CivilBoss Twin Wall Polypropylene Pipe

Technical Guide D3.1

Making light work of tough drainage applications, CivilBoss SN16 is an extruded, high-tech twin wall polypropylene pipe for use in stormwater, wastewater and sewer drainage systems.

Applications

Stormwater and sewer drainage, trade waste, highway drainage, road culverts, agriculture and forestry, pipeline rehabilitation, ventilation ducts, landfills, conduits and industrial applications.

Product Attributes

Lightweight material for easy and economical transport and installation

Twin wall design with a load-bearing corrugated exterior wall

Super smooth internal bore for increased hydraulic efficiency

Proven resistance to impact, UV, chemical attacks and abrasions

The Colebrook-white roughness coefficient for new polypropylene pipes is in the range 0.003–0.015mm.

Approvals/Standards

CivilBoss is manufactured to AS/NZS5065 (S-Mark Licence No. 2730, Polyethylene and Polypropylene pipes and fittings for drainage and sewerage applications).

Quality/Environment/Health & Safety

ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018

HYNDS PIPE SYSTEMS

CivilBoss pipe is manufactured from polypropylene, which has excellent and proven resistance to impact, chemical attack and abrasion. CivilBoss is also UV resistant, so will not become brittle.

Transportation & Handling

- Transportation is easy; CivilBoss can even be transported on utility vehicles using roof racks.
- Although incredibly strong, CivilBoss is also incredibly light. A length of CivilBoss pipe is no problem for two people, meaning significant savings in time, labour, and machinery – and therefore costs.

Jointing

- CivilBoss is quick and easy to cut on-site to any required length – no fuss, no hold-ups, no hassles.
- The integral socket and corrugated outer profile of CivilBoss allows for simple rubber jointing of full or partial lengths.
- A rubber ring is included with each 6m pipe length.

Additional Fittings

- The CivilBoss system is all about ease of use – with only a few additional fixtures required:
  - Rubber rings
  - Couplers
  - Junctions*
  - Saddles*
  - Bends*

***Available on request**

Installation & Structural Design

- Our off-the-shelf CivilBoss pipe is SN16 rated and can be installed in a wide variety of soil types and depths.
- Standard CivilBoss pipe will meet the needs of the most demanding applications.
- You'll find all installation and testing requirements and practices for buried flexible pipelines are given in AS/NZS 2566.2. The structural design procedure for buried flexible pipelines is given in AS/NZS 2566.1 and its supplement.
- The embedment of CivilBoss in normal soil should be of granular material, free from rocks and other hard or sharp objects.
- Gap 20, 14, 10 or 7 materials are recommended with a maximum particle size of 20mm, and a fines (<0.075 mm) at less than 5%. These materials will require less compactive effort to achieve desired densities. Materials with between 5–12% at fines may be used, but will require considerably more compactive effort. (*)

***Note:** (*)Information presented is for review, interpretation, application and approval by a qualified engineer who must assume full responsibility for verifying that said information is appropriate and correct.*

- The recommended minimum thickness of compacted bedding (lb) is 100 mm for sizes up to 375 mm internal diameter and 150 mm for 450 mm internal diameter
- To ensure good support for the pipe, side support to a minimum width (lc) of:
  - 150 mm for 225 mm internal diameter
  - 200 mm for 300 and 375 mm internal diameter
  - 300 mm for 450 mm internal diameter
- Overlay thickness (lo) is at least 150 mm of bedding material.

Minimum trench width (B) (see Figure 1)

- 225 mm diameter – 0.56 m (lc ≥ 150 mm).
- 300 mm diameter – 0.75 m (lc ≥ 200 mm).
- 300 mm diameter – 0.84 m (lc ≥ 200 mm).
- 450 mm diameter – 1.13 m (lc ≥ 300 mm).

Minimum cover (H) (see Figure 1)

- CivilBoss installed under areas not subject to traffic or heavy loads – 0.30 m.
- CivilBoss installed under sealed roadways or under areas zoned for agricultural use – 0.60 m.
- CivilBoss installed under unsealed roadways or subject to heavy loads – 0.75 m.

