INSTALLATION GUIDE

SOLVENT WELDED PVC PIPE | Aboveground Applications

INTRODUCTION
The PVC pipe industry has published consensus standards that represent the most comprehensive documents for installation requirements and best practices. For PVC pipe used in aboveground pressure or non-pressure applications, Westlake Pipe & Fittings promotes the use of the following standards as the primary sources of installation guidelines:
- ASTM D2855-15, *Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings*
- IAPMO UPC 1, *Uniform Plumbing Code*

For more detailed technical information, refer to the PVC Pipe Association's *Handbook of PVC Pipe Design and Construction*.

When necessary, we have presented additional information specific to our product offering.

The statements contained in this installation guide are those of Westlake Pipe & Fittings and are not warranties, nor are they intended to be warranties.

RECEIVING, HANDLING, & STORAGE
Despite the piping being used in aboveground applications, follow ASTM F1668, *Standard Guide for Construction Procedures for Buried Plastic Pipe*, Section 5.

UV PROTECTION
AWWA M23, *PVC Pipe – Design and Installation*, pg. 7 states, "UV degradation of PVC pipe formulated for buried use will not have significant adverse effect with up to two full years of outdoor weathering and direct exposure to sunlight."

When PVC pipe is properly covered and not exposed to sunlight, the allowable storage time is unlimited. The two year criteria is a cumulative value of the time the pipe is in exposed storage and is not based on the date of manufacture.

TEMPERATURE CONSIDERATIONS
PVC will display a variation in physical properties with changes in temperature. Colder temperatures result in increases in pipe stiffness and tensile strength and decreases in impact strength. The decrease in impact strength requires care in handling during installation in cold temperatures.

The actual rate of expansion/contraction for PVC is 0.36 inch per 100 feet of pipe per 10°F temperature change. Thermal expansion/contraction causes stress in the pipe walls for solvent welded PVC pipe and must be mitigated by the use of expansion joints or other thermal stress management techniques.

Follow IAPMO UPC, Section IS 8-2006.2.4.3 for pressure pipe and Section IS 9-2006.2.3.2 for non-pressure pipe.

USE OF PVC PIPE IN EXHAUST SYSTEMS
WARNING: Failure to follow these instructions exactly could result in serious injury, death, or property damage.

WARNING: Flue gas temperature should not exceed 140° Fahrenheit. PVC pipe exposed to temperatures higher than 140° Fahrenheit may melt or change shape, resulting in leakage of exhaust fumes and property damage.

WARNING CARBON MONOXIDE POISONING HAZARD: Vent pipe must be properly installed in accordance with all local and national plumbing and HVAC installation standards and codes.

Westlake Pipe & Fittings assumes no responsibility for equipment installed in violation of any code or regulation.

BELL & SPIGOT ORIENTATION
Westlake Pipe & Fittings recommends that the pipe's bell end points direction of work progress. When joining pipe, it is easier to insert the spigot into the bell than it is to push the bell over the spigot.

The direction of the pipe bell relative to the flow direction does not affect the performance of the pipe joint or system hydraulics.

CLEANERS, PRIMERS & SOLVENT CEMENTS
Follow ASTM D2855-15, Section 6.2, 6.3, and 6.4.

PIPE CUTTING & JOINT PREPARATION
Follow ASTM D2855-15, Section 7.1 through 7.6.

APPLICATION OF PRIMER AND CEMENT
Follow the procedure detailed in ASTM D2855-15, Section 7.7.

COLD & HOT WEATHER NOTES
Follow ASTM D2855-15, Section 8.4 and 8.5.

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CONNECTING PIPE TO APPURTENANCES & FITTINGS

Follow the instructions of the appurtenance or fitting manufacturer including pipe trimming, pipe insertion, and bolt tightening guidelines. Appurtenances & fittings must be compatible with the pipe size.

Follow IAPMO UPC, Section 605.13 for pressure pipe applications and Section 705.7 for non-pressure pipe applications.

Mechanical restraint rings typically have grooved pads that bite into the pipe. These grooved pads place acceptable indentations into the pipe. In the event of removing the restraint ring from the pipe, the section of PVC pipe with the indentations should be cut-off and discarded. The same area of PVC pipe should not be re-indented as the strength of the pipe will be compromised.

FIELD CUTTING

Pipe can be easily cut with a power saw using an abrasive disc. Other cutting tools may be appropriate, depending on the size of the pipe. It is recommended that the pipe be marked around its entire circumference prior to cutting to ensure a square cut. Both portions of the pipe on either side of the cut line should be supported from below such that neither portion of pipe pulls at the other while it is being cut.

PIPE SUPPORTS

Follow IAPMO UPC, Section 313.

CHANGES IN PIPELINE DIRECTION

Per IAPMO UPC, Section IS 8-2006.2.4.2 and IS 9-2006.2.2.1, pipe and fittings should be aligned properly without strain. Changes in direction to exposed plumbing piping should be made with fittings, not through flexing or bending the pipe.

See IAPMO UPC, Section 706 & 708 for more information for non-pressure pipe applications.

ACCEPTANCE TESTING

Per the Plastic Pipe and Fittings Association (PPFA) User Bulletin 4-13, *Policy on Testing Plastic Pipe and Fittings Installations with Compressed Gas*, "compressed air or any other compressed gases should not be used for pressure testing plastic plumbing systems." There is an exception for trap seal testing on DWV systems where a vacuum of 1-2 in H_2O is applied to water-filled traps.

Test pressures anywhere in the line must never exceed the temperature-corrected working pressure rating of the pipe.

Follow IAPMO UPC, Section 609.4 for pressure pipe applications and Section 712 or 1109.2 for non-pressure pipe applications.

DISINFECTION OF POTABLE WATER LINES

Follow IAPMO UPC, Section 609.9.

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