

# Submittal Package ChemDrain<sup>®</sup> CPVC Chemical Waste Drain System

(Updated February 20, 2020)

You can't beat the system.<sup>®</sup>

SUBMITTAL PACKAGE

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# SUBMITTAL FOR CHARLOTTE PIPE® CHEMDRAIN® CPVC CHEMICAL WASTE SCHEDULE 40 PIPE AND FITTINGS

Date: \_\_\_\_\_

Job Name: \_\_\_\_\_

Location: \_\_\_\_\_

Engineer: \_\_\_\_\_

Contractor: \_\_\_\_\_

**► Scope:**

This specification covers CPVC Schedule 40 pipe and fittings for chemical waste drain applications. ChemDrain is intended for use in non-pressure drain applications where the temperature will not exceed 220°F.

**► Specification:**

Pipe and fittings shall be manufactured as a system, be the product of one manufacturer and be manufactured in the United States. All pipe, fittings, and solvent cement shall be supplied together as a system, as Charlotte Pipe ChemDrain chemical waste system manufactured by Charlotte Pipe and Foundry. Pipe and fittings shall conform to the National Sanitation Foundation Standard (NSF) 14.

Special drainage systems for corrosive chemical or acid waste shall be manufactured by CPVC Type IV, Grade I, ASTM Cell Class 23447. All system components shall be certified by NSF International for use in chemical waste drainage systems and bear the mark NSF-cw. All system piping shall be Schedule 40 CPVC produced to the dimensional requirements of ASTM F 2618 and the manufacturer's specifications. All pipe and fittings shall be CPVC drainage patterns meeting the requirements of ASTM F 2618 and the manufacturer's specifications, as applicable.

**► Installation:**

Installation shall comply with the latest installation instructions published by Charlotte Pipe and Foundry and shall conform to all applicable plumbing, fire, and building code requirements. Buried pipe shall be installed in accordance with ASTM D 2321 and ASTM F 1668. Solvent welded joints shall be made with ChemDrain One-Step solvent cement conforming to ASTM F 493. The system shall be protected from items that are not compatible with CPVC compounds; materials like thread sealants, plasticized vinyl products, fire stopping devices, or other aggressive chemical agents. System shall be hydrostatically tested after installation. **WARNING!** Use of compressed air or gas in CPVC pipe or fittings can result in explosive failures and cause severe injury or death.

**► Referenced Standards:**

- ASTM D 1784 Rigid CPVC Vinyl Compounds
- ASTM D 2321 Underground Installation of Thermoplastic Pipe (non-pressure applications)
- ASTM F 493 Solvent Cements for CPVC Pipe and Fittings
- ASTM F 1668 Procedures for Buried Plastic Pipe
- ASTM F 2618 Standard for Chlorinated Poly (Vinyl Chloride) Chemical Waste Drainage Systems
- NSF Standard 14 Plastic Piping Components and Related Materials



Quarter Bend      Cleanout Tee w/Plug      Sixteenth Bend

Wye      Sanitary Tee      Jar Trap with Tail Piece Adapter

Transitional Coupling

**ChemDrain® CPVC Pipe**

**ChemDrain® CPVC Schedule 40 Pipe** NSF

**Type IV, Grade 1** ASTM F 2618

CPVC SCHEDULE 40 (LIGHT GRAY)			PLAIN END		CPVC 4120	
PART NO.	NOM. SIZE	UPC # 611942-	QTY. PER SKID	AVG. OD (IN.)	MIN. WALL (IN.)	WT. PER 100 FT. (LBS.)
AW 14015	1 1/2" x 10'	10732	1650'	1.900	.145	55.3
AW 14002	2" x 10'	10733	1110'	2.375	.154	74.3
AW 14003	3" x 10'	10734	1130'	3.500	.216	154.2
AW 14004	4" x 10'	10735	670'	4.500	.237	219.6
AW 14006	6" x 10'	10736	330'	6.625	.280	386.1
AW 14008	8" x 10'	11363	180'	8.625	.322	581.1

One-Step CPVC Solvent Cement

Charlotte Pipe and Foundry Company • P.O. Box 35430 Charlotte, NC 28235 • (800) 438-6091 • www.charlottepipe.com

# Product Certification



This is to certify that all Plastic Pipe and Fittings manufactured by Charlotte Pipe and Foundry Company are manufactured in the United States and conform to the following standards:

