

Choosing the Right Pipe System

Choosing the right ACO PIPE™ pipe system for the given application is essential to prevent problems and product failures in the future.

Key Considerations

1. Liquid Characteristics

To identify the grade of stainless steel (Grade 304 or 316), finish (pickle-passivated or electro-polished) and seal material (EPDM or Viton*) required, identify

- Type of liquids
- Concentration
- Maximum temperatures

2. Materials

i) Pipe Material

All ACO PIPE™ pipe systems are manufactured from austenitic stainless steel. Austenitic stainless steel is non-magnetic and is therefore ideal for hygiene applications. Pipes and fittings are available in a choice of Grade 304 or 316 stainless steel to meet the performance and cost requirements of each application.

Grade 304 stainless steel provides excellent corrosion resistance for most applications. It contains 18% chromium and 10% nickel.

Grade 316 stainless steel is recommended for applications where superior corrosion resistance is required, particularly marine environments and where chlorides are involved. It contains 17% chromium, 12% nickel and 2.2% molybdenum.

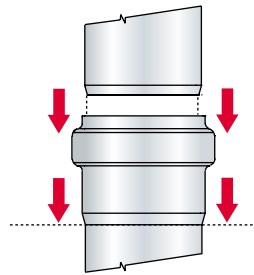
All items are pickle passivated after production to remove impurities embedded in the surface during welding and manufacture. This restores the 'self healing' chromium rich layer which gives stainless steel its natural corrosion resistance. Pickle passivation gives an aesthetic matt silver finish.

Electro-polishing is available where improved bacterial resistance is required, this gives the surface a uniform, highly reflective lustre.



All ACO PIPE™ pipe systems are certified to Watermark AS3435 Licence No. W687

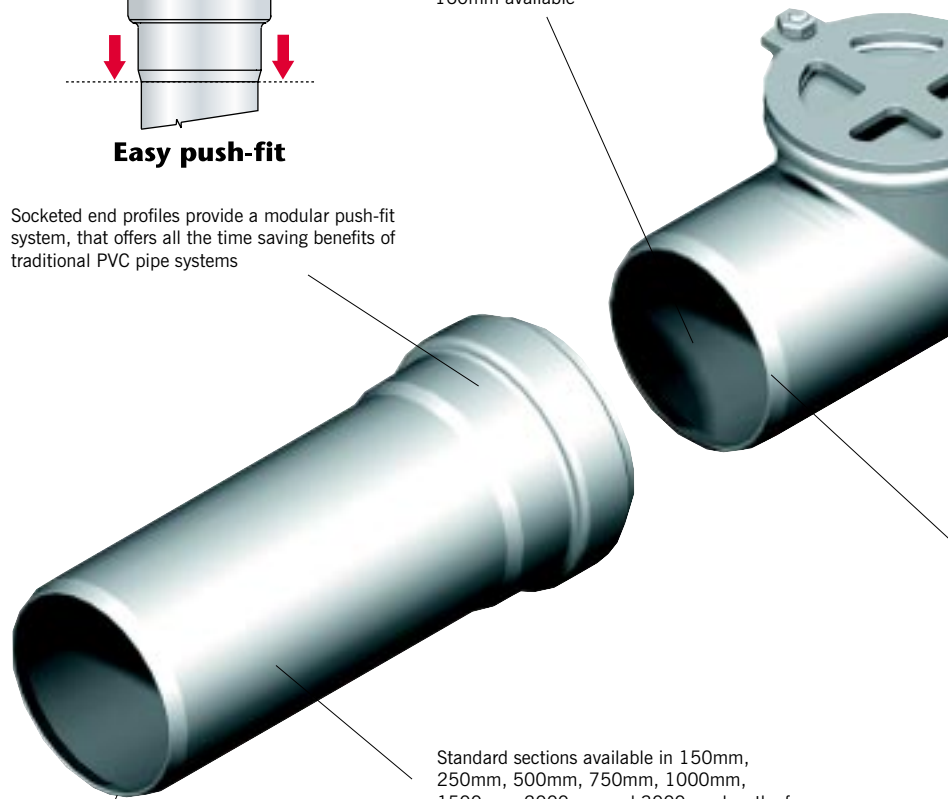
ACO PIPE™ is tested to withstand operating pressures up to 100kPa and negative pressures up to 70kPa.



