



Pressure Pipe and Fittings Systems – Installation Guide

Holman Industries PVC-U Pressure Fittings systems are intended for use above and below ground, our products are manufactured to **AS/NZS 1477:2017 PVC pipes and fittings for pressure applications**. Holman Fittings are certified products, holding **ISO Type 5** and **WaterMark** certifications, providing assurance that the products have been independently assessed and recognised as quality products.

Note: Requirements for installation and use of pipe and fittings manufactured to AS/NZS 1477:2017 are set out in AS/NZS 2032 and AS/NZS 2566.1 as applicable.

Quality

All Holman products are certified by ApprovalMark International, an accredited Certification Body by JAS-ANZ, who provides certification to all Holman Plumbing products in accordance with Watermark certification. This provides assurance and confidence that Holman only supplies products which comply to the relevant Australian and New Zealand Standards and are manufactured to the highest quality. Fabfit t/a Holman Industries is a quality endorsed company to ISO 9001:2015 Certification and conducts independent batch release testing to maintain the highest level of compliance.

Product Range of Moulded and Fabricated fittings certification under the WaterMark certification system:

- AS/NZS 1260 – PVC-U Pipes and Fittings for Drain, Waste and Vent applications
- AS/NZS 1477 - PVC-U Pressure Pipes and Fittings for Pressure applications
- WMTS-006 – Reflux Valves – Sewerage
- WMTS-030 – Solenoid Valves

Product applications

PVC-U Pressure pipes and fittings have been in use for pressure applications in Australia since the 1960s supported by a much longer service history elsewhere in the world.

Over this time, the industry has recognised the many benefits of PVC for pressure pipes and fittings.

- material stability
- corrosion resistance
- high strength to weight ratio
- ease of handling and installation
- excellent flow characteristics

SWJ Pressure Fittings	RRJ Pressure Fittings
Pumped sewerage and effluent pipelines	Water supply services
Potable water	Above ground water supply
Irrigation and turf watering	Below ground drainage and sewer
Slurry transport	Watermains
Pressure sewerage	Irrigation
Water supply	
Recycled water	

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Handling and Storage

While PVC-U pipes and fittings are light and easy to handle, careless handling may result in unnecessary damage. Pipes and fittings should not be dropped or thrown onto hard surfaces or allowed to come into contact with sharp objects that could inflict deep scratches.

Bowing or distortion

- Pipes and fittings can distort under high applied loads due. This may be caused by not being properly supported or stacking incorrectly. This can be aggravated at high ambient temperature and long-term storage.
- Heat sources should be avoided to reduce the risk of distortion.
- If pipes are stored outdoors for more than 12 months, they should be protected by for example, hessian or white shade cloth in a manner that allows ventilation and avoids heat build-up. Fittings are to be stored indoors only, up to the installation stage.

1.0 Jointing Methods

PVC-U pipelines are designed to be easily assembled. While rubber ring jointed (RRJ) pipe systems can be fully assembled above the trench, care must be taken to ensure joints do not pull apart during lowering into the trench. All joints must be subsequently be inspected. Solvent Weld Joint (SWJ) pipe systems may be jointed above the trench but not lowered into the trench until the solvent has completed its initial set stage.

1.1 Solvent Weld joint

Only Solvent Cement and Priming Fluids that are manufactured to AS/NZS 3879 "Solvent Cements and Priming Fluids for PVC (PVC-U and PVC-M) and ABS pipe and fittings" are recommended.

To achieve a strong and leak free joint Installers shall:

- 1) Select the correct solvent cement for the intended application/s
- 2) Select the correct pipe for the application and the correct fitting/s using the relevant Holman Product Catalogue
- 3) Follow jointing steps 1 to 8 carefully in jointing instructions. Shortcuts will result in poor joints that are likely to leak or cause system failures.

