RAMOLENE

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INTRODUCTION

What is Solvent Cement?

PVC solvent cement, sometimes referred to as PVC cement, PVC Glue or PVC Solution is an adhesive-like substance used to join (glue) two pieces of PVC together. Typically it is used to join fittings to PVC pipe or/and individual pieces of PVC pipe to each other. While referred to as cementing, it is more similar to welding, as it fuses the two pieces of PVC into one piece in much the same way a welding does. Some cement contains colors depending on local code requirements or local tradition

How does it Work?

PVC solvent cement contains solvents (Chemicals) which breaks down (softens) the top layer of both the pipe and the fitting to be (glued) cemented, and causes them to swell. Swelling continues until gap between pipe and fitting is closed. It also contains PVC resin, which is essentially liquid PVC resin. The resin fills any gap left between pipe and fitting. Solvents then evaporate and the two pieces (pipe and fitting) are fused permanently.

What Plastics can be Solvent Welded?

The most common plastic pipe and fitting that can be solvent welded are:

PVC *(Polyvinyl Chloride, vinyl, uPVC)*
CPVC *(Chlorinated Polyvinyl Chloride)*

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What is Pipe Cleaner?

Pipe Cleaner is mixture of solvents used to clean dirt, grease and foreign material on the surface of the pipe and fitting. Cleaner should be wiped off with clean dry cloth immediately. It is very important that the surface of the pipe and the inside of the fitting is very clean and free of all foreign material in order to make a leak proof joint .

What is Primer and is it necessary?

Primer is a mixture of Solvents used to soften top layer of both pipe and fitting prior to use of Solvent Cement. Primer starts softening (swelling) the pipe and fitting before cement is applied thus ensuring the maximum swelling of the top layer of pipe and fitting. Use of primer will result in stronger joint. Use of primer is like an insurance policy against leaky or weak joint. Unlike Pipe Cleaner, Primer should not be wiped off. Cement should be applied while primer it is wet. Use of primer is highly recommended for 3" and larger diameter pipe and fitting.

CEMENT TYPES AND BODIES (GRADE)

There are three basic types of Solvent Cements;

PVC used on PVC pipe and fitting (Usually cold water systems)
CPVC used on CPVC pipe and fitting (Usually hot water Systems)

All of the above cements can be divided into three categories or grades;

Regular Body	*thickness of cooking oil*
Medium Body	*thickness of heavy duty engine oil*
Heavy Body	*thickness of syrup or honey*

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Regular Bodied:

This cement is commonly and perhaps the most widely used for Cement It is used for cementing (gluing) 3" and smaller diameter pipes and fittings. The gap between pipe and fitting of smaller diameter pipes and fittings is snug. For this cement to make a leak proof joint the gap between pipe and fitting should be very snug. If there is any doubt regarding the snugness of the pipe and fitting use either Medium or Heavy Bodied cement. It is very important cement (PVC Solution) is fluid when pipe is inserted into fitting.

Medium Bodied:

This cement is commonly used for the pipe and fitting between 3" and 6" in diameter. If gap between pipe and fitting is loose a second coat should be applied or heavy bodied cement should be used. It is very important cement (PVC Solution) is fluid when pipe is inserted into fitting.

Heavy Bodied:

This cement is commonly for 8" and larger diameter pipes and fittings. If gap between pipe and fitting is loose a second or a third coat should be applied. It is very important cement (PVC Solution) is fluid when pipe is inserted into fitting.

WHAT YOU WILL NEED

- Clean dry cloth
- Saw or plastic Pipe cutter
- Pipe Cleaner – pipe or fitting is dirty
- Primer (read label on can if needed)
- Solvent Cement
- Brush or applicator (if no applicator came with can or for 3" and larger diameter installation – read label on can)
- Gloves
- Eye protection

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HOW TO MAKE LEAK – FREE PVC JOINTS

1. Cut pipe square with saw or hand cutter. Remove all burrs.

2. Check dry fit of pipe and fitting. Pipe should easily go ⅓ to ½ ways into fitting. If pipe bottoms into fitting it should be very snug if not, use different pipe or fitting.

3. Pipe and Fitting should be free of dirt, grease and other foreign materials. If necessary clean pipe and fitting using Weld-All™ Pipe Cleaner. Primer is highly recommended for 3" and larger diameter installation. Apply liberal coat. Primmer will start softening surface of pipe and fitting thus ensuring superior and leak proof joint.

4. Use applicator supplied with the can or suitable applicator at least ½ the size of the pipe diameter.

5. Apply Liberal coat of cement to the pipe (equal to depth of fitting) and adequate coat inside of fitting. Make sure there is no uncoated surface. Avoid puddling of cement, it may weaken the joint.

6. Immediately insert pipe into fitting with twisting motion. Cement should be wet – fluid. If it has dried recoat both parts. Use sufficient force to ensure pipe bottoms into fitting.

7. Hold joint together for 30-60 seconds to make sure pipe is not pushed out – longer temperature is low and for larger pipes.

Allow 15 minutes set time before handling the assembly and 2 hours cure time if temperature is below 16 degree Celsius or 60 degree Fahrenheit. Longer cure time may be required for larger pipe and or temperature is below 16 degree Celsius.

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PRECAUTIONS:

EXTREMELY FLAMMABLE LIQUID, VAPOR MAY IRRITATE EYE OR SKIN, MAY CASUE FLASH FIRE, MAY BE HARMFUL OR FATAL IF SWOLLOWED. DO NOT USE NEAR HEAT, SPARKS AND FLAMES. KEEP OUT OF REACH OF CHILDREN.

Ensure adequate ventilation to avoid vapor build up which may cause flash fire. Vapor build up may also cause dizziness, headache or eye watering. If symptoms are experienced use respiratory protection or leave area and provide more fresh air. Avoid contact with eyes, skin and clothing. Do not smoke and wear protective equipment while using.

FIRST AID:

Inhalation: If breathing is difficult vacate to fresh air. If breathing problems persist seek immediate medical attention.

Eye Contact: Flush eyes thoroughly with water for 15 minutes. Seek immediate medical attention.

Ingestion: If swallowed, give 1-2 glasses of water immediately, call physician, hospital or poison control center immediately. DO NOT INDUCE VOMITING.

CEMENTING CONDITIONS:

Very hot, sunny and or windy conditions can cause the cements and primers to quickly evaporate, before the solvents can penetrate the surfaces -- resulting in dry joints. Under these conditions, you should keep the pipe, fittings and cements shaded and cool and also work as fast as possible.

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Solvent cementing is possible when some water is present, although this is not ideal. All attempts should be made to keep the work piece dry as possible.

Large pipe and fittings may require several people working to make a single joint. Mechanical assistance may be required on very large pipe and fittings.

CURE TIME:

The ASTM has developed the following schedule which can be used as a guide for regular and medium bodied cements

Relative Humidity 60% or less	Test pressure for pipe size ½" to 1 ¼" (< 3 cm)	Test pressure for pipe size 1 ½" to 3" (3 to 7.5 cm)	Test pressure for pipe size 3" to 6" (8 to 12.5 cm)

Temp. during cure time	Up to 180 psi	181 to 370 psi	Up to 180 psi	181 to 370 psi	Up to 180 psi	181 to 370 psi
60 to 100 F (16 to 38 °C)	1 hr	6 hr	2 hr	12 hr	6 hr	24 hr
40 to 60 F (4 to 15 °C)	2 hr	12 hr	4 hr	24 hr	12 hr	48 hr
10 to 40 F (-12 to 3 °C)	8 hr	48 hr	16 hr	96 hr	48 hr	8 days