1 Purpose

1.1 To establish a standard procedure for solvent cementing of rigid PVC (polyvinyl chloride) and CPVC (chlorinated polyvinyl chloride) pipe and fittings.

2 Scope

2.1 This procedure applies to all PVC and CPVC piping installations, whether high purity, sanitary, or general use.

3 Responsibility

3.1 Job foremen will ensure that all bonders follow and comply with this procedure.

4 References

4.1 ASME B31.3 – process piping – latest edition.

5 Procedures

5.1 Tools and materials

5.1.1 Cutting tool (saw or wheel cutter)

5.1.2 Deburring tool (knife or beveling tool)

5.1.3 Solvent cement

5.1.4 Notched boards

5.1.5 Rags (cotton)

5.1.6 Cement and primer

5.1.7 Applicators

5.1.8 Purple primer

5.1.9 Tool tray

5.2 Preparation

5.2.1 Cut pipe square to desired length using a saw or plastic cutter. Use knife or beveling tool to remove raised bead at the newly cut end.

3/8” to 8” OD 1/16” to 3/32”
10” to 30” OD – 1/4” to 3/8”

Note: Without beveling the end the raised bead will wipe the cement away when pipe is inserted into the fitting socket.

5.2.2 Clean and dry pipe and fitting socket of all dirt, moisture, oils or grease. Use a clean dry cotton rag.

5.2.3 Check pipe and fitting for proper fit before cementing. As a rule of thumb the pipe must go into the fitting 1/3 to 3/4 of the way to the stop. When softened with primer the pipe will fully bottom into the socket.

5.3 Priming

5.3.1 Apply primer with a scrubbing motion to the fitting socket until the surface has been softened (5 – 15 seconds). Do not leave puddles of primer on the socket surface.

5.3.2 Apply primer to the end of a length equal to depth of the fitting socket.

5.4 Cementing

5.4.1 Apply solvent cement to the primed pipe. Flow cement on, do not brush out to a paint-type layer.

5.4.2 Apply an even layer of solvent cement on the fitting socket. Avoid puddling cement on the socket.

5.4.3 Push and bottom the end of the pipe into the socket. Give the end of the pipe a one-quarter turn and hold the joint together until both surfaces, pipe and fittings, are firmly gripped (minimum 30 seconds). When cementing larger diameter pipe and fittings (8” and above) use straps and come-alongs, and heavy bodied cement.

5.4.4 Remove excess cement around the juncture of the pipe and fitting by wiping with cotton rag.

5.4.5 Handle newly assembled joints carefully until initial set has taken place. Initial set time varies with size:

15 minutes for 1.0” pipe

1 hour for 4” – 8” pipe

Full cure ranges from 1 hour to 24 hours (see manufacturer table).

6 Testing

6.1 After installation and complete cure piping shall be subjected to a hydrostatic test. Testing pressure shall be 1.5 times the design pressure, but shall not exceed 1.5 times the maximum rated pressure of the lowest rated component in the system.

Note: As per ASME Code B31.1 paragraph A345.52(b) PVC and CPVC piping shall not be pneumatically tested.

Document Approval

Field Operations Manager — Date: 10-3-00

Engineering Manager — Date: 9-28-00

Quality Control Manager — Date: 9/28/00

Quality Assurance Manager — Date: 10-4-00