Solvent Weld Jointing Instructions – Step 1 to 8

*** Do not work with hot pipes and fittings or on hot windy days without providing adequate protection to the pipes and fittings from the wind. When not in use always keep lid on solvent cement to minimise evaporation. DO NOT use solvent if over 12 months old.*

Step 1 – Cut spigot square and deburr

Cut the spigot as square as possible using a mitre box and hacksaw or power saw where applicable. Remove all swarf and burrs from both inside and outside edges with a sharp knife, file, or using sandpaper. Swarf and burrs which are left behind will wipe or remove the solvent cement and prevent proper joining. Also, swarf left behind may dislodge and jam taps and valves.

Step 2 – Check alignment

Check and ensure the pipe and spigot or fittings are properly aligned. Adjustments or alterations must be made prior to applying the solvent cement so the joint is not compromised at the welding stage.

Step 3 – Mark Clearly

Mark the spigot by using a pencil or marker only, at a distance equivalent to the internal depth of the socket. Do not score or damage the surface of the pipe or fitting.

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Step 4 – Clean and soften the surface

Thoroughly clean the inside of the socket and area between the pencil (witness) mark and the spigot end with a clean, lint free cotton cloth dipped in priming fluid (defer from using any synthetic material). This removes dirt and grease and will soften the PVC surface. Attention: Do not brush or pour the priming fluid onto the jointing surface.

* Holman Industries recommends the use of protective gloves. If contact with skin occurs, wash affected area with soap and water immediately.

Step 5 – Coat socket first – then spigot

Apply a thin and uniform coat of solvent cement onto the internal surface of the socket. Ensure that solvent build up does not occur in the root area of the socket. A pool of solvent cement in the root area of the socket will severely weaken the pipe or fitting. Next apply a uniform coat of solvent cement to the external surface of the spigot up to the pencil mark (witness) mark.

Step 6 – Assemble and hold for 30 seconds

Quickly assemble the joint before the solvent cement starts to set, by pushing the spigot squarely and firmly as far as the pencil (witness) mark, ending with a quarter turn to ensure the cements spreads evenly in the joint. Hold the joint in position for a minimum of thirty (30) seconds without any movement.

Step 7 – The welding stage

Wipe of any excess solvent cement from outside of the joint and where possible, from the inside of the joint. Do not disturb the joint for at least a further five (5) minutes, movement may break the initial welding bond.

Step 8 – Curing and testing

The “cure time” ensures the joint will achieve sufficient strength to allow for testing by internal pressure or vacuum. The minimum cure time for solvent weld joints in pipes and fittings is twenty-four (24 hours)

1.2 Elastomeric seals

Rubber Ring Joint (RRJ) fittings are supplied with rubber rings for ease of jointing, these rubber rings fit easily into the ring groove of the socket.

It is necessary to cut pipes on site using a fine-toothed handsaw. A mitre box is recommended to ensure the cut is square to the pipe axis and all burrs must be removed with a file.

The cut position should be measured allowing for adequate penetration “depth” of the spigot onto the socket.

Measure socket depth at every joint as pipe manufacturers run different socket designs and therefore different witness marks related to their socket design. A witness mark and chamfer depth, which is similar to the pipe manufacturer design is essential before attempting to join the pipes and fittings.

Rubber Ring Jointing Instructions – Step 1 to 4

Step 1 – Clean jointing surface

Remove all dust and dirt from the pipe or fitting spigot and socket.

Step 2 – Ring and Groove

Check the Rubber Ring is correctly seated into the ring groove. Where possible remove the rubber ring to clean the ring groove ensuring there are no contaminants prior to re-seating the rubber ring into the ring groove.

Step 3 – Apply lubricant

Apply lubricant to the spigot, fully covering the circumference up to the witness mark. Ensure the lubricant is applied evenly to also cover the chamfered section. This will help in the initial jointing stage.

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Step 4 – Insert pipe or fitting

Ensuring the pipe or fitting is aligned, introduce the spigot into the socket up to the witness mark, witness mark must be still visible to ensure the joint can adjust to thermal expansion and contraction.

Jointing may be assisted with the use of a crowbar or a wooden block.

Extra care must be taken to ensure the socket of the joint being made is restrained to prevent any backwards movement which may affect the previous joints made in the stack.

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