

Static/Live & Dynamic Loading Questionnaire for pipelines

Calculation of static, live and dynamic loading for buried pipes according to ATV A127, AS/NZS 2566 and NZ Bridge Manual.

Please complete this document as best you can to assist our engineers with preliminary data for pipe profile selection to ensure short and long term performance requirements of **AS/NZS2566.1:1998 Buried Flexible Pipelines-Structural Design** are met. **Installation to AS/NZS 2566.2 Buried Flexible Pipelines**

Project Name: _____

Location: _____

Customer: _____

Contact person: _____ Tel: _____

E-mail: _____

Request for _____ Budgetary / Estimate _____ Tender _____ Quotation _____

Project starting date: _____ Project completion date: _____

Static analysis return date: _____

Pipe ID: _____

Application: _____

Connection: _____

Length of pipeline: _____ m

Inner color: _____

Outer color: _____

Desired pipe type: _____

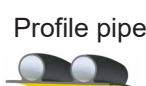
Other sizes may be available depending on project size, scope and lead time



Double Rubber Ring connection



PKS type Electro-Fusion connection



Profile pipe



PKS Plus™ pipe



Solid wall pipe

Design Specific

SN8 pipe required

SN16 pipe required

Advantages of Polyethylene

- Less carbon footprint than concrete
- Environmentally friendly and 100%recyclable
- UV resistant
- Light weight
- High ring stiffness
- Leak free
- Smooth antibacterial surface
- Bright inner colour therefore inspection friendly
- Standard 5.8m , effective lengths results super fast installation



AS/NZS 5065:2005
License Number: 2978



DVS Technical Codes
on Plastics Joining
Technologies

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Loads

Flow medium: _____
 Density: _____ kg/m³
 Operating temperature: T_{min.}: _____ C°
 T_{max.}: _____ C°
 Operating Pressure: _____ kPa (otherwise unpressurized)
 Design life: Temporary Works 50 years 100 years

Vehicle / traffic loading

No traffic loading
 Class A - Pedestrian - 3.3kN wheel loading
 Class B - Livestock, residential carpark - 26.7kN wheel loading
 Class C - Minor roads - 50 kN wheel loading
 HN - NZ Bridge Manual - Normal loading - 60kN wheel loading
 Class D - Carriageways - 80kN wheel loading
 HN-HO72 - NZ Bridge Manual - Overloading - 120kN wheel loading
 Class E - General docks, aircraft pavements - 137kN wheel loading
 Class F - Docks and aircraft pavements - 200kN wheel loading
 Class G - Docks and aircraft pavements - 300kN wheel loading
 Other - please specify here:

Additional surface or structural loading: _____ N/mm²

AS/NZS 2566.1 - TABLE 3.2

EMBEDMENT AND NATIVE SOIL - MATERIALS AND MODULI* - AS/NZS 2566.1 - TABLE 3.2			Moduli E _s and E _n (MPa)				
Description	Classification		Uncompacted	R _D (%) Dry Density Ratio			
				85	90	95	100
				I _D (%) Density Index			
				50	60	70	80
				Standard Penetration Test for native soils only (AS 1289.6.3.2) Number of blows			
		≤ 4	> 4 ≤ 14	> 14 ≤ 24	> 24 ≤ 50	> 50	
Gravel - single size	-	Coarse aggregate	5**	7**	7**	10**	14
Gravel - graded	GW		3**	5**	7**	10**	20
Sand and coarse-grained soil with less than 12% fines	GP,SW,SP and GM-GL,GC-SC etc.	-	1	3**	5**	7**	14
Coarse-grained soil with morethan 12% fines	GM,GC,SC,SM and GM-SC,GC-SC	-	NR	1**	3**	5**	10
Fine-grained soil (LL<50%) with medium to no plasticity and contatining more than 25% coarse-grained particles	CL,ML, mixtures ML-CL and ML-MH	-	NR	1**	3**	5**	10
Fine-grained soil (LL<50%) with medium to no plasticity and contatining less than 25% coarse-grained particles	CI,CL,ML, mixtures ML-CL, CL-CH and ML-MH	-	NR	NR	1	3	7
Fine-grained soil (LL>50%) with medium to high plasticity	CH,MH and CH-MH	-	NR	NR	NR	NR	NR

*Values apply for covers to 10.0 m and are conservative for greater covers.

** These values are the more commonly used and achieved in practice.

NR = No reliable modulus values for these materials. May be appropriate where external load is nominal or where evaluation permits its use.

Notes:

-Recommended 95% Dry Density Ratio (R_D) at embedment zone

-Values are conservative as they contain a reduction in modulus which occurs when ground water is above the pipe.

Allowance can be made for dry ground conditions. (See AS/NZS 2566.1 Supp 1.)

-Where appropriate, geotextile is to be placed between native soil and embedment material to prevent migration of fines.

-Where stabilized materials are used the designer shall determine values for E_s for the specified material.

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Open Cut - Trench Installation to AS/NZS 2566.2

Necessary parameters:

Backfill zone = E1 : _____ MPa

Unit weight of E1 : _____ kN/m³

Embedment zone = E2 : _____ MPa

Unit weight of E2 : _____ kN/m³

Native soil zone= E3 : _____ MPa

Foundation zone =E4 : _____ MPa

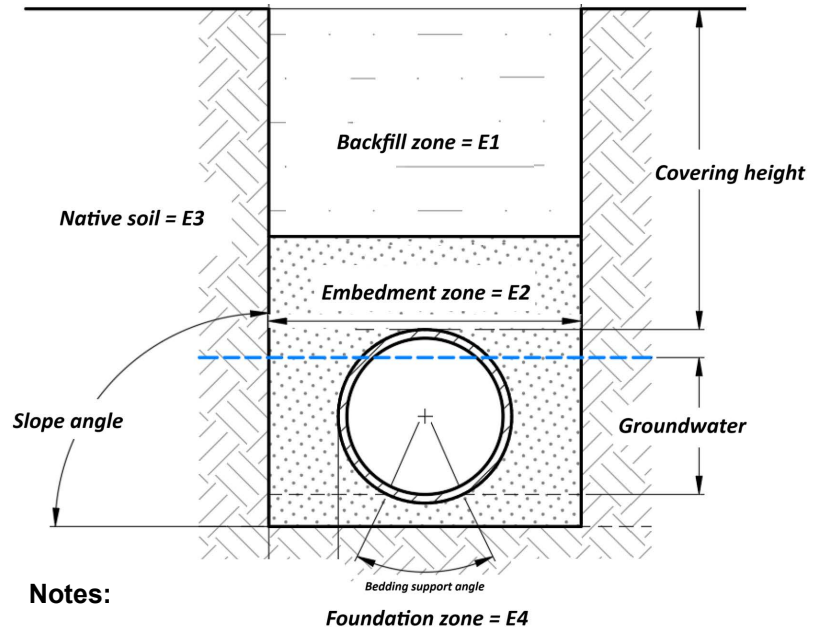
Covering height above crown : _____ mm

Slope angle : _____ °

Trench width at crown : _____ mm

Bedding support angle : 120° 180°

Groundwater above pipe bed : _____ mm



Embankment Installation to AS/NZS 2566.2

Necessary parameters:

Embedment zone = E2 : _____ MPa

Unit weight of E2 : _____ kN/m³

Foundation zone = E4 : _____ MPa

Covering height above crown: _____ mm

Bedding support angle: 120° 180°

Groundwater above pipe bed: _____ mm

