

PRODUCT SPECIFICATION

PVC DWV FITTINGS

Solvent Weld

APPLICATION:

Corrosion resistant injection molded PVC pipe fittings, IPS sizes 1-1/4" through 12" produced to DWV dimensions, for use at temperatures up to and including 140°F. Fittings are intended for use in non-pressure sanitary drain, waste and vent (DWV), sewer, storm drainage and other gravity fed drainage applications. Westlake Pipe & Fittings PVC DWV fittings are certified to the Uniform Plumbing Code. Generally resistant to most acids, bases, salts, aliphatic solutions, oxidants and halogens. Chemical resistance data must be referenced by the design authority for proper material selection prior to use in any special waste systems involving chemical drainage.

SCOPE:

This specification establishes minimum manufacturing requirements for Poly(Vinyl Chloride) (PVC) drain, waste & vent (DWV) fittings. These fittings are intended for use in non-pressure applications where the temperature of the fluid conveyed does not exceed 140°F. These fittings meet or exceed the industry standards set forth by the American Society for Testing and Materials (ASTM) and NSF International and ANSI/NSF Standard 14.

MATERIALS:

The materials used in the manufacture of the fittings shall be a Rigid Poly(Vinyl Chloride) (PVC) Type 1 PVC compound having a Cell Classification of 12454 per ASTM D1784 (also formerly known as Type I, Grade I PVC; PVC 1120.)

DIMENSIONS AND PROPERTIES:

All sizes of PVC DWV injection molded fittings shall be manufactured in strict accordance to the requirements of ASTM D2665 for physical dimensions and tolerances. These fittings shall consistently meet and/or exceed the quality assurance and other requirements of ASTM D2665 with regard to material, workmanship, impact resistance dimensions and product marking. All sizes of PVC DWV injection molded fittings shall also consistently meet the geometries and lay length requirements of ASTM D3311.

MARKING:

All sizes of PVC DWV fittings shall meet the marking requirements of ASTM D2665 that includes as a minimum the manufacturers name and/or trademark, the nominal pipe size, the material designation PVC.

Westlake Pipe & Fittings PVC Sch 40 Fittings Conform to the Following Standards and Specifications as applicable:

ASTM D1784 (Material)	Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds. Cell Classification 12454 Type I PVC (formerly known as Type I, Grade I PVC) PVC 1120
ASTM D2665	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste and Vent Pipe and Fittings
ASTM D3311	Socket Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2321	Standard Specification for Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems
ASTM F1668	American National Standard Tapered Pipe Threads, General Purpose, Inch
NSF Standard 14	Pipe Flanges and Flanged Fittings - WPF Flanges bolt hole dimensions conform to ANSI B16.5 Class 150 bolt pattern.
UPC	Drinking Water System Components – Health Effects (Third Party Certification materials are suitable for potable water applications)
USA	Plastics Piping System Components and Related Materials (Third Party Certification products meet applicable ASTM performance requirements and are suitable for potable water applications per NSF Std 61)

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Limitations

Westlake Pipe & Fittings DWV fittings are intended for use in non-pressure sanitary drain, waste and vent systems or storm water drainage systems. Fittings can withstand temperatures typically found in DWV and storm water drainage applications. The maximum recommended continuous use temperature in drainage systems is 140°F.

Storage & Handling

Keep products clean. Store in original packaging indoors, or under a suitable ventilated non-transparent cover when stored outdoors. Store pipe properly to prevent sagging or bending. Do not store PVC piping products in close proximity to heat producing sources or in tightly enclosed areas. Exposure to excessive temperatures ($\geq 150^{\circ}\text{F}$) can result in distortion and discoloration of product. Exposure to sunlight during typical construction periods is not harmful. Prolonged exposure to direct sunlight must be avoided. Use caution to prevent compression, distortion or other damage when stored. Use care when handling to avoid damage. Do not drop or drag product or have other objects dropped on Westlake Pipe & Fittings DWV products.

Installation

Follow applicable plumbing code requirements.

Solvent Welding - Follow ASTM D2855 Standard Practice for Making Solvent Cemented Joints with PVC Pipe & Fittings, solvent cement manufacturer's instructions, and/or Westlake Pipe & Fittings Solvent Welding Guidelines.

General Solvent Welding Review:

- Follow safety precautions. Use proper primer and PVC solvent cement for products being joined
- Cut pipe square, bevel, and deburr
- Check dry fit, measure socket depth, and mark pipe to proper insertion depth
- Aggressively work primer into the fitting socket using correct size applicator, then aggressively work primer onto the pipe end ensuring to cover entire circumference equal to the depth of the fitting socket, apply second coat of primer into fitting socket
- Immediately while surfaces are still wet with primer, apply a full even layer of solvent cement on the pipe equal to the depth of the fitting socket. Apply medium layer of solvent cement to fitting socket. Apply a second full layer of solvent cement to the pipe end.
- Immediately while solvent cement is still wet, assemble pipe and fittings with one smooth insertion action not stopping until pipe is completely bottomed out to the pipe stop at socket bottom of fitting
- Hold in place for a minimum of 30 seconds to avoid push out
- Avoid disturbing the joint until initial set time is reached
- Do not test for leakage until cure time has been reached - the system shall be tested hydrostatically.

Hangers and Supports

Hangers and supports selected must have adequate load bearing surface, and must not compress, abrade, cut or otherwise distort pipe or fittings. Hangers and supports are to be installed in such a manner as to allow free movement of the piping caused by thermal expansion/contraction. All piping system components are to be aligned properly without strain. Grade of horizontal drainage and vent piping is to be adhered to ensure proper drainage as specified in applicable code. Horizontal runs of drainage piping is to be supported at no more than 4 ft intervals, at changes in direction or elevation, and at end of branches. On vertical runs maintain pipe in straight alignment and support at each floor level or at 10 ft intervals, whichever is less. Provide proper support to piping exposed to wind, snow and ice loading, and extreme temperature swings. Follow applicable plumbing code requirements.

Thermal Expansion

Provisions must be made for expansion and contraction of piping systems exposed to temperature fluctuations by the use of properly sized expansion loops, piping offsets, or the installation of expansion joints.

Fire Stopping

Through wall penetrations of fire rated assemblies meeting the requirements of ASTM E814 using PVC pipe are accepted in the model codes. Verify code interpretations regarding plastic pipe through penetrations with local authority having jurisdiction (AHJ).

Chemical Compatibility

PVC can be damaged by contact with certain fire-stop compounds, thread sealants, plasticized-vinyl products, cleaning and wetting agents, certain surfactants and other chemical agents. Contact Westlake Pipe & Fittings Technical Services for additional information.

Notes:

Follow applicable plumbing code. Plastic piping systems must be engineered, installed operated and maintained in accordance with accepted codes, standards, and procedures. Installation shall conform to all applicable plumbing, building, and fire codes. Suitability for the intended application should be determined and verified by the designer and/or installer prior to use. Chemical resistance data must be referenced for proper material selection prior to use in chemical drainage applications.

PVC DWV Fitting Material Equivalents:

ASTM D1784 Cell Classification 12454 = PVC Type 1 (formerly Type 1, Grade 1 PVC) = PVC1120 = Rigid (Unplasticized) PVC

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