DWV PIPE & FITTINGS SYSTEM

INSTALLATION DWV SOLVENT WELD JOINT

SOLVENT WELD JOINT

Iplex Pipelines premium solvent cements and benzene free priming fluids are manufactured to AS/NZ S3879. Solvent cements and priming fluids for PVC (PVC-U and PVC-M) and ABS pipe and fittings.

To achieve strong leak free joints tradespeople should:

1. Select the correct solvent cement for the application
   Type N - for non-pressure joints that may have a small clearance.
2. Select the correct pipe and fitting using the Iplex Pipelines part list.
3. Follow jointing steps 1 - 8 carefully in jointing instructions. Short cuts will result in poor joints that are likely to cause system failure.

How solvent cement works:

Iplex solvent is a solution of resin in a mixture of solvents, which soften the surfaces when applied to PVC-U pipe and fittings. It is not a glue.

A thin uniform coat is applied to both the spigot and socket and the joint is assembled while the surfaces are still wet and fluid. The cement layers intermingle and become one. The strength of the joint develops as the solvent permeates the PVC-U and the volatile constituents evaporate.

The importance of Iplex pipelines priming fluids:

Before applying the solvent cement, it is essential to use Iplex Priming Fluid for successful jointing as the fluid not only cleans and degreases, but removes the glazed surface from PVC-U which allows the solvent cement to permeate into the wall of the pipe or fitting.

It must be applied with a clean, lint free cotton cloth. Brushing the priming fluid on or simply pouring the fluid over the pipes and fittings does not remove grease and dirt.

Iplex pipelines - Solvent cement - Type N:

Type N is used for non-pressure applications and is formulated with the gap filling properties needed with clearance fits.

DWV PIPE & FITTINGS SYSTEM

INSTALLATION DWV SOLVENT WELD JOINT

JOINTING INSTRUCTIONS

Do not work with hot pipes or on hot windy days without protecting pipes from the wind. Keep lid on solvent cement to minimise evapo-ration. Do not use solvent 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. Remove all swarf and burrs from both inside and outside edges with a knife, file, reamer or sandpaper. Swarf and burrs if left, will wipe off the solvent cement and prevent proper jointing. Also swarf inside pipes can become dislodged and jam taps and valves.

STEP 2 - CHECK ALIGNMENT:

Check the pipe and spigot or fittings for proper alignment. The time for any adjustments is now, not later.

STEP 3 - MARK CLEARLY:

Mark the spigot with a pencil or marker at a distance equal to the internal depth of the socket. Only use pencil or a marker. 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 the area between the pencil mark and the spigot end with a clean, lint free cotton cloth dipped in priming fluid (do not use synthetic material). This removes dirt and grease and softens the PVC-U surface. Do no brush or pour the priming fluid on.

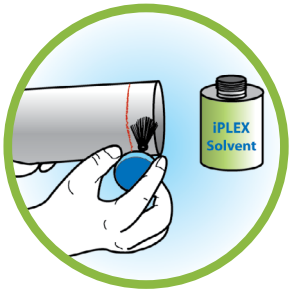
**Iplex recommends the use of gloves. If contact with skin occurs, wash affected area with soap and copious quantities of water immediately.*

DWV PIPE & FITTINGS SYSTEM

INSTALLATION DWV SOLVENT WELD JOINT

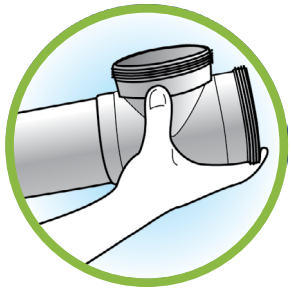
STEP 5 - COAT SOCKET FIRST - THEN SPIGOT:

Apply a thin, uniform coat of Iplex solvent cement to the socket. Take care to ensure that solvent build up does not occur in the root of the socket - a pool of cement there will severely weaken the pipe or fitting. Now apply a uniform coat of solvent cement to the external surface of the spigot up to the pencil mark.



