

A. Initial Preparation

1. Make sure the solvent cement you are planning to use is designed for the specific application you are attempting.
2. Know the physical and chemical characteristics and limitations of the PVC and CPVC tubing materials that you are about to use.
3. Know the reputation of your manufacturer and their products.
4. Know your own qualifications or those of your contractor. The solvent welding technique of joining PVC and CPVC tube is a specialized skill just as any other tube fitting technique.

B. Selection of Materials

- Cutting Device - Saw or Tube Cutter
- Deburring Tool, Knife, File, or Beveling Machine (2" and above).
- Brush - Pure Bristle
- Rag - Cotton (not synthetic)
- Primer and Cleaner
- Solvent Cement - PVC for PVC Components and CPVC for CPVC Components. Use proper type and viscosity.
- Containers - Metal or Glass to hold Primer and Cement. Select the type of PVC or CPVC materials to be used on the basis of their application with respect to chemical resistance, pressure rating, temperature characteristics, etc.
- Insertion Tool - helpful for larger diameter tube and fittings (6" and above).



Primer

It is recommended that Tetrahydrofuran (THF) be used to prepare the surfaces of tube and fittings for solvent welding. Do not use water, rags, gasoline, or any other substitutes for cleaning PVC or CPVC surfaces. A chemical cleaner such as MEK may be used.

5. Closely supervise the installation and inspect the finished job before start-up.
6. Contact the manufacturer, supplier, or competent consulting agency if you have any questions about the application or installation of PVC and CPVC tube.
7. Take the time and effort to do a professional job. Shortcuts will only cause you problems and delays in start-up. By far, the majority of failures in PVC and CPVC systems are the result of shortcuts and/or improper joining techniques.

Cement

The cement should be a bodied cement of approximately 500 to 1600 centipoise viscosity containing 10 ~ 20% (by weight) virgin PVC material solvated with tetrahydrofuran (THF). Small quantities of dimethyl formamide (DMF) may be included to act as a retarding agent to extend curing time. Select the proper cement: Schedule 40 cement should be used for Schedule 40 and SDR tube sizes 2" diameter or less. For Schedule 40 and SDR over 2" and all sizes of Schedule 80 tube, Schedule 80 cement is recommended. Never use all-purpose cements, commercial glues and adhesives or ABS cement to join PVC or CPVC tube and fittings.

SAFETY PRECAUTION:

Primers and cements are extremely flammable, and must not be stored or used near heat or open flame.

Applicators

Select a suitable pure bristle type paint brush. Use a proper width brush or roller to apply the primer and cement (see chart below). Speedy application of cement is important due to its fast drying characteristics.

IMPORTANT NOTE:

A dauber type applicator should only be used on tube sizes 2" and below. For larger diameter tube, a brush or roller must be used.

RECOMMENDED BRUSH* SIZE FOR PRIMER AND CEMENT APPLICATION			
NOMINAL TUBE SIZE (IPS)	BRUSH WIDTH (IN.)	NOMINAL TUBE SIZE (IPS)	BRUSH WIDTH (IN.)
1/2	1/2	3	1 1/2 - 2 1/2
3/4	1	4	2 - 3
1	1	6	3 - 5
1 1/4	1	8	4 - 6
1 1/2	1 - 1 1/2	10	6 - 8
2	1 - 1 1/2	12	6 - 8
2 1/2	1 1/2 - 2	14	6 - 8
		16	8+