Easy push-fit

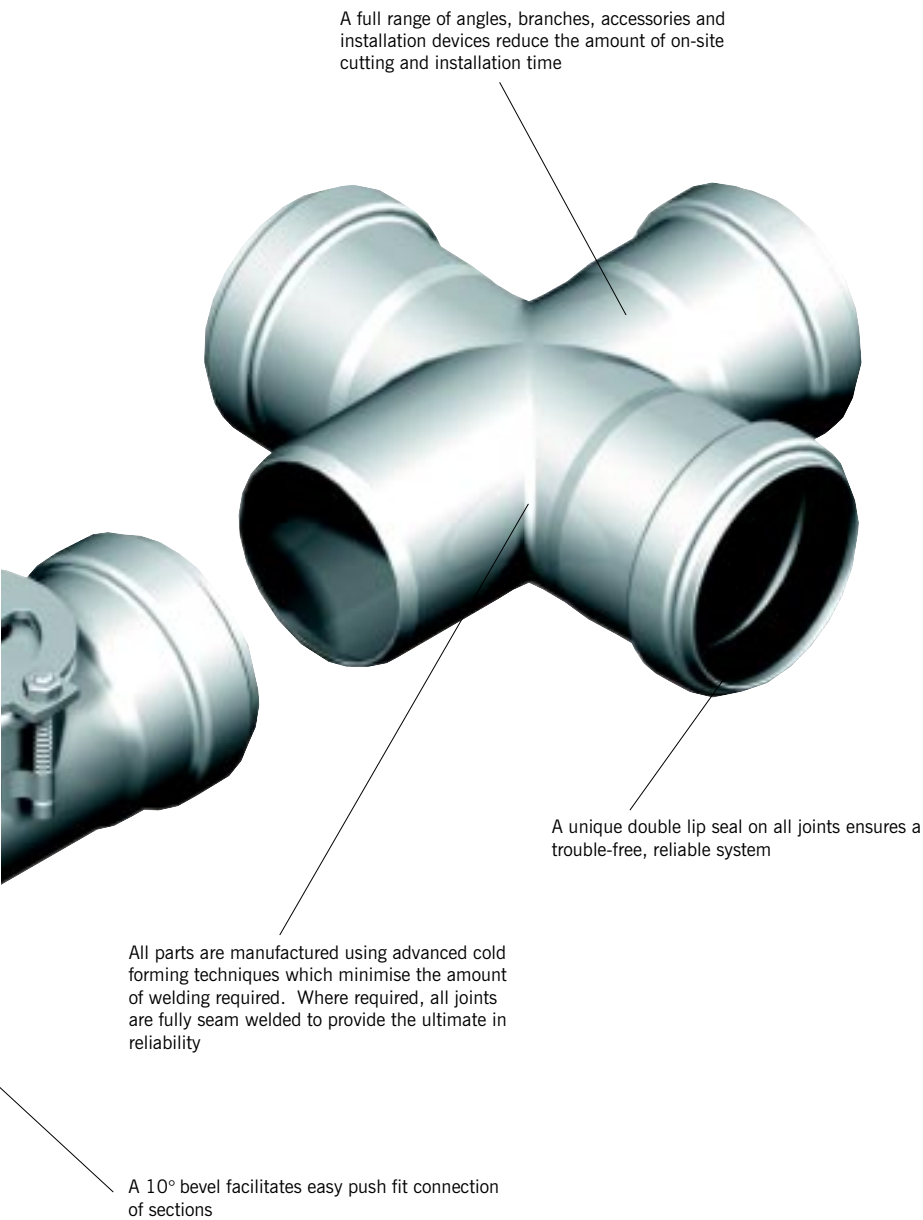
Socketed end profiles provide a modular push-fit system, that offers all the time saving benefits of traditional PVC pipe systems

Pipe diameters of 50mm, 75mm, 110mm and 160mm available



Standard sections available in 150mm, 250mm, 500mm, 750mm, 1000mm, 1500mm, 2000mm and 3000mm lengths for optimum practicality of handling and freight. Custom lengths up to 6000m available to order

1.0mm wall thickness provides a lightweight, easy to handle system that can withstand everyday wear and tear. 160mm systems have a 1.25mm wall thickness



ii) Seal Material

EPDM seals are supplied as standard, and are suitable for the majority of above and below ground drainage applications within working temperatures from -50°C to +130°C.

EPDM seals conform to BS 2494, specification for Elastomeric Seals for Joints in Pipework and Pipelines (partially replaced by BS 7478:1998 and BS EN 681-1:1996).

Where oils, fuels or certain chemicals are in use, the Viton* seal should be considered. See table on page 16 for further information on seal material properties.

* Viton is a registered Du Pont Trade Mark

3. Hydraulics

Compared to cast iron, clay and vitreous pipe systems, stainless steel pipes have a considerably smoother bore and in general, stainless steel pipes are less susceptible to internal scaling when compared to most traditional pipe systems.

The tables on page 17 provide flow rate information to help select the right pipe diameter to provide the required hydraulic performance.

4. Thermal Expansion

ACO PIPE™ systems have a low coefficient of thermal expansion, of approximately 1 in 1000 mm per 60°C of temperature change. The requirement for thermal tolerance on pipe systems is otherwise confined to hot water conditions.

5. Other Relevant Standards

ACO PIPE™ systems also comply with:

- DNV (Det Norske Veritas)
Certificate No. P-11133
- RINA
Certificate No. MAC/36902/1/TO/02
- ABS
Certificate No. 02-HG299482-PDA
- Lloyd's Register