## **PVC SCH. 40 SOLID WALL PIPE**

ASTM D 1784, ASTM D 1785, ASTM D 2665  
FHA UM 79a  
FEDERAL SPECIFICATION L-P-320a  
NSF STANDARD 14 AND 61

## **PVC SCH. 40 DWV CELLULAR CORE PIPE**

ASTM D 4396, ASTM F 891  
NSF STANDARD NO. 14

## **PVC SCH. 40 DWV FITTINGS**

ASTM D 1784, ASTM D 2665, ASTM D 3311,  
ASTM F1866  
FHA UM 79a  
FEDERAL SPECIFICATION L-P-320a  
NSF STANDARD NO. 14

## **PVC SDR-21 AND SDR-26 PRESSURE PIPE**

ASTM D 1784, ASTM D 2241  
NSF STANDARD NO. 14 AND 61

## **PVC SCH. 40 PRESSURE FITTINGS**

ASTM D 1784, ASTM D 2466  
NSF STANDARD 14 AND 61

## **PVC SCH. 40 WELL CASING PIPE**

ASTM D 1784, ASTM F 480  
NSF STANDARD NO. 14 AND 61

## **PVC SCH. 80 PIPE**

ASTM D 1784, ASTM D 1785  
NSF STANDARD NO. 14 AND 61

## **PVC SCH. 80 FITTINGS**

ASTM D 1784, ASTM D 2467  
ASTM D 2464 ASTM F 1970  
NSF STANDARD NO. 14 AND 61

## **PVC SDR 35 SEWER MAIN PIPE**

ASTM D 1784, ASTM D 3034, SDR 35  
ASTM D 3212, ASTM F 477

## **PVC SEWER AND DRAIN PIPE**

ASTM D 1784, ASTM D 2729

## **PVC THIN WALL PIPE & FITTINGS**

ASTM D 1784, ASTM D 2949  
NSF STANDARD NO. 14

## **CPVC FLOWGUARD GOLD® CTS PIPE & FITTINGS**

ASTM D 1784, ASTM D 2846  
FHA UM-61a  
NSF STANDARD NO. 14 AND 61  
CSA LISTED ON SPECIFIED ITEMS

## **CPVC CHEMDRAIN® SCH. 40 PIPE & FITTINGS**

ASTM D 1784, ASTM F 2618  
NSF STANDARD 14

## **ABS SCH. 40 DWV CELLULAR CORE PIPE**

ASTM D 3965, ASTM F 628  
NSF STANDARD NO. 14

## **ABS PLUS® SCH. 40 DWV CELLULAR CORE PIPE**

ASTM D 3965, ASTM D 4396, ASTM F 1488

## **ABS SCH. 40 DWV FITTINGS**

ASTM D 3965, ASTM D 2661, ASTM D 3311  
FHA UM 79a  
FEDERAL SPECIFICATION L-P-322b  
NSF STANDARD NO. 14

CHARLOTTE PIPE AND FOUNDRY COMPANY

# Product Certification

ChemDrain® CPVC chemical waste system is a complete system of pipe, fittings, solvent cement and accessories. Charlotte Pipe and Foundry CPVC pipe and fittings are listed for chemical waste systems by NSF International and bear the mark NSF-cw. For additional information log on to [www.nsf.org](http://www.nsf.org).

## Physical Properties of CPVC Material

PROPERTY	CPVC 4120	UNITS	STANDARD
<b>Mechanical Properties</b>			
Specific Gravity	1.55		ASTM D 792
Tensile Strength (73°F)	7,000	psi	ASTM D 638
Modulus of Elasticity in Tension (73°F)	360,000	psi	ASTM D 638
Flexural Strength (73°F)	15,100	psi	ASTM D 790
Izod Impact Cell Class 23447 (notched at 73°F) Min.	1.5 Fittings	ft lb/ in.	ASTM D 256
Hardness (Durometer D)	–		ASTM D 2240
Hardness (Rockwell R)	119		ASTM D 785
Compressive Strength (73°F)	10,100	psi	ASTM D 695
Hydrostatic Design Stress	2,000	psi	
<b>Thermal Properties</b>			
Heat Distortion Temperature at 264 psi Minimum	212°F (Cell Class 23447)	degrees F	ASTM D 648
Coefficient of Thermal Conductivity	.95	BTU/ hr/sq ft/ °F/ in.	ASTM C 177
Coefficient of Linear Expansion	3.4 x 10 <sup>-5</sup>	in./ in./ °F	ASTM D 696
Specific Heat	0.34	BTU/lb°F	ASTM D 2766
Water Absorption (24 hrs at 73°F)	.03	% weight gain	ASTM D 570
Cell Classification	23447-Pipe and Fittings		ASTM D 1784
<b>Flammability</b>			
Limiting Oxygen Index	60%		ASTM D2883
Burning Rate	Self Extinguishing		ASTM D 635
Burning Class	V-0		UL 94
<b>Flame &amp; Smoke Rating<sup>1</sup></b>			
	Flame Spread	0	CAN/ULC S 102.2
	Smoke Developed <sup>2</sup>	8-22	
Solvent Cement	Heavy Body, Mustard Yellow Color		ASTM F 493

Above data is based upon information provided by the raw material manufacturers. It should be used only as a recommendation and not as a guarantee of performance.

<sup>1</sup> Based on test of physical product, as opposed to test of material only. Test was conducted on 1½" - 6" pipe.

<sup>2</sup> Results vary based on pipe diameter.