***Note:** The maximum cover varies with soil type and traffic loads in firm clay soil. It is not recommended that CivilBoss be installed at a depth greater than 6 metres without approval of the engineer.*

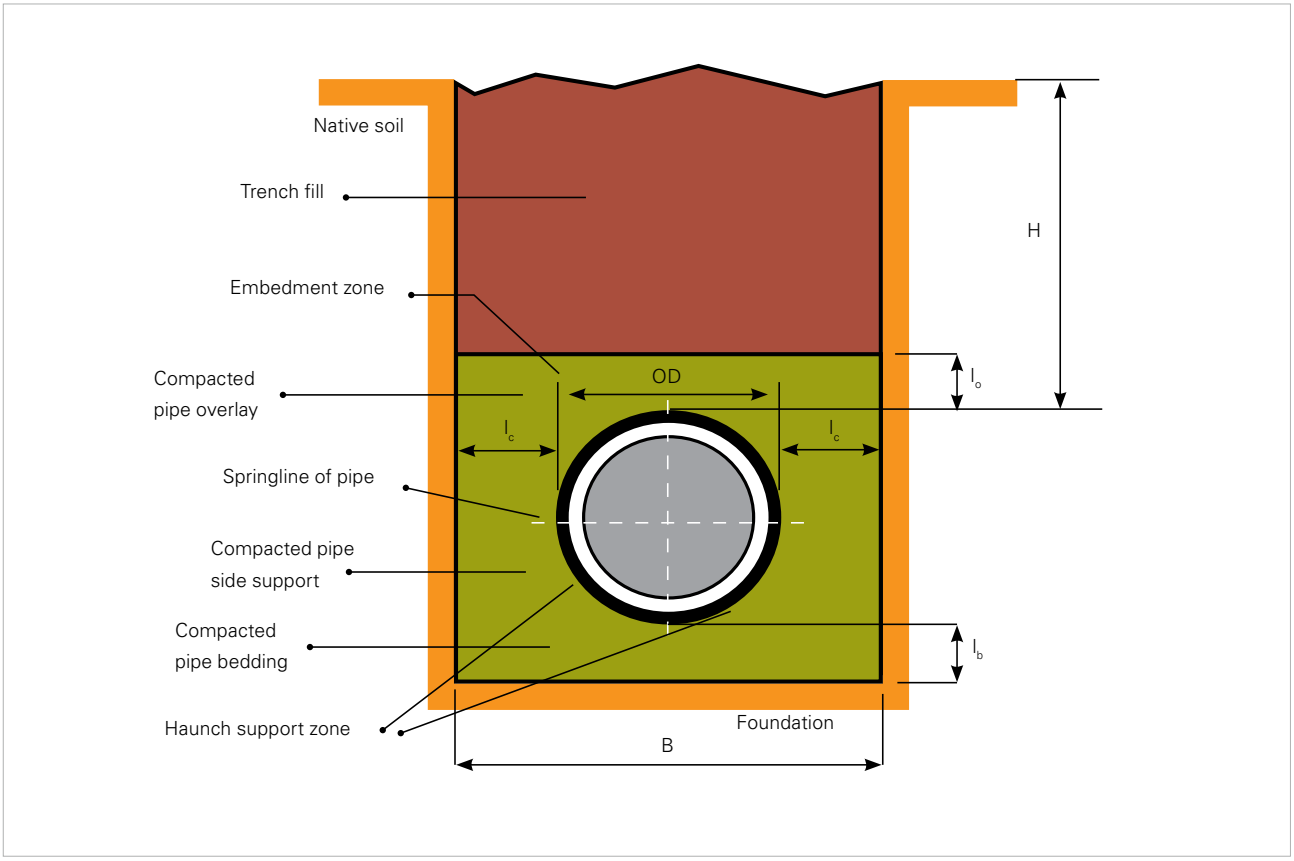

FIG. 1 Typical CivilBoss Installation

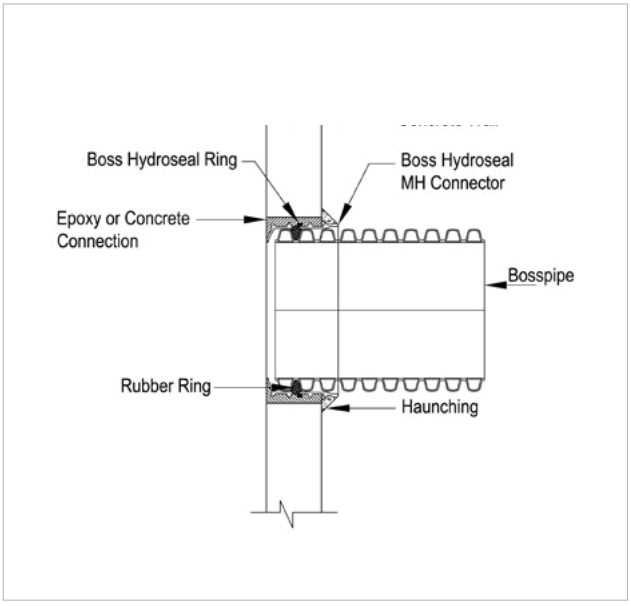

FIG. 2 Manhole Connection with a manhole connector

Where a flexible joint is required to provide for movement. Suitable for manholes, concrete walls etc. (See Table 4)

