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Fittings

Used by

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Assistance

Disclaimer: This program has been written in accordance with the applicable AS standards. It is the users responsibility to select valid inputs.

Load selection for Report

Load selection for Report

Pipe Selection:

Project Name: Soil Conditions:

Cover Depth:

Trench Fill Material - type: Wet Clay Fill Density: 20 kN/m³

Buried condition:

Buckling:

Assumptions:

Overall design in accordance with AS 2566 Buried Flexible Pipes

Reduce your network sizing with high flow ADS N12 HDPE pipes

ADS N12 HDPE 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
• Integral 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
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

HDPE is an extremely tough material that can withstand the normal impacts involved in installation. It is highly resistant for 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.

DURABILITY

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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 collection 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.
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