## Pressure/Temperature Relationship

### Maximum Operating Temperatures For Various Piping Systems (de-rate operating pressure at temperatures in excess of 73°F)

Piping System	Max. Operating Temp. °F
ABS	140
PVC	140
CPVC - FlowGuard Gold® CTS	180
CPVC - Corzan® Sch. 80	200
CPVC - ChemDrain®*	220

\* See the ChemDrain Technical Manual for more information on this product.

**NOTICE:** The maximum recommended temperature and de-rating of working pressure applies to both heat generated from fluid being distributed through pipe system and heat generated from sources external to the pipe system.

### Temperature De-Rating For Schedule 40 & 80 PVC & CPVC

The operating pressure of PVC and CPVC pipe will be reduced as the operating temperature increases above 73° F. To calculate this reduction, multiply the operating pressures shown on the previous pages by the correction factors shown below:

Operating Temperature (°F)	Correction Factors	
	PVC	CPVC
73	1.00	1.00
80	.88	1.00
90	.75	.91
100	.62	.82
110	.50	.77
120	.40	.65
130	.30	.62
140	.22	.50
150	NR	.47
160	NR	.40
170	NR	.32
180	NR	.25
200	NR	.20

For example, the operating pressure for 6" Schedule 80 PVC pipe is 280 psi. If the operating temperature is 140° F, the maximum operating pressure is now 62 psi (280 x .22).

## Solvent Cements

Pipe and Fitting System	Diameter (in.)	Solvent Cement Standard	Cement Color (common usage, check local code)	Description	Primer (common usage, check local code)
CPVC Sch. 40 ChemDrain®	1¼ - 8	ASTM F 493	ChemDrain® Mustard Yellow (Required)	Heavy-Bodied	6" and larger: IPS P-70 or Oatey Industrial Grade required

**NOTICE:** Aerosol or spray-on type primers/solvent cements are not recommended. The practice of aggressively scouring the pipe and fittings with both primer and solvent cement is an integral part of the joining process. Not working the primer or solvent cement into the pipe or fitting could cause potential system failure or property damage.

### **WARNING**

Primers and cements are extremely flammable and may be explosive. Do not store or use near open flame or elevated temperatures, which may result in injury or death.

- Solvent fumes created during the joining process are heavier than air and may be trapped in newly installed piping systems.
- Ignition of the solvent vapors caused by spark or flame may result in injury or death from explosion or fire.
- Read and obey all manufacturers' warnings and any instructions pertaining to primers and cements.
- Provide adequate ventilation to reduce fire hazard and to minimize inhalation of solvent vapors when working with cements, primers and new piping systems.

## Applicator Types

Nominal Pipe Size (in.)	Applicator Type		
	Dauber	Brush Width (in.)	Swab Length (in.)
¼	A	½	NR
⅜	A	½	NR
½	A	½	NR
¾	A	1	NR
1	A	1	NR
1¼	A	1	NR
1½	A	1 - 1½	NR
2	A	1 - 1½	NR
2½	NR	1½ - 2	NR
3	NR	1½ - 2½	NR
4	NR	2 - 3	3
6	NR	3 - 5	3
8	NR	4 - 6	7
10	NR	6 - 8	7
12	NR	6 - 8	7
14	NR	7 - 8	7
16	NR	8+	8

A = Acceptable

NR = Not Recommended

**NOTICE:** Rollers are not recommended.

# ChemDrain<sup>®</sup> CPVC Pipe

ChemDrain<sup>®</sup> CPVC Schedule 40 Pipe, Type IV, Grade 1



ASTM F 2618

CPVC SCHEDULE 40 (LIGHT GRAY)			PLAIN END		CPVC 4120	
PART NO.	NOM. SIZE	UPC # 611942-	QTY. PER SKID	AVG. OD (IN.)	MIN. WALL (IN.)	WT. PER 100 FT. (LBS.)
AW 14015	1½" x 10'	10732	1650'	1.900	.145	55.3
AW 14002	2" x 10'	10733	1110'	2.375	.154	74.3
AW 14003	3" x 10'	10734	1130'	3.500	.216	154.2
AW 14004	4" x 10'	10735	670'	4.500	.237	219.6
AW 14006	6" x 10'	10736	330'	6.625	.280	386.1
AW 14008	8" x 10'	11363	180'	8.625	.322	581.1

NOTE: Full skids of pipe are polyethylene wrapped for cleanliness and UV protection.  
NSF Listed. Meets All Requirements of ASTM F 2618.

All products manufactured by Charlotte Pipe and Foundry Company are proudly made in the U.S.A.



## ⚠ WARNING

Testing with or use of compressed air or gas in PVC / ABS / CPVC pipe or fittings can result in explosive failures and cause severe injury or death.

AIR/GAS

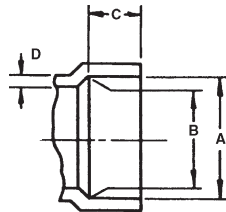


- NEVER test with or transport/store compressed air or gas in PVC / ABS / CPVC pipe or fittings.
- NEVER test PVC / ABS / CPVC pipe or fittings with compressed air or gas, or air over water boosters.
- ONLY use PVC / ABS / CPVC pipe or fittings for water or approved chemicals.
- Refer to warnings on PPFA's website and ASTM D 1785.