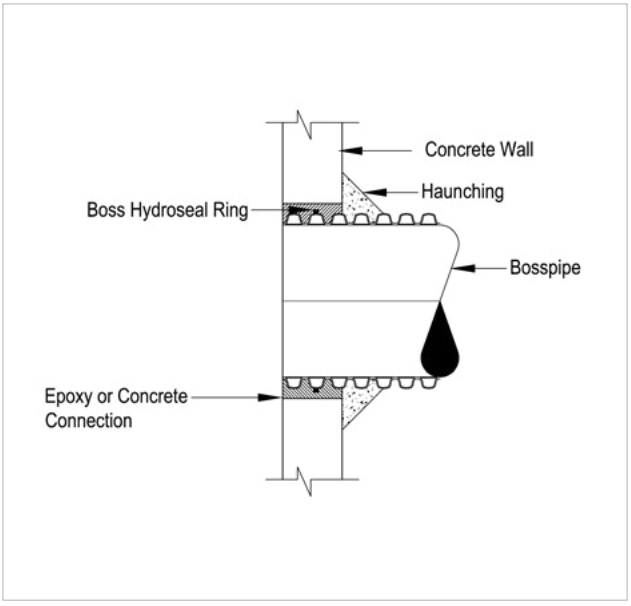

FIG. 3 Manhole Connection with a Boss Hydroseal ring

Where physical anchoring of the pipe is required (ie. like a puddle flange) – suitable for cesspits, stormwater manholes, concrete walls etc. (See Table 4)

TABLE 1 CivilBoss piping

Product Code	Description	Weight (kg)
CIV225.16.6	225mm x 6m CIVILBOSS SN16 PP RED/GREY	21
CIV300.16.6	300mm x 6m CIVILBOSS SN16 PP RED/GREY	39
CIV375.16.6	375mm x 6m CIVILBOSS SN16 PP RED/GREY	60
CIV450.16.6	450mm x 6m CIVILBOSS SN16 PP RED/GREY	82

**A rubber ring is included with each pipe. Additional rings available on request*

TABLE 2 CivilBoss Rubber rings

Product Code	Description
BRR225.8	Rubber Ring Ø225mm for Bosspipe SN8/SN16
BRR300.16	Rubber Ring Ø300mm for Bosspipe SN16
BRR375.16	Rubber Ring Ø375mm for Bosspipe SN16
BRR450.16	Rubber Ring Ø450mm for Bosspipe SN16

TABLE 3 CivilBoss Couplers

Product Code	Description
110B.225	Coupler for Ø225mm Bosspipe SN8/SN16
110B.300	Coupler for Ø300mm Bosspipe SN16
110B.375	Coupler for Ø375mm Bosspipe SN16
110B.450	Coupler for Ø450mm Bosspipe SN16

TABLE 4 CivilBoss Manhole Connectors

Product Code	Description
BMH225*	MH Connector w/Hydroseal ring for Ø225mm Bosspipe
BMHR225+	Hydroseal ring only for Ø225mm Bosspipe
BMH300*	MH Connector w/Hydroseal ring for Ø300mm Bosspipe
BMHR300+	Hydroseal ring only for Ø300mm Bosspipe
BMH375*	MH Connector w/Hydroseal ring for Ø375mm Bosspipe
BMHR375+	Hydroseal ring only for Ø375mm Bosspipe
BMH450*	MH Connector w/Hydroseal ring for Ø450mm Bosspipe
BMHR450+	Hydroseal ring only for Ø450mm Bosspipe

* Refer to Figure 2
+ Refer to Figure 3

TABLE 5 CivilBoss Lubricant

Product Code	Description
LUBEBOSS0.5	Lube for Bosspipe 475ml - (1 Pint)
LUBEBOSS1.0	Lube for Bosspipe 1kg - (1 Quart)
LUBEBOSS5.0	Lube for Bosspipe 5kg - (1 US Gallon)

Disclaimer: While every effort has been made to ensure that the information in this document is correct and accurate, users of Hynds product or information within this document must make their own assessment of suitability for their particular application. Product dimensions are nominal only, and should be verified if critical to a particular installation. No warranty is either expressed, implied, or statutory made by Hynds unless expressly stated in any sale and purchase agreement entered into between Hynds and the user.