STEP 6 - ASSEMBLE-HOLD FOR 30 SECONDS:

Assemble the joint quickly before the cement dries by pushing the spigot firmly into the socket as far as the pencil mark, ending with a quarter turn to spread the cement evenly. Hold the joint in this position for at least thirty seconds without movement.



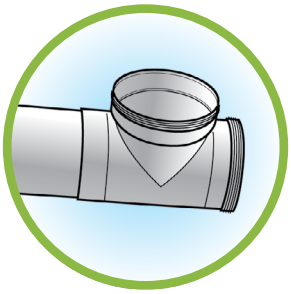
STEP 7 - A VITAL 5 MINUTES:

Wipe off the excess solvent cement from the outside of the joint and where possible from the inside of the joint. Do not disturb the joint for at least a further five minutes- movement may break the initial bond.

STEP 8 - CURING AND TESTING:

The cure time is the time taken for the joint to achieve sufficient strength to allow it to be tested by internal pressure or vacuum.

The minimum cure time for solvent weld joints in Iplex DWV pipes and fittings is 24 hours.



The information contained in this document should serve as a guide only and is subject to change without notice. For more information please contact Iplex Pipelines Australia Pty Ltd.

DWV PIPE & FITTINGS SYSTEM

INSTALLATION DWV SOLVENT WELD JOINT

STORAGE

- Solvent cement and priming fluids are highly flammable. In the event of fire, smother with a fire blanket or earth or use suitable fire extinguisher.
- Store solvent cements and priming fluid in a cool place away from heat, flames and sparks.
- Ensure can lids are tightly closed when not in use.
- Use solvent cements within twelve months of the date stamped on the bottom of the bottle/can. If the solvent cement has become so thick that it does not flow easily, discard.
- Do not add any other ingredients or solvents to these products.

SAFETY PRECAUTIONS

- Do not use solvent cements or priming fluid in confined spaces without adequate ventilation, or near open flames or sparks.
- Do not smoke while using these products.
- If spilt on skin, wash off with soap and water.
- If poisoning occurs, consult a doctor or Poisons information Centre.
- Keep container sealed when not in use.

If swallowed:

Solvent cement	• Do not induce vomiting. • Call Poisons Information Centre or a doctor immediately.
Priming fluid	• Do not induce vomiting. • Call Poisons Information Centre or a doctor immediately.

Avoid contact with eyes:

- If contact occurs flush with copious amounts of water.

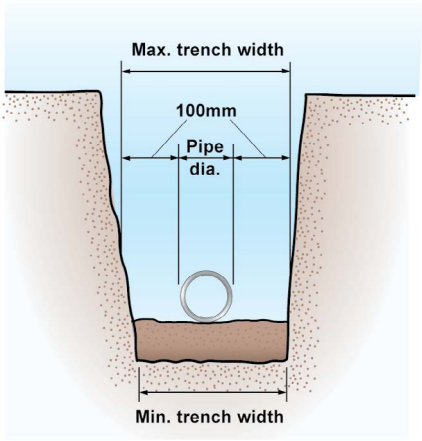
The information contained in this document should serve as a guide only and is subject to change without notice. For more information please contact Iplex Pipelines Australia Pty Ltd.

DWV PIPE & FITTINGS SYSTEM

INSTALLATION DWV SOLVENT WELD JOINT

TRENCHING

Trenches should be excavated in accordance with plans and specifications and with reference to AS/NZS 2032. They should be as narrow as practicable at the level of the top of the pipe and, in a straight trench, have a bed width not less than 200mm wider than the pipe diameter, to provide working space for the laying crew.