# ChemDrain® CPVC Fittings

HUB DIMENSIONS



CPVC

SIZE	A	B	C	D
1½	1.915	1.895	.687	.156
2	2.390	2.370	.750	.156
3	3.520	3.495	1.500	.218
4	4.520	4.495	1.750	.250
6	6.647	6.614	3.000	.281
8	8.655	8.610	4.000	.322

**PART NO. AW 95C**

Transition Coupling - ChemDrain CPVC to Steel, Cast Iron, Plain-end Glass or Any Other Schedule 40 or 80 IPS Size

Plastic or Metallic Pipe  
(300 Series Stainless Steel with Fluoroelastomer Gasket)



SIZE	SHIELD WIDTH	NUMBER OF CLAMPS
1½	2 1/8	2
2	2 1/8	2
3	2 1/8	2
4	2 1/8	2
6	3	4
8	4	4

**PART NO. AW 96C**

Transition Coupling - ChemDrain CPVC to Plain-end High-silicon Iron  
(300 Series Stainless Steel with Fluoroelastomer Gasket)



SIZE	SHIELD WIDTH	NUMBER OF CLAMPS
2	2 1/8	2
3	2 1/8	2
4	2 1/8	2

**PART NO. AW 1C**

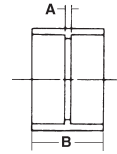
ChemDrain Low-VOC Solvent Cement



**PART NO. AW 100C**

Coupling  
HUB X HUB

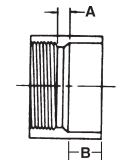
SIZE	A	B
1½	1/8	19/16
2	15/64	1¾
3	3/16	3¾
4	1/4	3¾
6	1/4	6¼
8	1/4	8¼



**PART NO. AW 101C**

Female Adapter  
FPT X HUB

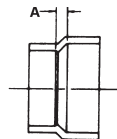
SIZE	A	B
1½	1/4	¾
2	1/4	7/8
3	5/16	1½
4	11/32	1¾
6	1/4	3



**PART NO. AW 102C**

Pipe Increaser-Reducer  
HUB X HUB

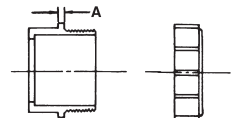
SIZE	A
1½ X 2	17/32
1½ X 3	13/32
2 X 3	7/8
2 X 4	13/8
3 X 4	15/16
3 X 6	2
4 X 6	1¾



**PART NO. AW 103PC**

Trap Adapter-Male  
SPIGOT X SLIP WITH PLASTIC NUT

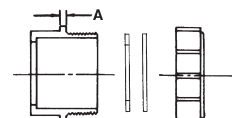
SIZE	A
1½	3/16



**PART NO. AW 103RC**

Trap Adapter-Male  
with 1½" Plastic Nut and Washer  
SPIGOT X SLIP WITH PLASTIC NUT

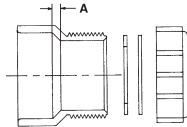
SIZE	A
1½	3/16



**PART NO. AW 104RC**

**Trap Adapter-Female**  
with 1 1/2" Plastic Nut and Washer  
HUB X SLIP WITH PLASTIC NUT

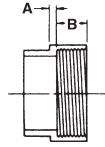
SIZE	A
1 1/2	3/16



**PART NO. AW 105XC**

**Fitting Cleanout Adapter**  
with Cleanout Plug (See AW 106C Dimensions)  
SPIGOT X FPT

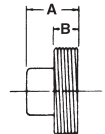
SIZE	A	B
1 1/2	5/32	5/8
2	5/32	5/8
3	7/32	3/4
4	1/4	7/8
6	5/16	1 7/16



**PART NO. AW 106C**

**Cleanout Plug**  
MPT

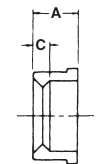
SIZE	A	B
1 1/2	1 3/8	5/8
2	1 3/8	5/8
3	1 3/4	3/4
4	1 7/8	7/8
6	2	1



**PART NO. AW 107C**

**Flush Bushing**  
SPIGOT X HUB

SIZE	A	C
2 x 1 1/2	1 1/16	5/16
3 x 1 1/2	1 3/4	1
3 x 2	1 3/4	7/8
4 x 2	2	1 1/8
4 x 3*	1 51/64	1/4
6 x 3	3 13/32	1 57/64
6 x 4	3 1/2	1 3/4
8 x 4	4 5/8	2 7/8
8 x 6	4 9/16	1 5/8

