

5.0 INSTALLATION**5.1 Solvent Cement Joints**

5.1.1 Selection. Solvent cement shall be recommended for flexible PVC hose by the manufacturer. Follow manufacturer's recommendations for types of solvent cement for flexible PVC hose.

5.1.2 Handling (to maintain effectiveness). Use solvent cement in containers no larger than 1 quart (1 liter). Keep solvent cement can closed and in the shade when not in use. Keep applicator submerged in solvent cement between application. When solvent cement becomes thicker, **THROW IT AWAY**. Solvent cement shall **NOT** be thinned.

5.1.3 Size of Applicator. Follow manufacturer's recommendations.

5.1.4 Application. Follow manufacturer's recommendations.

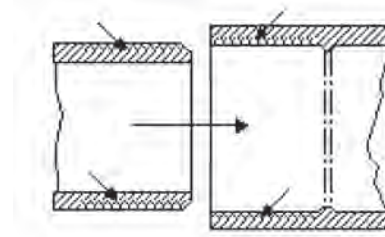
5.1.5 General Principles

5.1.5.1 To consistently make good joints, the following should be clearly understood and adhered to:

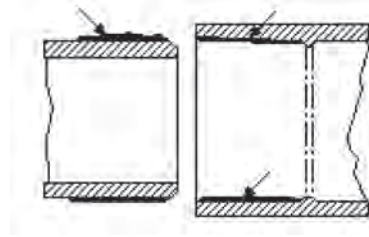
- The joining surfaces must be softened (dissolved) and made semi-fluid.
- Sufficient cement must be applied to fill the gap between hose and fitting.
- Assembly of hose and fittings must be made while the surfaces are still wet and fluid.
- Joint strength develops as the cement dries. In the tight part of the joints the surfaces will tend to fuse together; in the loose part the cement will bond to both surfaces.
- When solvent welding flexible PVC hose to other than PVC fittings, follow manufacturer's installation instructions.

5.1.5.2 Penetration and dissolving can be achieved by the cement itself, by a suitable primer, or by the use of both primer and cement. A suitable primer will penetrate and dissolve the plastic more quickly than cement alone. In cold weather more time and additional applications are required (see Fig. 1).

5.1.5.3 More than sufficient cement to fill the loose part of the joint must be applied (see Fig. 2). Besides filling the gap, adequate cement layers will penetrate the surfaces and also remain wet until the joint is assembled.

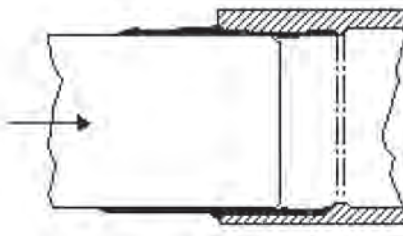
**Figure 1**

Areas of Hose and Fittings to be Softened (Dissolved) and Penetrated

**Figure 2**

Cement Coatings of Sufficient Thickness

5.1.5.4 If the cement coatings on the hose and fittings are wet and fluid when assembly takes place, they will tend to flow together and become one cement layer. Also, if the cement is wet the surfaces beneath them will still be soft, and these dissolved surfaces in the tight part of the joint will tend to fuse together (see Fig. 3).

**Figure 3**

Assembly of Surfaces While They Are Wet and Soft

5.1.5.5 As the solvent dissipates, the cement layer and the dissolved surfaces will harden with a corresponding increase in joint strength. A good joint will take the required working pressure long before the joint is fully dry and final strength is obtained. In the tight (fused) part of the joint, strength will develop more quickly than in the looser (bonded) part of the joint. Completed joints should not be