



SPEARS® LabWaste® CPVC Corrosive Waste Drainage System

LW-2-1022

**Proven Solvent Cement Joining Eliminates Troublesome
Fusion Equipment, Mechanical Joints & Elastomer Problems**

NSF® Certified for Corrosive Waste Use & Listed to ASTM F 2618 Specification for CPVC Pipe & Fittings for Chemical Waste Drainage Systems & CSA B181.2-2018 PVC & CPVC Drain, Waste, and Vent Pipe and Pipe Fittings • Listed by ICC-ES PMG 1018 for Compliance with the International Plumbing Code & Uniform Plumbing Code • Listed by ICC-ES PMG 1278 for Compliance with ASTM E84 25/50 Requirements of the International Mechanical Code & Uniform Mechanical Code



- Complete System of Pipe, Fittings & Adapters
- Meets 25/50 Flame & Smoke Requirement for use in Return Air Plenums
- Non-Pressure Drainage Service to 220° F
- All CPVC Construction in a Full Assortment of Standard DWV Patterns
- Accessories including Drains, Neutralization Tanks, and Dilution Traps
- Specially Formulated One-Step Solvent Cement Provides Chemical Resistance Equal to System Pipe & Fittings – Now in Special Yellow Color

Chemical & Corrosion Resistant CPVC

One of the key advantages of Spears® **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 plastics 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. These plumbing systems are characterized by the routine disposal of a wide variety of hot and cold chemical wastes in accordance with prudent laboratory practices for drainage disposal.

Manufactured to ASTM F 2618 in Full Line of Drainage Pattern Fitting Configurations

Spears® broad line of **LabWaste®** CPVC pipe & fittings are manufactured to ASTM F 2618 Specifications for CPVC Pipe & Fittings for Chemical Waste Drainage Systems and produced in ASTM D 3311 drainage patterns or to manufacturer's specifications. Standard configurations are available in nominal sizes of 1-1/2" through 24" with many specialty fittings and accessories, like dilution traps, (water dilution being critical in the prevention of exothermic chemical interactions within all plumbing systems).

NSF® Certified For Corrosive Waste

Spears® **LabWaste®** Corrosive Water Drainage System of pipe, fittings, and cement is certified for use in corrosive waste systems by NSF International to ASTM F 2618, CSA B181.2-2018 and ICC-ES Listed to PMG-1018, CPVC Chemical Waste Systems, for compliance to the International Plumbing Code and the Uniform Plumbing Code (See PMG Listing No. PMG-1018 at www.icc-es-pmg.org).

Cost Saving Solvent Weld Joining Eliminates the need for Electro-Fusion Joints and for Mechanical Joint Connections in Concealed Spaces

A proven joining method reliably used for over 50 years, Solvent Cement Welding requires no special tools, no costly fusion equipment, no fusion repairs or alterations. Most importantly, solvent cement joints end problems typical of polypropylene system installation, such as mechanical connector pullout, maintaining mechanically sealed joints, leaks from fusion wire corrosion, and cumbersome fusion joining methods. Saves time, saves cost, saves worry.

A Flame & Smoke Rated Piping System

Spears® **LabWaste®** system components have tested dry Listed by ICC-ES PMG 1278 for Compliance with ASTM E84/UL723 Tests for Surface Burning Characteristics having a flame spread of < 25 and a smoke developed index of < 50 meeting the requirements of the International Mechanical Code and Uniform Mechanical Code for use in return air plenums (See PMG Listing No. PMG-1278 at www.icc-es-pmg.org). **LabWaste®** is additionally Listed by Underwriters Laboratories of Canada (ULC®) under CAN/ULC S102.2 for Surface Burning Characteristics of less than 25/50.

Applicable Conformance Standards & Certifications

Spears® **LabWaste**® CPVC Corrosive Waste Drainage System is a complete system of pipe, fittings and solvent cement independently (3rd party) tested, evaluated and certified by the following laboratories and agencies. Each of these approvals is routinely monitored through an ongoing program of periodic inspection and testing by the certifying agency.