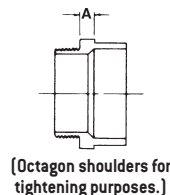


\* 4 x 3 differs slightly in appearance

**PART NO. AW 109C**

**Male Adapter**  
MPT X HUB  
(Note: Not a trap adapter. Will not accept a tail piece.)

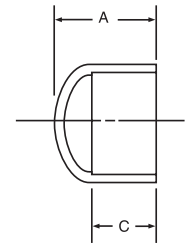
SIZE	A
1 1/2	3/16
2	3/16
3	3/8
4	3/8



**PART NO. AW 116C**

**Cap**  
SOCKET

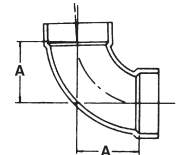
SIZE	A	C
1 1/2	1 15/16	1 5/16
2	2 5/32	1 3/8
3	2 15/16	1 29/32
4	3 1/8	2 1/32



**PART NO. AW 300C**

**1/4 Bend**  
(Sanitary 90° Ell)  
ALL HUB

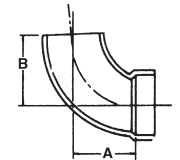
SIZE	A
1 1/2	1 3/4
2	2 5/16
3	3 1/16
4	3 7/8
6	5
8	6



**PART NO. AW 302C**

**1/4 Bend, Street**  
(Sanitary 90° Street Ell)  
SPIGOT X HUB

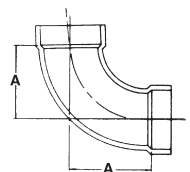
SIZE	A	B
1 1/2	1 3/4	2 1/2
2	2 5/16	3 3/16
3	3 1/16	4 9/16
4	3 7/8	5 5/8
6	5 3/16	8 1/8



**PART NO. AW 304C**

**Long Sweep 1/4 Bend**  
HUB X HUB

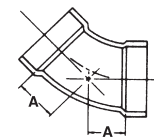
SIZE	A
1 1/2	2 3/4
2	3 1/4
3	4 1/16
4	4 15/16



**PART NO. AW 321C**

**1/8 Bend**  
(45° Ell)  
HUB X HUB

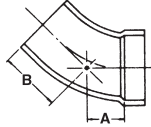
SIZE	A
1 1/2	1 1/8
2	1 1/2
3	1 3/4
4	2 3/16
6	2 1/16
8	2 1/16



**PART NO. AW 323C**

**1/8 Bend, Street**  
(45° Street Ell)  
SPIGOT X HUB

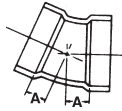
SIZE	A	B
1½	1⅛	1⅞
2	1½	2⅜
3	1¾	3¼
4	2 <sup>3</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>
6	2 <sup>1</sup> / <sub>16</sub>	5 <sup>15</sup> / <sub>64</sub>
8	2	6 <sup>3</sup> / <sub>32</sub>



**PART NO. AW 324C**

**1/16 Bend**  
(22½° Ell)  
HUB X HUB

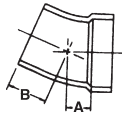
SIZE	A
1½	½
2	1 <sup>1</sup> / <sub>16</sub>
3	1 <sup>3</sup> / <sub>16</sub>
4	1



**PART NO. AW 326C**

**1/16 Bend, Street**  
(22½° Street Ell)  
SPIGOT X HUB

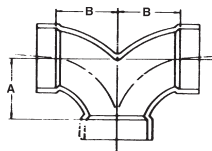
SIZE	A	B
1½	½	1¼
2	1 <sup>1</sup> / <sub>16</sub>	1½
3	1 <sup>3</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>16</sub>
4	1	2¾



**PART NO. AW 327C**

**Double 1/4 Bend**  
ALL HUB

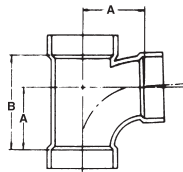
SIZE	A	B
1½	1¾	1¾
2	2 <sup>5</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>16</sub>
3	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>



**PART NO. AW 400C**

**Sanitary Tee**  
ALL HUB

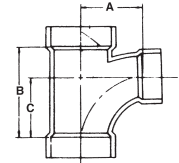
SIZE	A	B
1½	1¾	2¾
2	2 <sup>5</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>
3	3 <sup>1</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>8</sub>
4	3 <sup>7</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>8</sub>
6	5	8½
8	6	10½



**PART NO. AW 401C**

**Sanitary Tee, Reducing**

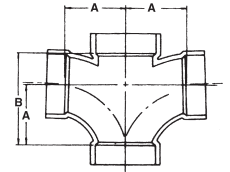
SIZE	ALL HUB		
	A	B	C
2 x 1½ x 1½	2 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>16</sub>
2 x 1½ x 2	2 <sup>5</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>16</sub>
2 x 2 x 1½	2 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>16</sub>
3 x 3 x 1½	2 <sup>9</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	1¾
3 x 3 x 2	2 <sup>7</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>8</sub>
4 x 4 x 2	3 <sup>5</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>
4 x 4 x 3	3 <sup>9</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>4</sub>	3
6 x 6 x 4	4 <sup>27</sup> / <sub>32</sub>	6 <sup>3</sup> / <sub>64</sub>	3 <sup>25</sup> / <sub>32</sub>



