mains
- Sewer chamber riser
- Culverts
- Retention systems
- Pipeline rehabilitation and relining
- Rural and agricultural
- Ventilation ducting
- Low head water transfer
- Leachate collection
- Above & below ground





Design & Install

Minimum Cover Heights

AS/NZS2566.1 "Buried flexible pipelines – structural design"

Location	Minimum height of cover (m)
Not subject to vehicular loading	0.30
Subject to vehicular loading	
– Not in roadways	0.45
– In sealed roadways	0.60
– In unsealed roadways	0.75
Pipes in embankment conditions or subject to construction equipment loading	0.75

Minimum pipeline cover shall be specified to:

- (a) ensure surcharge loadings, e.g., traffic and construction equipment, are not concentrated but instead are distributed over an adequate area;
- (b) give sufficient clearance to overlying layers that require heavy mechanical compaction, e.g., road sub-bases; and
- (c) ensure the pipe or side support is appropriate, having regard to the proposed land use and any foreseeable lowering of finished surface levels.

Subject to variation by the relevant asset owner. Under cultivated agricultural land H should not be less than 0.6 m. Railway crossings shall comply with AS 4799.

Testing & Commissioning

Testing and commissioning methods for corrugated structured wall polyethylene pipe system are generally in accordance with AS/NZS2033 "Installation of polyethylene pipe systems" and AS/NZS2566.2 "Buried flexible pipelines – Installation". The standards specify the requirements for the field-testing and commissioning of buried flexible pipelines with structural design in accordance with AS/NZS2566.1 "Buried flexible pipelines – Design".

7 Star Portables work with contractors, asset managers, local councils and government, developers and other pipeline professionals to specify bespoke product solutions.

Life Expectancy

When installed and operated in accordance with the manufacturers guidelines this pipe system can be expected to perform well in excess of 50 years.

Installation

Installation methods for the corrugated structured wall polyethylene pipe system are generally in accordance with AS/NZS2033 "Installation of polyethylene pipe systems" and AS/NZS2566.2 "Buried flexible pipelines – Installation".

The standards specify the requirements for the installation of buried flexible pipelines with structural design in accordance with AS/NZS2566.1 "Buried flexible pipelines – Design".



The key to ensuring the pipes are installed successfully lies in selecting and properly compacting the embedment material, which is in direct contact with the pipes.

This material should be granular and easy to compact, with crushed rock, aggregate, and graded sand being common choices.

For detailed information on selecting and using various embedment materials, refer to Appendices 'G' and 'H' in the AS/NZS2566.2 "Buried flexible pipelines – Installation" standard.

Installation Guides

We can assist with a range of guides and technical support services. We can provide installers with important information relating to the correct handling, installation, testing, maintenance and repair of our pipe systems and products.



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