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# StormWater Pipe and Fittings Systems – Installation Guide

Holman Industries PVC-U StormWater Fittings systems are intended for use above and below ground, our products are manufactured to **AS/NZS 1254:2010 PVC-U pipes and fittings for stormwater and surface water applications**. Holman Fittings are certified products, holding **ISO Type 5** certification, 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 1254:2010 are set out in AS/NZS 3500 – "National Plumbing Standard" and AS/NZS 2032 – "Installation of PVC-U pipe systems" as applicable.

## Quality

All Holman products are certified by ApprovalMark International, an accredited Certification Body by JAS-ANZ, who provides certification to all Holman products in accordance with ISO Type 5. 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 ISO Type 5 scheme:

- AS/NZS 1254 – PVC-U Pipes and Fittings for stormwater and surface water applications

## 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.

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## Installation

Significant advantages of PVC-U StormWater pipe and fittings systems is the products light weight and ease of handling. This reduces both in trench labour as the pipe and fittings systems can be installed without the use of sophisticated machinery.
StormWater pipelines rely on gravity to achieve an adequate flow of fluids, therefore the design grade along the length of the pipeline must be maintained and must adhere to specifications between inspection positions.
The installer must ensure that the pipeline system is installed by following guidelines set out in AS/NZS 3500 – "National Plumbing Standard" and AS/NZS 2032 – "Installation of PVC-U pipe systems" as applicable.

### Special Considerations

Workmanship and correct procedures are critical for solvent joints to assure joint durability, solvent jointing should only be carried out in dry conditions above an ambient temperature of 5°C, by appropriately trained personnel.
Solvent cement jointing is a welding fusion process and not a gluing process. Priming fluid and solvent cements work by softening the intended surfaces. When they are brought together at the jointing stage, the two PVC surfaces chemically bond together.
It is important that the spigot provides an interference fit into the socket. Do not attempt to make a joint that does not achieve an interference fit when dry.
In some cases, the actual area of contact between the spigot and the socket may only be a few millimetres. The spigot end must be cut square to ensure an adequate joint. Before proceeding, visually inspect the spigots and sockets to make sure they are not cracked or damaged.

## Jointing Methods

PVC-U pipelines are designed to be easily assembled. StormWater Solvent Weld (SWJ) pipes and fittings can be fully in an above trench application. SWJ StormWater pipe and fittings systems may not be lowered into the trench until the solvent cement has completed the initial set stage.

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## 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.

### 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 StormWater pipes and fittings is twenty-four (24 hours)