Technical Guide

AusPress Polypropylene Drainage Products

The following information is only a guide. All work must comply with AS/NZ 3500 and any other relevant standards applicable to the installation.

For specific installation assistance, or if you're in doubt, please contact us before proceeding.

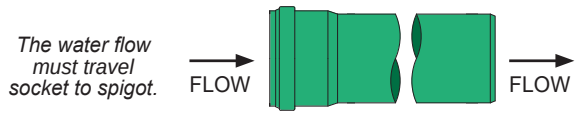
As with all work using tools, the following points are to be adhered to and understood, along with the general safety practices such as wearing suitable clothing and equipment, being alert and focused, keeping the work area clear of obstacles and observing WHS (OH&S) requirements.

Installing KG2000 Drainage

Polypropylene Drainage Pipe & Fittings

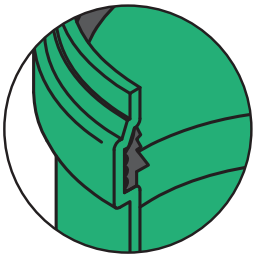
The socket-spigot polypropylene (PP-MD) drainage system comprises directional pipe and fittings (installed with flow into the socket, out the spigot) with the socket pre-fitted with a rubber ring to seal each join.

Refer to the installation guide at the front of the catalogue section for more information.



1. Ring Seals

- Ring seals are fitted to each socket end with an SBR type supplied pre-fitted as standard.
- Check the ring seal is free of debris and the correct type of seal is fitted for the application and temperatures to be used. **Not sure? Ask!**



- Ensure the 3-lip ring seal is fitted correctly with taper facing inward (see image).
- Replace the seal if damaged, unsure or incorrect. Remove the seal to see the type labelled on the inside flat surface of the ring seal.

Material	Colour	Application‡	Temp Range
SBR (Styrene-butadiene)	Black	General use.	-20° to +90°C
NBR (Nitrile butadiene)	Black	Gas, oil, fuels.	-20° to +90°C

‡ Confirm suitability with AusPress prior to installation.

4. Joining

- Apply lubricant to ring seal & outside of spigots.
- Preferred lubricant is silicon based (such as Super Glidex) but an approved soap based lubricant can also be used. Grease is not to be used as this may damage ring seals.
- Push the spigot into the socket fully with a slight turning movement.
- Mark the spigot end to identify the full insertion depth with a waterproof permanent texta.
- Joint is then pulled back 10-12mm to allow for expansion and contraction within the socket.

4. In-Ground Installation

The KG2000 system is suitable for in-ground installation;

- Bedding and surrounding fill is to support the full length of the pipework and,
- A minimum bed thickness of 100mm fine soil or sand below the pipework (150mm if trench rocky or solid for example concrete) and,
- In heavy duty areas (SLW 60) coverage shall be between 0.8 and 6m in depth above the pipework to the underside of ground level or structure (such as road base).

5. Good Practice

- Preference installing 45° branches.
- All main horizontal 90 degree direction changes should be made using 2 x 45° bends with a minimum 150mm length between.
- Venting procedures must comply with AS/NZ 3500.

6. Welding

If welding is to be carried out, written approval must be obtained from AusPress first.

Bracketing (Suspended & Vertical)

- Bracketing is to comply with AS/NZ 3500.
- Spacing distances apply to continuous straight lengths.
- Installation is to be designed to suitably support the drainage system at full volume and accommodate any external loads or movement (thermal or otherwise).
- At joins in the suspended drainage, additional fixing points must be placed that either the branch, or the through pipe, is held directly under the sleeve (not on the socket part).
- Changes in direction shall be supported with suitable bracketing to prevent movement & the join separating.
- Consideration for forces against change in directions (including vertical drops) must be provided to suit and securing any joins as part of the installation (such as thrust blocks).

Diameters:		110 - 315mm	400 & 500mm
Support Spacing (max)	Graded	1.0m	Not Suitable
	Vertical	2.0m	2.0m

As per AS 3500, Table 9.1.
AS 3500 is limited to DN300 (315mm) in diameter.
Engineer assessment and confirmation is recommended.

Working with Concrete

Polypropylene is suitable to be embedded in concrete with the following precautions;

- Protect the join to prevent concrete entering the socket,
- Ensure the pipes do not uplift with supports consistently along the drainage to prevent sagging points,
- Thermal movement is allowed for the installation.

Fire Collars

When passing through fire-rated building elements, the installation of a fire collar is not to be positioned over the socket part of the pipe or fittings. Collars are to be installed as per manufacturers instructions. Consult standards for local requirements.

Chemical Suitability

Although highly chemical resistant, some chemicals are not suitable for polypropylene, diluted or otherwise. Please confirm suitability with the chemical manufacturer before use or contact AusPress for an assessment.

Complete a Project Info Sheet with the relevant MSDS and details from our website.

Expansion & Contraction

Pipes in any direction (including horizontal suspended and horizontal in-ground) must be supported to prevent the force arising through heat expansion can neither bend the pipes nor pull the spigot ends from the sockets.

The formula $E=L.\Delta T.\alpha$ calculates the expected expansion of polypropylene (PP) with change in temperature where $\alpha=0.035 \times 10^{-6} m/mK$. The thermal coefficient of PP is much lower than other plastics including HDPE and PVC.

Ensure the spigot ends are retracted the 10-12mm from the socket after full insertion.

Commissioning & Maintenance

In most environments, little or no maintenance is necessary.

Ensure wash down waters or waste debris do not contain chemicals that are not suitable for polypropylene.

In especially demanding environments, such as food processing, chemical industries and agriculture, it may be necessary to clean to avoid coating. Cleaning can be carried out with high-pressure cleaning or high pressure flushing equipment using potable water. Avoid scratching or roughing the pipe surface with equipment.

In cases of difficulty, users should consult us for technical advice.

Disinfecting the System

This is carried out to meet more stringent hygiene requirements and in the event of severe microbial contamination. Contact us for more information.

To protect the environment and simplify handling, the Australian Drinking Water Guidelines (ADWG) recommend the use of hydrogen peroxide, however chlorine can also be used to disinfect.

Before commissioning the system carefully follow the instructions for use, particularly in relation to the contact time, maximum solution concentration and subsequent flushing requirements.

Note: During disinfection do not exceed the maximum chlorine concentration and contact times as tabled below:

- The Australian water regulations allow dosing with up to 1.2mg/l of free chlorine in the disinfectant solution, provided a limit of 0.3mg/l of free (active) chlorine is not exceeded in the drinking water.
- Quantities can be increased to 6mg/l and 0.6mg/l respectively in exceptional circumstances for example, high or increased micro bacterial contamination.

Flushing the System

It is sufficient to simply flush the system with potable (drinking) water.

When using any solution, ensure the system is flushed correctly and the manufactures instructions are followed in an accurate and safe manner at all times.

Chemicals are to be confirmed suitable with polypropylene and within temperature limits of the system prior to flushing the system.

Commissioning

Systems must be commissioned in accordance with the applicable standards and regulations.

The installation contractor must familiarise the user(s) with the system. This is to be documented with a hand-over and acceptance record.

The user must also be provided with the manufacturer's maintenance and operating instructions for all installed valves and equipment.