- **ASTM F 2618** - Certified for corrosive waste and use by NSF International (NSF®-cw) in accordance with ASTM F 2618, *Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems*.
- **Uniform Plumbing Code** - Certified for use in accordance with the Uniform Plumbing Code (UPC) by NSF International (NSF® U.P. Code) as specified in ASTM F2618. Additionally Listed for use in accordance with the Uniform Plumbing Code (UPC) by the International Codes Council Evaluation Services (ICC-ES) in accordance with PMG Listing Criteria under listing number PMG-1018 (See PMG Listing No. PMG-1018 at www.icc-es-pmg.org).
- **International Plumbing Code** - Approved for use in accordance with the International Plumbing Code (IPC) by the International Codes Council Evaluation Services (ICC-ES) in accordance with PMG Listing Criteria under listing number PMG-1018 (See PMG Listing No. PMG-1018 at www.icc-es-pmg.org).
- **Uniform Mechanical Code** - Listed by the International Codes Council Evaluation Services (ICC-ES PMG) in accordance with ASTM E84 and UL® 723 for compliance with requirements of the Uniform Mechanical Code® (UMC) for use in return air plenums by having a Flame Spread/ Smoke Development of less than 25/50, respectively, under listing number PMG-1278. (See PMG Listing No. PMG-1278 at www.icc-es-pmg.org).
- **International Mechanical Code** - Listed by the International Codes Council Evaluation Services (ICC-ES PMG) in accordance with ASTM E84 and UL® 723 for compliance with requirements of the International Mechanical Code® (IMC) for use in return air plenums by having a Flame Spread/ Smoke Development of less than 25/50, respectively, under listing number PMG-1278. (See PMG Listing No. PMG-1278 at www.icc-es-pmg.org).
- **Canadian Surface Burning Characteristics** - by Underwriters Laboratory of Canada (ULC®) for evaluation of Flame Spread and Smoke Density in accordance with CAN/ULC S102.2 for finished product having a Flame Spread/ Smoke Development of less than 25/50, respectively.
- **Canadian Standards Association** - Certified for corrosive waste and use by NSF International (NSF®-cw) in accordance with CSA B181.2-2018 - *PVC & CPVC Drain, Waste, and Vent Pipe and Pipe Fittings* and ASTM F 2618, *Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems*.
- **UL 2818 Performance Certification** - Certified by Underwriters Laboratories (UL®) for conformance to UL 2818 Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings. This GREENGUARD GOLD Certification provides eligibility for LEED® credits when installing **LabWaste**® in a green building project.



Flammability & Surface Burning Characteristics

Flammability Rating:	V-0	UL94: <i>Tests for Flammability of Plastic Materials</i>
Flame & Smoke Ratings		ASTM E84/UL723 Surface Burning Characteristics
Flame Spread	<25	ICC-ES PMG Listing Number PMG-1278
Smoke Developed	<50	Listed to CAN/ULC S102.2: Surface Burning Characteristics

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

Spears® **LabWaste**® is offered as a complete system of pipe, fittings, and solvent cement. A broad assortment of additional accessories are available including Drains, Neutralization Tanks, Dilution Traps, Valves, Unions, Flanges and Adapters. Fitting configurations are produced to applicable DWV patterns of ASTM D 3311, *Standard Specification for Drain, Waste, and Vent (DWV) Plastic Fitting Patterns*, and various specialty patterns to manufacturer's specifications. All drainage fittings with 90° angles (sanitary tees, elbows, etc.) have socket pitch to maintain approximately 1/4" per foot drainage.

System Integrity – Lifetime Warranty

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 ensure 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 Lifetime Warranty (located at the end of this brochure) does not cover problems occurring as the direct result of the use of products other than Spears® **LabWaste**® system products, or products and materials not compatible with CPVC materials.

System Transition Adapters

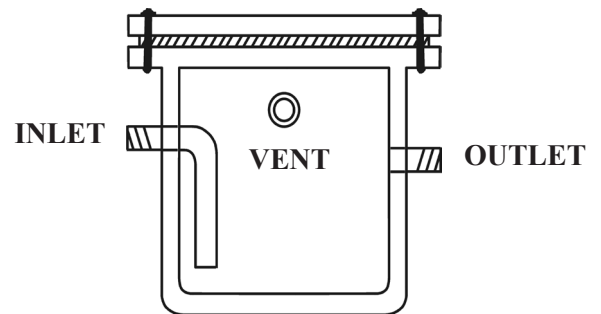
Transitioning from PP, PVDF, Glass, Duriron, or other systems to Spears® **LabWaste**® CPVC is easy using one of Spears® special transition adapters available in sizes 1-1/2" through 8" piping.

