



SPEARS® LabWaste™ CPVC Corrosive Waste Drainage System

LW-2-0603

**Proven Solvent Cement Joining Eliminates Troublesome
Fusion Equipment, Mechanical Joints & Elastomer Problems**
**NSF Certified for Corrosive Waste Use, Meets IAPMO IGC 210 and ICC-ES AC252
For CPVC Chemical Waste Systems • U.S. Patent No. 7,178,557**



- Complete System of Pipe, Fittings & Adapters – Patented
- All CPVC Construction in Full Assortment of Standard DWV Patterns
- Custom Fabricated Accessories-Drains, Neutralization Tanks & Pump Stations
- Specially Formulated One-Step Solvent Cement Provides Chemical Resistance Equal to System Pipe & Fittings – Now in Special Yellow Color
- ULC Flame & Smoke Rated
- Non-Pressure Drainage Service to 220°F

Chemical & Corrosion Resistant CPVC

One of the key advantages of the **LabWaste™** CPVC system is its excellent resistance to a broad range of corrosive environments. CPVC is inert to most mineral acids, bases, salts and aliphatic hydrocarbons, and compares favorably to other non-metals in these chemical environments.

General Chemical Resistance Overview:

Weak Acids	Excellent	Salts	Excellent
Strong Acids	Excellent	Aliphatic Solutions	Good
Weak Bases	Excellent	Halogens	Good-Fair
Strong Bases	Excellent	Strong Oxidants	Good-Fair

The **LabWaste™** CPVC System has been developed for use in academic, research, and institutional laboratory chemical waste drainage applications, which is the routine disposal of a wide variety of hot and cold chemicals accompanied by water for the purpose of dilution and flushing.

Full Assortment of Drainage Pattern Fitting Configurations

Spears® broad line of **LabWaste™** CPVC fittings are produced in ASTM D 3311 and other drainage patterns required in corrosive waste system installations. Standard configurations are available in nominal sizes of 1-1/2” through 24” with many specialty fittings.

NSF Certified For Corrosive Waste

Spears® **LabWaste™** CPVC Corrosive Waste Drainage System of pipe, fittings, and cement is tested and certified for use in corrosive waste systems by NSF International, tested to IAPMO IGC 210 and ICC-ES AC252 for CPVC Chemical Waste Systems.

Cost Saving Solvent Weld Joining Eliminates Troublesome Electro-Fusion and Mechanical Connections

A proven joining method reliably used for over 50 years, Solvent Cement Welding requires no special tools, no costly fusion equipment, and provides a solid, chemically bonded joint for easy installation, repairs or alterations. Most importantly, solvent cement joints end problems typical of polypropylene system installation, such as mechanical connector pullout, maintenance on elastomer sealed joints, internal fusion wire corrosion, and cumbersome fusion joining methods. Saves time, saves cost, saves worry!

ULC Flame & Smoke Rated Components

Spears® **LabWaste™** system components have been evaluated as finished products for surface burning characteristics of flame spread and smoke density by Underwriters Laboratories of Canada under standard test method CAN/ULC S102.2-M88.

Spears® LabWaste™ System General Specifications

Spears® CPVC LabWaste™ System is a specially designed product line developed in accordance with portions of existing ASTM Standards used in its design and manufacture as specified below.

Applicable Conformance Standards

Conformance Criteria	Applicable Standard	Standard Specification or Practice Title
Product Certification, Acceptance Criteria, and Interim Guide Criteria	NSF Standard 14 Special Engineered (SE) product certification for corrosive waste end use. ICC Acceptance Criteria, AC252 IAPMO Interim Guide Criteria, IGC 210	Standard 14: <i>Plastics Piping System Components and Related Material</i> , NSF-cw S.E. Certified to specified conformance standards & specifications. Acceptance Criteria for CPVC Systems of Piping, Fittings and Solvent Cement Used in Chemical Waste Systems Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Limited Chemical Drainage Systems
Material	D 1784, cell class 23447 (CPVC).	D 1784: <i>Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds</i>
Dimensions and Tolerances - Pipe Dimensions and Tolerances - Fittings Chemical Resistance Adjusted concentrations for CPVC Water Absorption Mechanical Joint - Transition Fittings Flattening - Pipe Impact Resistance - Pipe & Fittings Workmanship, Finish & Appearance	ASTM F1412, Section 6.1 ASTM F1412, Section 6.2 ASTM F1412, Section 6.3 ASTM F1673, Section 8.3 ASTM F1412, Section 6.4 ASTM F1412, Section 6.5 ASTM F1412, Section 6.8 ASTM F1412, Section 6.9 ASTM F1412, Section 7	F1412: <i>Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems</i> F1673: <i>Standard Specification for Polyvinylidene Fluoride (PVDF) Corrosive Waste Drainage Systems</i>
Solvent Cement (Special Yellow Color)	F493	F493: <i>Standard Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings</i>

Flammability & Surface Burning Characteristics

Flammability Material Rating	UL94, V-0	UL94: <i>Tests for Flammability of Plastic Materials for Parts in Devices and Appliances</i>
Flame & Smoke Rating Pipe Flame Spread: Smoke Developed:	CAN/ULC S102.2 0 5 - 20	CAN/ULC S102.2: <i>Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials</i>
Fittings Flame Spread: Smoke Developed:	5 - 10 15 - 50	

Flame spread and smoke development ratings based on tests of finished product, pipe and fittings solvent cement welded as assemblies.

