



CORRUGATED PIPE SYSTEMS
AUSTRALIA

TECHNICAL DATA SHEET

POLYETHYLENE STORMWATER
PIPES & CULVERTS



AS/NZS 5065:2005
WM75236

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	PC02256	6.28	3.0	8,000
300	345	292	PC03006	6.18	5.0	8,000
375	424	361	PC03756	6.18	8.0	8,000
450	506	432	PC04506	6.12	12.0	8,000
525	603	515	PC05256	6.03	16.5	8,000
600	689	584	PC06006	5.90	21.0	8,000
750	849	723	PC07506	5.91	44.0	8,000
900	1016	864	PC09006	5.97	33.0	8,000
1050	1186	1008	PC10506	5.91	58.0	8,000



Diameter Range

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

Stiffness

The ring stiffness of a flexible pipe measures its resistance to various pressures such as soil load, external water pressure, internal vacuum, vehicle weight and loads during construction. The stiffness is measured in units of N/m/m based on testing to AS/NZS 1462.22. CPSA corrugated structured wall polyethylene pipes exceed 8,000 N/m/m (AS/NZS5065 Stiffness Class SN8)

Lengths

CPSA corrugated structured wall polyethylene pipes are supplied in standard 6m nominal lengths.

Chemical Resistance

CPSA 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.

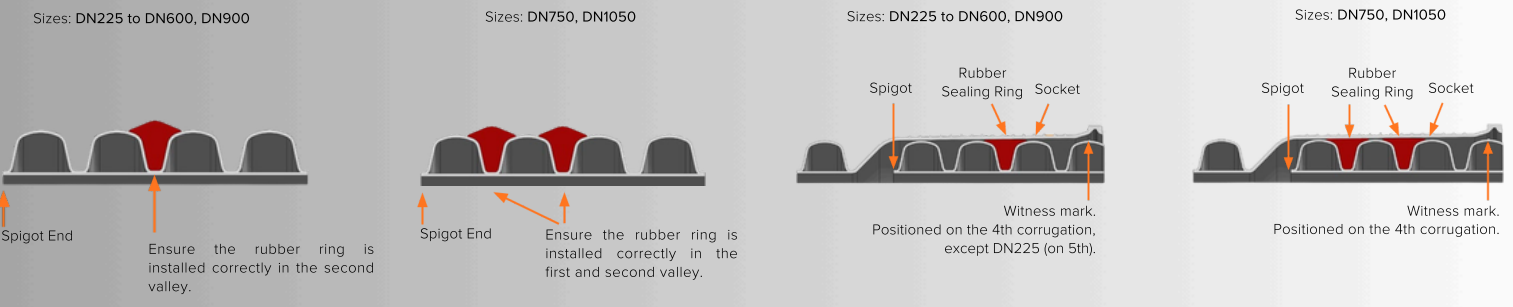
UV Stability

The PE black compounds used for the manufacture of CPSA corrugated pipe on all external surfaces contain well-dispersed carbon black, giving outstanding UV resistance and long-term stability.

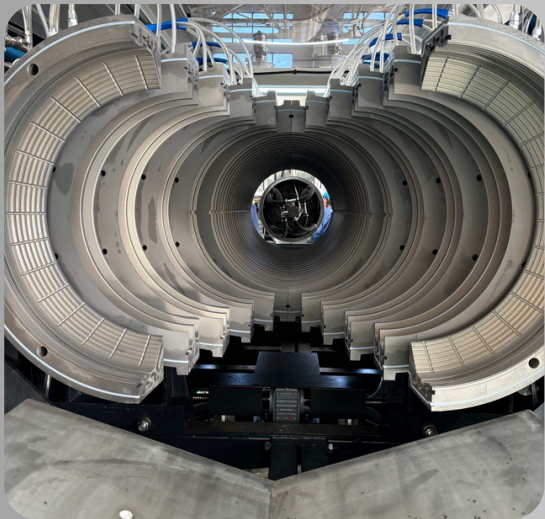
JOINTING SYSTEM

CPSA corrugated structured wall Polyethylene pipes incorporate an advanced spigot and socket elastomeric joint, designed to meet the performance requirements set by AS/NZS5065. Each pipe is supplied with the required elastomer gasket/s for simple effective jointing to the witness mark.

The elastomer is positioned in the second last trough for single seals and the first and second troughs for dual seal joints from the spigot end. Refer installation sticker and installation guidelines.



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	20
Poisson's Ratio		0.40

COMPLIANCE

Corrugated polyethylene pipe is manufactured by CPSA to AS/NZS5065 "Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications".

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

CPSA polyethylene corrugated pipes are 100% 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.

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.

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
- Sewer chamber riser
- Culverts
- Retention systems
- Pipeline rehabilitation and relining
- Rural and agricultural
- Ventilation ducting
- Low head water transfer
- Leachate collection
- Below ground

Light weight design

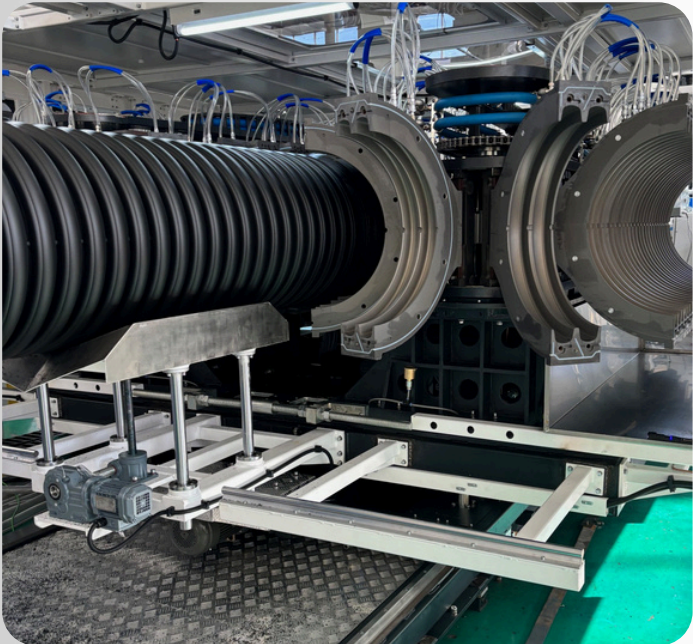
Polyethylene corrugated pipes are lightweight, making them easy to handle, transport, and install. This makes installation faster and more cost-effective.

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.

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.



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

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".

Technical Support

CPSA's in-house engineering team combines specialist technical knowledge, creative thinking and on-the-job experience, to offer our clients a range of project planning and consultation services.

From recommendations on product innovations, to crafting complex end-to-end solutions, our collaborative approach bridges the gap between contractors, authorities and suppliers. The only Australian provider able to offer clients the full product suite, CPSA offers unbiased, strategic insights that always consider the bigger picture.

We work with contractors, asset managers, local councils and government, developers and other pipeline professionals to specify bespoke product solutions. By engaging our team of engineers, you gain access to unparalleled product knowledge and expertise.

Life Expectancy

CPSA corrugated pipes are manufactured to the requirements of AS/NZS5065. Correctly designed and installed pipe systems can be expected to perform well in excess of 100 years.



PE



Made in Australia

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Installation

Installation methods for the CPSA 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 Training

CPSA's in-house engineering team provides a range of training, and technical support services.

CPSA can provide installers with important information relating to the correct handling, installation, testing, maintenance and repair of CPSA pipe systems and products.