



LabWaste™ CPVC Technical Information & Installation Guide

Typical Physical Properties of Spears® LabWaste™ CPVC Material

Property	Test Method	Typical Value
Mechanical Properties @ 73°F		
Specific Gravity		1.49
Tensile Strength, psi	ASTM D 792	9000
Tensile Modulus, psi	ASTM D 638	420,000
Flexural Strength	ASTM D 638	12,000
Izod Impact (notched @73°F)	ASTM D 790	
Fittings	ASTM D 256	3.0
Pipe		5.5
Thermal Properties		
Heat Deflection Temperature 264 psi	ASTM D 648	214°F
Fitting		230°F
Pipe		.95
Thermal Conductivity, BTU/hr/sq ft/°F/in	ASTM C 177	3.2 x 10 ⁻⁵
Coefficient of Linear Expansion, in/in/°F	ASTM D 696	
Flammability		
Limiting Oxygen Index	ASTM D 2863	60
UL 94 Rating	UL 94	V-0, 5VB
Flame & Smoke Rating¹		
Flame Spread	CAN/ULC S 102.2	<25
Smoke Developed	UL 723/ASTM E 84	<50
Solvent Cement	ASTM F 2618/ASTM F 493	Heavy Body; Mustard Yellow Color

Typical Physical Properties data is based on information from material suppliers. It is provided as a guideline for service and is not to be considered a warranty of performance.
1- Based on test of physical product, including solvent cement welded pipe and fittings assemblies, as opposed to test of material only.

Fire Resistance

Material used in Spears® **LabWaste™** CPVC systems has a UL 94 flammability rating of V-0, 5VB. Pipe and fittings have been Listed and rated based on *finished product* tests, as opposed to a material test only, for surface burning characteristics of flame spread and smoke density developed by Underwriters Laboratories of Canada under standard test method CAN/ULC S102.2-M88. Additional test of **LabWaste™** pipe with dry fit caps was conducted by Southwest Research Institute (SwRI) Department of Fire Technology under UL 723/ASTM E 84 (modified to test finished product). Pipe and fitting components ratings are below the 25 maximum flame spread and 50 maximum smoke density developed typically required for exposed air plenum installation. Check local codes for acceptability. Use of approved plenum wrap or transition connectors to other material may be used if required.

Pipe & Fittings

Spears® **LabWaste™** CPVC pipe and fittings are produced to the dimensional and performance requirements of ASTM F 2618, *Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems*. **LabWaste™** CPVC fitting configurations are produced to applicable DWV patterns of ASTM D 3311, *Standard Specification for Drain, Waste, and Vent (DWV) Plastic Fittings Patterns*, plus various specialty patterns and manufactured specified configurations not included in D 3311. All drainage fittings with 90° angles (sanitary tees, elbows, etc.) have socket pitch to maintain approximately 1/4" per foot drainage. **LabWaste™** CPVC pipe is produced to dimensions specified in ASTM F 2618 with sizes greater than 12" produced to Schedule 40 dimensions of ASTM F 441, *Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedule 40 and 80*.

Schedule 40 CPVC Pipe Dimensions (inch)

Pipe Diameter	1-1/2	2	3	4	6	8	10	12	14	16	18	20	24
Avg. O.D.	1.900	2.375	3.500	4.500	6.625	8.625	10.750	12.750	14.000	16.000	18.000	20.000	24.000
Avg. I.D.	1.592	2.049	3.042	3.998	6.031	7.943	9.976	11.889	13.073	14.940	16.809	18.743	22.544
Min. Wall	.145	.154	.216	.237	.280	.322	.365	.406	.437	.500	.562	.593	.687