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ADS N12 HDPE Pipe

Stormwater Drainage Pipe



1200mm dia Under Track Crossings

ADS N12 HDPE corrugated pipe is dual wall (corrugated outer wall and smooth inner wall) pipe engineered from high density polyethylene (HDPE). Light, strong and durable, it requires low cover and is hydraulically efficient with superior performance in gravity-flow drainage applications.

Standard Pipe

- 100 – 1500 mm diameters
- 4m or 6.1m effective lengths
- Integrated bell and factory installed gasket
- Joint meets or exceeds ASTM D3212 lab test as well as ASTM F2487 and ASTM F1417 watertight field test (70kPa)

Sub Soil Slotted Pipe

- 100 – 1500mm diameters
- 5.8m effective length
- Other lengths on request
- Plain ended pipe with couplers

Reduce your network sizing with high flow ADS N12 HDPE pipes



600mm – Coliban Water channel – Epsom, VIC

ADS N12 HDPE Pipe

ADS N12 HDPE pipe is a **dual wall** (outer corrugated wall and smooth inner wall) pipe.

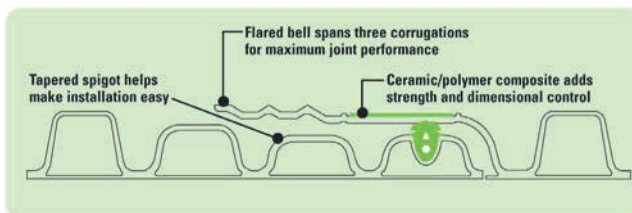
The pipe is engineered with a compound of **high density virgin polyethylene resin** to provide high strength material properties.

A patented gasket held in place by a **ceramic band** increases its sealing effectiveness as internal or external hydrostatic pressure increases.

The in-line bell and spigot joint, factory fitted gasket and light weight provides for **quick installation**.

ADS pipe has been extensively tested and certified against Australian and international standards, including AASHTO, IAB, AS2566.1 and AS5100.2.

- Supports AS5100.2 Highway and Railway loads
- Installation and design in accordance with AS2566
- Low Manning's n due to smooth polyethylene interior
- Excellent abrasion and chemical resistance
- Light weight and robust
- No bell hole dig required due to constant outside diameter along the joint



Integral Bell and Socket (WTIB)



Pacific Highway Upgrade – RMS approved – Bulahdelah, NSW



Town Stormwater Upgrade – Caloundra, QLD



Civil Stormwater – VicRoads approved – Clyde Road, Rowville, VIC



WA Mainroads Bridge Replacement

DURABILITY

HDPE is an extremely tough material that can withstand the normal impacts involved in installation. It is highly resistant to chemical attack and is unaffected by soils or effluents with pH ranges from 1.5 to 14.

HDPE's ductility and molecular structure result in excellent resistance to abrasion. Polyethylene pipe shows less than 20% of the material loss compared to concrete pipe in abrasive environments. It is often specified for harsh mine slurries and is used to line corroded concrete pipes and culverts.

Applications

Railways - ADS N12 HDPE pipe is well suited to under-rail designs and applications. Following rigorous independent testing, rail authorities and government have approved and installed HDPE Pipe for rail corridor projects.

- Inter-track or under-track upgrades and duplications
- Sub-soil drainage & carrier pipe
- Perforated 100mm to 600mm

Mine sites - HDPE pipes high impact strength, flexibility, abrasion and corrosion resistance are well suited to:

- Slurry lines and tailings
- Leachate collation drains
- Haul roads and rail lines

Civil stormwater – ADS pipe is widely approved by state road & water authorities and local councils across Australia and New Zealand.

Conveyance – highways, subdivisions, commercial projects.

Detention – large diameter pipes are suitable for detention applications.

Irrigation – ideal for gravity or low head pumped pipelines.

BENEFITS

- **Structural** – low cover (300mm min) and deep burial installations. The HDPE grade used has a 25% higher long term modulus than PE 100. Better polymer allows less material to be used to carry AS5100.2 live loads safely long term. Our HDPE pipe and polymer long term modulus values are set and independently audited by expert government-employed material and structural engineers.
- **Low risk** – light weight, fewer joints, reduced OHS issues for installation. Pipe requires no extra couplers, grout or other sealants for installation due to built-in bell and factory-installed gasket. This means fewer components to risk performance.
- **Cost** – installation cost savings with light weight pipes. Less heavy equipment required and the pipes can easily be cut to the required lengths on site.
- **Reduced wastage** – not susceptible to bell chipping and cracking common to concrete pipes.
- **Low CO₂** – significantly lower embodied energy compared to concrete, PVC and polypropylene pipes.
- **Hydraulic efficiency** – low Manning's n due to smooth polyethylene interior.
- **Durability** – HDPE has a life span of the order of 100 years and is recyclable.
- **Chemical** – abrasion resistant and suitable for acid sulfate soils and highly abrasive flows.



Mining Project – Dump Truck Live Loads



Civil Stormwater—WA Main Roads approved—Cambridge St, Perth, WA



Regional Rail Link – V/Line – VIC



Level Crossing Upgrade – Blackburn Station, VIC

FITTINGS

There is a wide range of ADS fittings to suit the ADS N12 HDPE pipe range. Long pipe lengths and easy to use couplers make installation quick and easy.

The injection moulded and fabricated bends, tees, wyes, couplers and assorted fittings provide an efficient and cost-effective installation solution.



USED BY



DESIGN ASSISTANCE

Our design package can assist with the structural and hydraulic design of pipes in accordance with the AS5100.2 and AS2566.1 standards.

The **design life** in typical road or rail applications is over **50 years** and this is accounted for using appropriate design reduction factors. Please contact your local branch for more details on our design software.

ADS HDPE Pipe Design - ROAD Design Ver 2.4

Assumptions: Overall design in accordance with AS 2566 Buried Flexible Pipes
Live load calculations in accordance with AS 5100

DESIGN CHECKS:

Check	Result	Value	Limit
Deflection ($\delta_{1/2} < \delta_{allow}$)	OK	1.3 %	< 5 %
Strain ($\epsilon < \epsilon_{allow}$)	OK	0.6	< 5 %
Buckling ($\sigma < \sigma_{allow}$)	OK	124.5	< 195.5 kPa

ADS HDPE Pipe design - Railway Design

Assumptions: Overall design in accordance with AS 2566 Buried Flexible Pipes
Live load calculations in accordance with AS 5100

DESIGN CHECKS:

Check	Result	Value	Limit
Deflection ($\delta_{1/2} < \delta_{allow}$)	OK	2.6	< 5.0 %
Strain ($\epsilon < \epsilon_{allow}$)	OK	1.2	< 5.0 %
Buckling ($\sigma < \sigma_{allow}$)	OK	124.5	< 195.5 kPa

Prevailing condition is: Pipe is located inside train line load prism