**PART NO. AW 428C**

**Double Sanitary Tee**  
(Sanitary Cross)  
ALL HUB

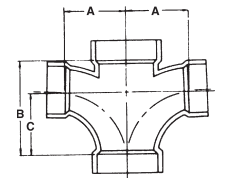
SIZE	A	B
1½	1¾	2¾
2	2 <sup>5</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>
3	3 <sup>1</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>8</sub>
4	3 <sup>7</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>8</sub>



**PART NO. AW 429C**

**Double Sanitary Tee, Reducing**  
(Sanitary Cross)  
ALL HUB

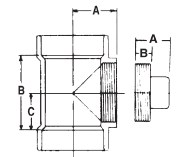
SIZE	A	B	C
2 x 2 x 1½ x 1½	2 <sup>3</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>16</sub>
3 x 3 x 2 x 2	2 <sup>7</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>8</sub>



**PART NO. AW 444XC**

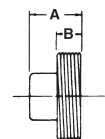
**Cleanout Tee**  
with Cleanout Plug  
HUB X HUB X FPT

SIZE	A	B	C
1½	1 <sup>15</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>
2	2¼	3	1½
3	2 <sup>1</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>16</sub>
4	3 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	2 <sup>9</sup> / <sub>16</sub>
6	4	8	4



**Cleanout Plug**  
MPT

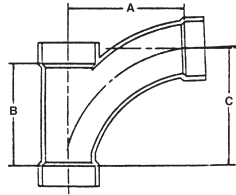
SIZE	A	B
1½	1 <sup>3</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>
2	1 <sup>3</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>
3	1¾	¾
4	1 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>
6	2	1



**PART NO. AW 501C**

**Combination Wye and 1/8 Bend  
(One Piece)  
ALL HUB**

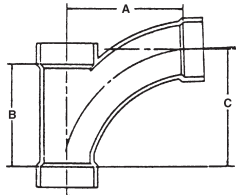
SIZE	A	B	C
1½	3 <sup>5</sup> / <sub>16</sub>	3½	3 <sup>15</sup> / <sub>16</sub>
2	5 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>
3	7 <sup>9</sup> / <sub>16</sub>	6½	7 <sup>9</sup> / <sub>16</sub>
4	10	8½	10



**PART NO. AW 502C**

**Combination Wye and 1/8 Bend,  
Reducing  
(One Piece)  
ALL HUB**

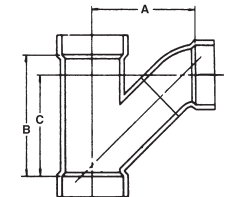
SIZE	A	B	C
2 x 2 x 1½	4 <sup>3</sup> / <sub>16</sub>	3½	3 <sup>15</sup> / <sub>16</sub>
3 x 3 x 1½	4¾	3½	3 <sup>15</sup> / <sub>16</sub>
3 x 3 x 2	5 <sup>11</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>
4 x 4 x 2	6 <sup>1</sup> / <sub>8</sub>	4½	5 <sup>1</sup> / <sub>8</sub>
4 x 4 x 3	8 <sup>1</sup> / <sub>16</sub>	6½	7 <sup>9</sup> / <sub>16</sub>



**PART NO. AW 503C**

**Combination Wye and 1/8 Bend  
ALL HUB**

SIZE	A	B	C
6**	11 <sup>15</sup> / <sub>32</sub>	10 <sup>5</sup> / <sub>32</sub>	11 <sup>9</sup> / <sub>64</sub>
8**	14 <sup>19</sup> / <sub>32</sub>	14 <sup>1</sup> / <sub>32</sub>	14 <sup>23</sup> / <sub>32</sub>

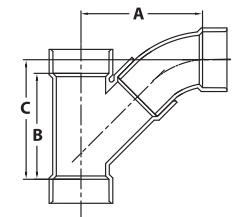


\*\* Two pieces

**PART NO. AW 504C**

**Combination Wye and 1/8 Bend,  
Reducing  
ALL HUB**

SIZE	A	B	C
6 x 6 x 3**	9 <sup>3</sup> / <sub>8</sub>	7 <sup>5</sup> / <sub>64</sub>	7 <sup>19</sup> / <sub>32</sub>
6 x 6 x 4*	8 <sup>15</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>8</sub>	7 <sup>13</sup> / <sub>16</sub>



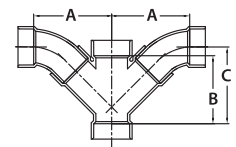
\* One piece short pattern

\*\* Two pieces

**PART NO. AW 507C**

**Double Combination Wye and 1/8 Bend  
ALL HUB**

SIZE	A	B	C
2†	5 <sup>17</sup> / <sub>64</sub>	5 <sup>3</sup> / <sub>8</sub>	4 <sup>27</sup> / <sub>64</sub>
2x2x1½x1½†	4 <sup>5</sup> / <sub>32</sub>	4 <sup>7</sup> / <sub>32</sub>	3 <sup>61</sup> / <sub>64</sub>
3†	6¼	7 <sup>5</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>16</sub>
3x3x2x2†	6 <sup>5</sup> / <sub>64</sub>	5 <sup>5</sup> / <sub>32</sub>	5 <sup>11</sup> / <sub>64</sub>
4†	9 <sup>13</sup> / <sub>32</sub>	8 <sup>3</sup> / <sub>16</sub>	9 <sup>5</sup> / <sub>32</sub>
4x4x2x2†	7 <sup>5</sup> / <sub>16</sub>	5	6
4x4x3x3†	8 <sup>19</sup> / <sub>64</sub>	6 <sup>9</sup> / <sub>16</sub>	7 <sup>19</sup> / <sub>32</sub>