Trenches when excavated are either 'stable' or 'unstable'. The category into which a trench fits is affected by the soil conditions, width, depth and method of excavation. To ensure that maximum support is given to the buried pipe by the undisturbed ground the resultant stable or unstable trench should be treated in the following way:

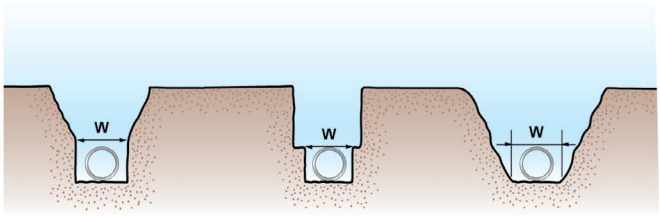
Stable conditions:

Stable conditions are those where, after excavation, the trench walls remain solid and do not show any signs of collapse or cave-in. Under such conditions the recommended trench widths are shown in the following table:

Pipe diameter (mm)	Normal width (mm)
100	400
150-200	600
225-300	750
375	900

Unstable conditions:

Unstable conditions are those where, during or after excavation, the trench walls tend to collapse and cave-in. Under these conditions, in open or unrestricted areas, the top of the trench can be widened until stability is reached. A smaller trench should then be dug in the bottom of the excavation to contain the pipe as shown. In areas where space is limited, e.g. in streets, it may be necessary to support trench walls by timber or other suitable shoring.



Trench depths:

The minimum trench depth should be such that pressures created by the weight of fill material plus anticipated traffic or other superimposed loads will not damage the pipes. As a guide the recommended minimum clear cover above is listed below:

Condition	Min. cover depth
Where no subject to vehicular loading	300mm
Where subject to vehicular loading:	
Under driveways	450mm
In sealed roadways	600mm
In unsealed roadways	750mm

The information contained in this document should serve as a guide only and is subject to change without notice. For more information please contact Iplex Pipelines Australia Pty Ltd.

DWV PIPE & FITTINGS SYSTEM

INSTALLATION DWV SOLVENT WELD JOINT

LAYING AND COMPACTION

Preparing the trench:

The trench bottom should be as level as possible, so that the barrel of the pipe is fully supported. The trench bottom should have sandy or loamy soil, free from rocks and stones to ensure continuous support for the pipe.

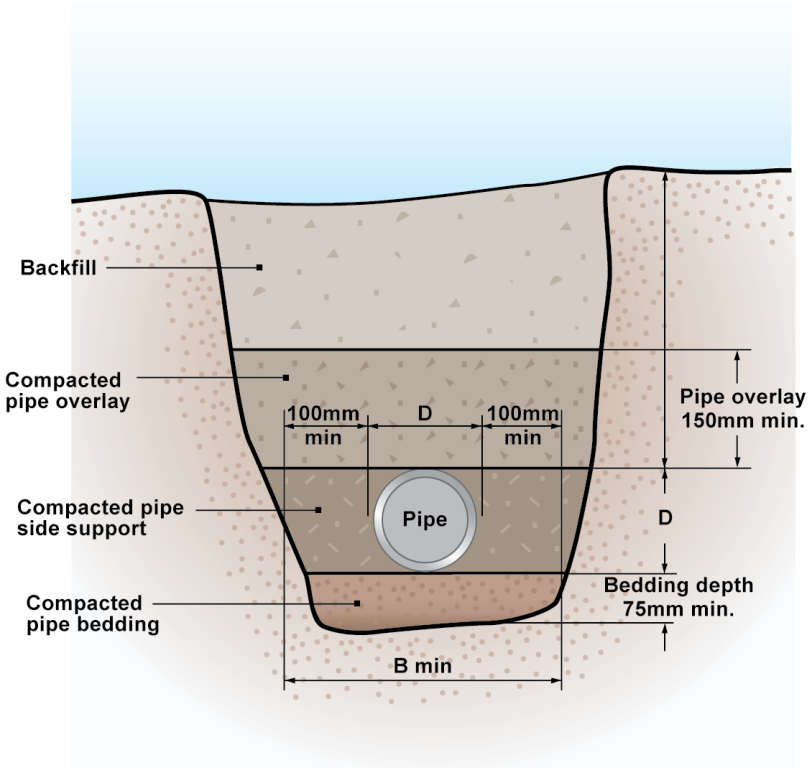
Wet conditions:

In wet ground, sloppy working conditions can be alleviated by first placing a layer of hard granular material, or by de-watering the area in and around the trench. If patches of ground are so wet that there is a risk of subsidence and possible damage to sections of the pipeline, these areas should be consolidated by the addition of suitable fill material.