Spears® LabWaste® Custom System Accessories

Acid Neutralization/Dilution Tanks for Use With LabWaste® CPVC Systems

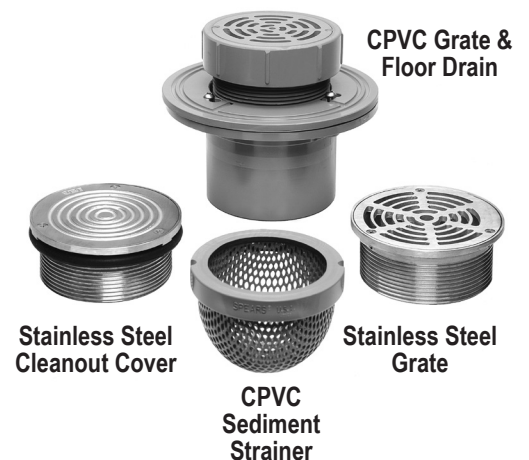
Neutralization or dilution tanks are required by codes for the purpose of neutralizing corrosive wastes. Corrosive liquids, spent acids or other harmful chemicals that destroy or injure a drain, sewer, soil or waste pipe, or create noxious or toxic fumes or interfere with sewage treatment processes are 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 configuration. Contact Spears® Technical Services with desired specifications for custom quotation. See Spears® SPS-1 Product Sourcebook Catalog under **LabWaste®** CPVC Corrosive Waste Drainage Systems and SES-1 Engineering Sourcebook under **LabWaste®** Neutralization Tanks & Accessories for additional information on 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 are 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, minimum ASTM Cell Classification 23447. System pipe and fittings shall be manufactured in accordance with ASTM F 2618 and certified by NSF International for use in corrosive waste drainage systems and CSA B181.2-2018 for Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings. Pipe and fittings tested dry shall be Listed by ICC-ES PMG to ASTM E84/UL723 having a flame spread of less than 25 and smoke developed index of less than 50 and Listed by Underwriters Laboratories of Canada to CAN/ULC S102.2 having a flame spread of less than 25 and smoke developed index of less than 50 as designated on the pipe marking or fitting package labeling. Pipe and solvent cement shall be certified to UL 2818 GREENGUARD GOLD. All pipe markings shall be accompanied by a yellow stripe for identification as CPVC chemical waste drainage system. All fittings shall be CPVC drainage patterns meeting the applicable requirements of ASTM D 3311 or the manufacturer's specifications. 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 F 2618 and F 493. All pipe, fittings, and cement shall be supplied together as a complete system with a Lifetime Warranty, as Spears® **LabWaste®** CPVC Corrosive Waste Drainage Systems manufactured by Spears® Manufacturing Company.

Spears® LabWaste® Installer Protection Plan

The Spears® Installer Protection Plan (IPP) is offered to assist Installing Contractors of Spears® LabWaste® CPVC Fire Protection Products in the event of system failures following initial installation, AHJ final approval and registration acceptance of a system into the Plan. The IPP program is intended to assist the Installing Contractor in resolution related to verified claims resulting from system failures due to circumstances and conditions that occur following the release of the project, that are beyond the control or cause of the Installing Contractor or Spears®. While the ultimate responsibility for all trades within a project is that of the General Contractor or Contracting Party; Spears® will assist the Installing Contractor in their defense of verified claims with the support associated through investigation, review, analysis, replacement / repair and determination of the cause of failure, including providing Spears® replacement parts.

Responsibility of the Installing Contractor

- Follow current Spears® installation instructions (LWTECH_LW-1).
- All components must be 100% Spears® LabWaste® products. This includes pipe, fittings and cement. NO EXCEPTIONS.
- Installation must be by trained individuals with current certification. Spears® will accept certification by other certification entities up to their renewal date. At that time, subsequent training and certification must be done by Spears® authorized personnel.
- The Installing Contractor must contact Spears® and the Contracting Party immediately after they become aware of any issue. Contact information is located at the end of Exhibit A.
- The Installing Contractor will be responsible for remediation labor charges on any repairs.
- The Installing Contractor shall promptly report in writing all claims within seven (7) days of any knowledge and fully cooperate with Spears® efforts to resolve the verified claims, including providing any alleged parts involved with the claim.
- Notify General Contractor or Contracting Party of chemical incompatibility potential with other common trade materials; including, but not limited to, Spray Polyurethane Foam, Mold Control / Remediation Products and Termiticides / Pesticides.
- Exhibit A must be filled out in its entirety and submitted to Spears® for registration approval and acceptance.

Responsibility of Spears® under the Plan

- Spears® will cover the reasonable costs of our investigation into the cause of the failure. This includes, but is not limited to, compatibility determination, failure analysis, installation review and testing to assist the Installing Contractor in their resolution of verified claims.
- Spears® will contribute to reasonable reimbursement costs of the Installing Contractor's labor of repairing or replacing Spears® products at a rate agreed upon by both parties.
- Replacement products will be Spears® products, supplied by Spears®.

Proper system design and operation must be in place. This includes, but is not limited to, the system being designed to retain proper pitch and thorough flushing after use.

POE oils should never be allowed to drain into a CPVC system.

For the full list of compatible ancillary products, please visit www.spearsmfg.com

General Terms and Notations of the Plan

Items not covered under the plan

- Product that has been allowed to freeze by the property owner or contractor.
- Improper storage
- Product that has been damaged by vandalism, acts of God, i.e., tornados, earthquakes, and landslides, etc.
- Installation of system not in accordance with established codes, professional standards or instructions (LWTECH_LW-1).
- Systems installed with incompatible products / materials.
- Systems with the use of cutting oils not properly flushed / cleaned.
- Liability assumed under an Installers contract.

Training Spears® offers training classes in proper solvent cement, handling and installation techniques for installing contractors and their employees. These sessions are complimentary and available with advanced notification and must be scheduled. Contact your local Spears® Representative for details and to schedule a session.

This Protection Plan covers the contiguous United States and Canada

Supersedes all previous versions

Suitable for low pressure air handling 5 psi, not for distribution of compressed air or gas

PROGRESSIVE PRODUCTS FROM SPEARS® INNOVATION & TECHNOLOGY



SPEARS® MANUFACTURING COMPANY

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