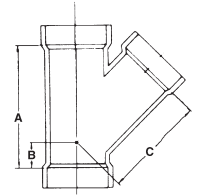


† Three pieces.

**PART NO. AW 600C**

**Wye  
(45° Wye)  
ALL HUB**

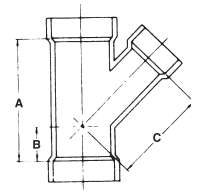
SIZE	A	B	C
1½	4	1 <sup>1</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>
2	5	1 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>
3	6 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	5
4	8¼	1 <sup>7</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>
6	10 <sup>3</sup> / <sub>16</sub>	1¾	8 <sup>7</sup> / <sub>16</sub>
8	14 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	11¾



**PART NO. AW 601C**

**Wye, Reducing  
(45° Wye)  
ALL HUB**

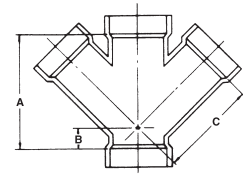
SIZE	A	B	C
2 x 2 x 1½	4½	1	3 <sup>7</sup> / <sub>16</sub>
3 x 3 x 1½	4¼	½	4 <sup>5</sup> / <sub>16</sub>
3 x 3 x 2	5	7 <sup>7</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>
4 x 4 x 2	5 <sup>1</sup> / <sub>16</sub>	¾	5 <sup>9</sup> / <sub>16</sub>
4 x 4 x 3	6 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	6
6 x 6 x 4	6 <sup>7</sup> / <sub>8</sub>	¾	7½
8 x 8 x 4	10½	1	11 <sup>9</sup> / <sub>16</sub>
8 x 8 x 6	10½	1	9 <sup>13</sup> / <sub>16</sub>



**PART NO. AW 611C**

**Double Wye  
(Double 45° Wye)  
ALL HUB**

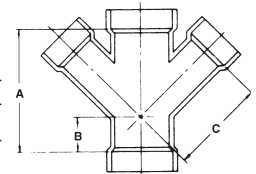
SIZE	A	B	C
1½	4	1 <sup>1</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>
2	5	1 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>
3	6 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	5
4	8¼	1 <sup>7</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>8</sub>
6	10 <sup>3</sup> / <sub>16</sub>	1¾	8 <sup>7</sup> / <sub>16</sub>



**PART NO. AW 612C**

**Double Wye, Reducing  
(Double 45° Wye)  
ALL HUB**

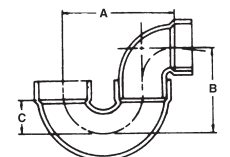
SIZE	A	B	C
2 x 2 x 1½ x 1½	4 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>
3 x 3 x 2 x 2	5	7 <sup>7</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>
4 x 4 x 3 x 3	6 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	6



**PART NO. AW 706XC**

**P-Trap with Solvent Weld Joint  
HUB X HUB**

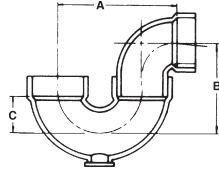
SIZE	A	B	C
1½	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	1¾
2	6 <sup>13</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>
3	8 <sup>15</sup> / <sub>16</sub>	6 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>
4	11 <sup>1</sup> / <sub>16</sub>	8 <sup>7</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>



**PART NO. AW 707XC**

**P-Trap with Cleanout,  
Solvent Weld Joint**  
HUB X HUB

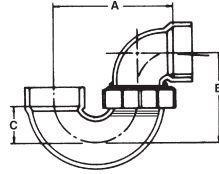
SIZE	A	B	C
1½	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>



**PART NO. AW 708PC**

**P-Trap with Union**  
HUB X HUB WITH PLASTIC NUT

SIZE	A	B	C
1½	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>
2	6 <sup>13</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>

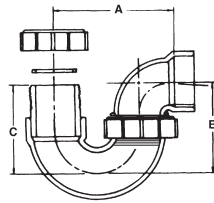


**PART NO. AW 711PC**

**L.A. Pattern P-Trap with Union**  
SLIP X HUB WITH PLASTIC NUTS

SIZE	A	B	C
1½	4 <sup>5</sup> / <sub>8</sub>	3 <sup>15</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>

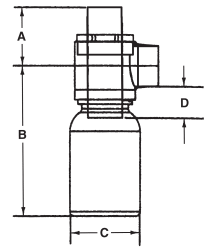
§ Nut is sized to fit tubular sink tailpieces.



