

Quick Installation Guide

Solvent Cement Jointing for PVC

Important: Always use the correct Solvent Cement for the application.

Type P (green) is for pressure applications, including potable water installations, designed to develop high shear strengths with an interference fit joint geometry.

Type N (blue) is for non-pressure applications, designed for interference fit joints where maximum strength is not a requirement.

Type G (clear) is for pressure or non-pressure applications, designed for its gap filling properties in parallel or clearance fit joints.

Priming fluid (red) is suitable for use in conjunction with Type P, N and G type solvent cements.

Procedure

1 Prepare the pipe

Before jointing, check that the pipe has been cut square and all the burrs are removed from the inside and outside edge. Remove the sharp edge from the outside and inside of the pipe with a deburring tool. Do not create a large chamfer that will trap a pool of solvent cement. Remove all dirt, swarf, and moisture from spigot and socket.



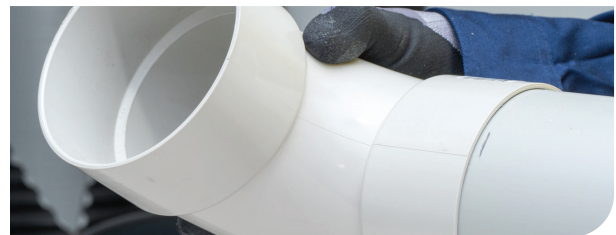
2 Witness mark the pipe

It is essential to be able to determine when the spigot is fully home in the socket. Mark the spigot with a pencil line ('witness mark') at a distance equal to the internal depth of the socket. Other marking methods may be used provided that they do not damage or score the pipe.



3 'Dry fit' the joint

'Dry fit' the spigot into the socket, check the pipe for proper alignment. Any adjustments for the correct fit can be made now, not later. For pressure pipes, the spigot should interfere in the socket before it is fully inserted to the pencil line. Ovality in the pipe and socket will automatically be re-rounded in the final solvent cementing process, but heavy-walled pipe may give a false indication of the point of interference. Do not attempt to make a pressure pipe joint that does not have an interference fit. Contact Vinidex if this occurs.



4 Prepare with priming fluid

Dry, degrease and prime the spigot and socket with a lint-free cloth (natural fibres) dampened with Vinidex priming fluid. Priming is vitally important, as it etches off the gloss from the PVC, it softens the PVC surface for the solvent cement's effective bond. Use protective polyethylene gloves. Vinidex priming fluids are to be used before solvent cementing, prime and solvent cement one joint at a time.



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5 Brush selection

The brush should be large enough to apply the solvent cement to the joint in a maximum of 30 seconds. Vinidex Solvent Cements in sizes 125ml -1litre comes with a brush attached under the lid. Approximately one third the pipe diameter is a good guide. Decanting is not advisable, and excess should never be returned to the container. For large diameter pipes, it may be necessary to decant to an open larger vessel for a large brush to be used, in this case decant for one joint at a time. Refer to Table of Recommended Brush Selection on page 3.



For larger pipe diameters a larger brush should be used.

6 Apply solvent cement

Using a suitably sized brush, apply a thin even coat of solvent cement to the internal surface of the socket first. Solvents will evaporate faster from the exposed spigot than from the socket. Special care should be taken to ensure that excess solvent cement isn't built up at the back of the socket (pools of solvent will continue to attack the PVC and weaken the pipe). Then apply a heavier, even coat of solvent cement up to the witness mark on the spigot. Ensure the entire surface is covered. A 'dry' patch will not develop a proper bond, even if the mating surface is covered. An unlubricated patch may also make it difficult to obtain full insertion.



Pressure applications using Vinidex Type PSolvent Cement.

7 Inserting the spigot

Make the joint immediately, in a single movement. Do not stop halfway, since the bond will start to set immediately and it will be almost impossible to insert further. It will aid distribution of the solvent cement to twist the spigot into the socket so that it rotates about a 1/4 turn whilst (not after) inserting, but where this cannot be done, particular attention should be paid to uniform solvent application.



8 Push the spigot home

The spigot must be fully homed to the full depth of the socket. The final 10% of spigot penetration is vital to the interference fit. Mechanical force will be required for larger joints. Be ready in advance. Pipe pullers are commercially available for this purpose. Polyester pipe slings are very useful for gripping a pipe, in order to apply a winch or lever.



9 Hold the joint

Hold the joint against movement and rejection of the spigot for a minimum of 30 seconds. Disturbing the joint during this phase will seriously impair the strength of the joint.



10 Wipe off excess solvent cement

For a neat professional joint, with a clean rag wipe off excess solvent cement immediately from the outside of the joint.



11 Do not disturb the joint

Once the joint is made, do not disturb it for five minutes or rough handle it for at least one hour.

Do not fill the pipe with water for at least one hour after making the last joint. Do not pressurise the line until fully cured.

12 Cure the joint

The process of curing, is a function of temperature, humidity and time. Joints cure faster when the humidity is low and the temperature is high. The higher the temperature, the faster the joints will cure. As a guide, at a temperature of 16°C and above, 24 hours should be allowed, at 0°C, 48 hours is necessary.

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Diameter size of pipe (mm)	Recommended size of brush
15, 20, 25, 32, 40, 50	use brush supplied
65, 80	25
100, 125	38
150	50
200	63
225, 250	75
300, 375	100

Safety Precautions

- Ensure adequate ventilation. Forced ventilation may be required for projects inside buildings, in confined trenches and manholes.
- Solvent cement and priming fluids are highly flammable. Store them in a cool place away from heat, flames and sparks.
- Keep the containers tightly sealed when not in use
- Do not add thinners or solvents to Vinidex solvent cements and priming fluids.
- Do not use old solvent cement that has become jelly like or expired.
- Do not use dirty or contaminated brushes or rags.
- Use protective hand gloves when applying solvent cement. If solvent cement has made contact on exposed skin it should be washed off immediately with soap and water. Should solvent cement affect the eyes, flush with cool clean water for at least 15 minutes. If solvent cement or primer is swallowed, DO NOT induce vomiting. Safety and First Aid instructions on the container should be followed. Also refer to the relevant SDS which can be found on the Vinidex Website.
- Wash hands thoroughly after use.

Special Considerations

- Workmanship and correct procedures are essential for solvent joints if durability are to be assured. Solvent jointing should only be carried out in dry conditions above 5°C, by appropriately trained personnel.
- Solvent cement jointing is a welding not a gluing process. Priming fluid and solvent cements work by softening the surfaces, so when they are brought together the two PVC surfaces bond together.
- It is important that the spigot provides an interference fit in the socket. Do not attempt to make a joint that does not achieve an interference fit when dry.
- The actual area of contact between the spigot and the socket may only be a few millimetres. The spigot end must be square to make a good joint. Before proceeding, make sure that the spigots and sockets are not cracked or damaged.

Vinidex recommends that PVC Pressure pipes are installed in accordance with AS 2032 Installation of PVC pipe systems.

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