Trench installation:

The trench should be excavated deeply enough to allow for the specified grade, the required depth of bedding, and the minimum cover over the pipe.

AS/NZS 2032 - "Installation of PVC-U Pipe Systems", suggests the following typical installation in a trench, which Iplex recommends.



AS/NZS 2032 suggests the following materials as suitable for bedding and overlay in the trench:

A. Suitable sand, free from rock or other hard or sharp objects.

B. Crushed rock or gravel of approved grading up to a maximum size of 14mm

C. Cement mortar, containing one part of cement and four parts of sand by volume, mixed with clean water to a workable consistency (bedding only).

INSTALLATION DWV SOLVENT WELD JOINT

BACKFILLING

Use of short lengths of pipe

PVC-U pipe may be cut on site when shorter lengths are required for the installation of fittings.

The cutting of PVC-U pipe is easily achieved using a fine-toothed handsaw or a PVC-U pipe cutter. The position of the cut should be measured and carefully re-checked before cutting: reasonable accuracy should be exercised to ensure that the cut is square to the axis of the pipe and all burrs must be removed from the cut end before making a joint.

Completing sitework

Once the pipe is laid in the trench backfilling can commence. Two distinct phases are involved with pipelines:

a. backfilling prior to testing the pipeline
b. backfilling after testing the pipeline

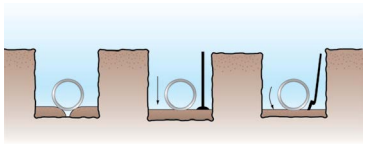
Backfilling usually follows pipe installation as closely as possible in order to protect the pipe from external damage. This eliminates the possibility of the pipe floating due to flooding of open trenches, and avoids shifting the pipe out of line due to cave-ins.

It should be remembered that the purpose of backfilling is not only to protect the pipe by covering it, but to provide firm continuous support under the pipe. Where concrete or mortar bedding has been used, the bedding has to take its initial set before overlay materials is added.

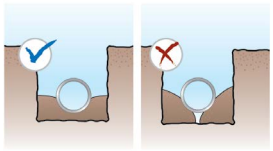
Initial backfilling

The first step in providing firm continuous support for the pipeline is to tamp soil solidly under the entire barrel of the pipe, care being taken not to disturb the grade.

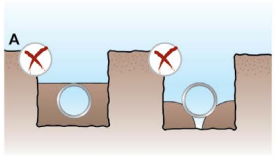
The embedment material should be free from stones, rock or clay. If the native, excavated soil is not suitable, then imported materials should be used for the embedment zone. The initial backfill should be placed by hand-shovel in layers not exceeding 100mm deep. Each layer should be well tamped round and under the pipeline using the long tamper illustrated. In this way air pockets are eliminated from beneath the pipe.

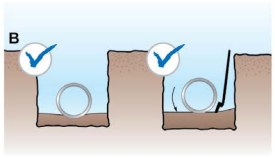


The layers should be shovelled in and tamped, the process being repeated until the pipe is firmly bedded. The flat tamper illustrated is used to consolidate this fill to heights of 300mm above the top of the pipe for diameters up to 300mm.



The illustrations A and B below show the wrong and right ways of tamping the initial backfill.





Case A, too much soil is present and the tamping bar cannot compact it properly leaving a void underneath the pipe.

Case B, shows the correct fill of a 100mm layer of soil which can be compacted to form a firm bed for the pipe.

Pipe joints should be temporarily left exposed when placing the initial backfill, to enable pressure tests to be carried out. After testing the line, backfilling and final filling may be completed.