Product Certification (3rd Party Approval Standards)

Spears® **LabWaste™** CPVC Corrosive Waste Drainage System is a complete system of pipe, fittings and solvent cement. Since specific ASTM Standards have not been developed for CPVC corrosive waste systems, Spears® **LabWaste™** CPVC pipe and fittings are tested and certified for use in corrosive waste systems by NSF International as a Special Engineered (SE) product. Spears® **LabWaste™** CPVC system meets the requirements of IAPMO IGC 210 and ICC-ES AC252 for CPVC Corrosive Waste Drainage Systems

Spears® **LabWaste™** - A Complete System

Spears® **LabWaste™** is offered as a complete system of pipe, fittings, solvent cement. A broad assortment of additional accessories are available including Valves, Unions, Flanges and Adapters.

Fitting configurations are produced to applicable DWV patterns of ASTM D3311, Standard Specification for Drain, Waste, and Vent (DWV) Plastic Fitting Patterns, and various specialty patterns. All drainage fittings with 90° angles (sanitary tees, elbows, etc.) have socket pitch to maintain approximately 1/4" per foot drainage.

System Integrity

Spears® **LabWaste™** products have been developed and designed to be used as a total system consisting of pipe, fittings, accessories, solvent cement and thread sealant. All Spears® **LabWaste™** components must be used in order to insure a sound piping system. Substitution of other products for Spears® **LabWaste™** pipe, fittings, or solvent cement may be detrimental to system integrity and is not recommended. The Spears® Limited Warranty (located at end of this manual) does not cover problems occurring within the piping system as the direct result of non-use of Spears® **LabWaste™** system products.

System Transition Adapters

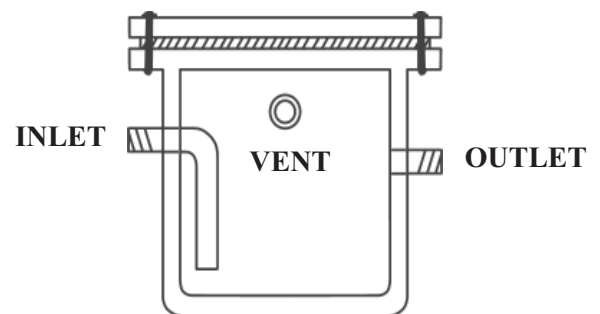
Easy transition from PP/PVDF, Glass or Duriron systems to **LabWaste™** CPVC using one of these special adapters for sizes 1-1/2" through 4" piping.

Spears® **LabWaste™** Custom System Accessories

Acid Neutralization/Dilution Tanks for Use With **LabWaste™** CPVC Systems

Neutralization or dilution tanks are required by codes for the purpose of neutralizing corrosive wastes. Corrosive liquids, spent acids or other harmful chemicals that destroy or injure a drain, sewer, soil or waste pipe, or create noxious or toxic fumes or interfere with sewage treatment processes are prohibited from being discharged into the plumbing system without being neutralized or treated. Spears® offers a standard selection of HDPE tanks in 5 gallon to 3000 gallon capacities and CPVC tanks in 5 gallon to 55 gallon capacities to meet these needs. Tanks can also be produced in virtually any custom size, shape, or connection configurations. Contact Spears® Technical Services with desired specifications for custom quotation. See Spears® price schedule LWNT-1, **LabWaste™** Neutralization Tanks & Accessories for additional information on the following features and options.

- CPVC Tanks 5-gallon to 55-gallon
- HDPE Tanks 5-gallon to 3000-gallon
- Optional Vented Tanks
- Socket (CPVC), Thread or Flanged Connection
- Inspection & Manhole Port Options
- Pedestrian or Vehicular Traffic Cover Options
- Tank Extension Options
- Limestone Chip Neutralization Medium



LabWaste™ Floor Drains & Cleanouts

Spears® **LabWaste™** CPVC Floor Drains are available for connection to 1-1/2" through 4" drainage pipe. Standard drains have adjustable 5" round CPVC grates and can be ordered with optional CPVC 1/8" perforated sediment strainer to trap debris. CPVC drains also available with adjustable round Stainless Steel grates in 5", 6", 7" or 8" diameters. Standard CPVC Floor Cleanouts have 5" round, adjustable Stainless Steel access covers. All Floor Drains and Floor Cleanouts are available with optional membrane plate for clamping housing to waterproof membranes when used in floor installations.



Sample Engineering Specification

Special drainage systems for corrosive chemical or acid waste shall be manufactured from CPVC Type IV, ASTM Cell Classification 23447. All systems components shall be certified by NSF International for use in corrosive waste drainage systems as a Special Engineered (SE) product and bear the NSF mark. All system pipe and fittings shall be Schedule 40 CPVC produced to the dimensional requirements of ASTM F1412 and the manufacturer's specifications. All pipe shall be CAN/ULC S102.2 Listed for flame spread and smoke development with rating designated on the pipe marking. All pipe markings shall be accompanied by a yellow stripe for identification of CPVC chemical waste system. All fittings shall be CPVC drainage patterns meeting the requirements of ASTM D3311 and the manufacturer's specifications, as applicable. All fittings shall be CAN/ULC S102.2 listed for flame spread and smoke development and rating designated on the original package labeling. Joining method for pipe and fittings shall be solvent cement welding. Solvent cement shall be a "one-step" primerless type CPVC cement specially formulated for resistance to corrosive chemicals and manufactured in accordance with ASTM F493. All pipe, fittings, and cement shall be supplied together as a system, as Spears® **LabWaste™** CPVC Corrosive Waste Drainage Systems manufactured by Spears® Manufacturing Company.

For LabWaste™ Product Line Information See Publications:

- LW-1 **LabWaste™** CPVC Corrosive Waste Drainage System Prices
- LWNT-1 **LabWaste™** Standard CPVC, PP & HDPE Neutralization Tanks Prices
- LW-4 **LabWaste™** CPVC Corrosive Waste Drainage System Technical Information

Not for Use With Compressed Air or Gases

Progressive Products From Spears® Innovation & Technology



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