**PART NO. AW 712C**

**Jar Trap**  
SLIP X HUB

SIZE	A	B	C	D
1½	3 <sup>1</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>8</sub>	2

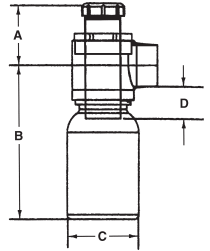


**PART NO. AW 712PC**

**Jar Trap with Tail Piece Adaptor**  
SLIP X HUB WITH PLASTIC NUTS

SIZE	A	B	C	D
1½	3 <sup>5</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>32</sub>	3 <sup>7</sup> / <sub>8</sub>	2

§ Nut is sized to fit tubular sink tailpieces.



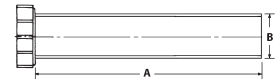
**PART NO. AW 1512PC**

**CPVC Tail Piece with Nut** ‡  
(May be cut to length)

Supplied with a Fluoroelastomer Gasket

SIZE	A	B
1½ x 12	12	1½

‡ Tubular O.D.



## Chemical Resistance

The following table lists the chemical resistance suitability of CPVC ChemDrain thermoplastic piping materials and Fluoroelastomer (FKM), a commonly used seal material. The information shown is based upon laboratory tests conducted by the manufacturers of the materials, and it is intended to provide a general guideline on the resistance of these materials to various chemicals. **NOTICE:** This information is not a guarantee, and any piping systems using products made of these materials should be tested under actual service conditions to determine their suitability for a particular purpose. See website for most current data: [www.charlottepipe.com](http://www.charlottepipe.com).

C = Consult Charlotte Pipe      NR = Not Recommended  
R = Recommended      •• = No Data

	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Acetaldehyde, pure	NR	NR
Acetic Acid	R	R
Acetic Anhydride	R	NR
Acetone, <20%	R	R
Acetone, pure	NR	NR
Acetonitrile, pure	R	NR
Acetyl Chloride	R	R
Acetophenone	NR	NR
Acrylic Acid, pure	R	NR
Acrylonitrile, pure	R	NR
Adipic Acid	R	R
Alcohol, Allyl, pure	R	NR
Alcohol, Amyl, up to 1%	R	R
Alcohol, Amyl, >1%	NR	R
Alcohol, Benzyl	R	R
Alcohol, Butyl (Butanol)	R	R
Alcohol, Diacetone	R	NR
Alcohol, Ethyl (Ethanol)	R	R
Alcohol, Hexyl (Hexanol)	R	R
Alcohol, Isopropyl (Isopropanol)	R	R
Alcohol, Methyl (Methanol)	R	NR
Alcohol, Octyl (1-n-Octanol)	R	R
Alcohol, Propyl (Propanol)	R	R
Allyl Alcohol, pure	R	NR
Allyl Chloride	NR	R
Alum	R	R
Aluminum Acetate	R	NR
Aluminum Chloride	R	R
Aluminum Fluoride	R	R
Aluminum Hydroxide	R	R
Aluminum Nitrate	R	R
Aluminum Sulfate	R	R
Amines	C	NR
Ammonia	R	NR
Ammonium Acetate	R	NR

## CAUTION

The chemical resistance table shown within this manual is for CPVC in a typical laboratory drainage environment. To reduce the risk of system failure, always evaluate the chemical resistance information and project specific factors.

C = Consult Charlotte Pipe      NR = Not Recommended  
R = Recommended      •• = No Data

	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Ammonium Benzoate	R	••
Ammonium Bifluoride	R	R
Ammonium Carbonate	R	R
Ammonium Chloride	R	R
Ammonium Citrate	R	••
Ammonium Dichromate	R	••
Ammonium Fluoride	R	R
Ammonium Hydroxide	R	NR
Ammonium Metaphosphate	R	••
Ammonium Nitrate	R	R
Ammonium Persulfate	R	R
Ammonium Phosphate	R	R
Ammonium Sulfamate	R	NR
Ammonium Sulfate	R	R
Ammonium Sulfide	R	R
Ammonium Thiocyanate	R	R
Ammonium Tartrate	R	••
Amyl Acetate	NR	NR
Amyl Alcohol, up to 1%	R	R
Amyl Alcohol, >1%	NR	R
Amyl Chloride	C	R
Aniline	NR	R
Aniline Hydrochloride	NR	R
Anthraquinone	NR	NR
Anti-Freeze: See Alcohols, Glycols and Glycerin		
Antimony Trichloride, aqueous	R	R
Aqua Regia	R	R
Arsenic Acid	R	R
Aryl Sulfonic Acid	R	••
Asphalt	NR	R
Barium Carbonate	R	R
Barium Chloride	R	R
Barium Hydroxide	R	R
Barium Nitrate	R	R
Barium Sulfate	R	R

See [www.charlottepipe.com](http://www.charlottepipe.com) for most current data.

## Chemical Resistance

The following table lists the chemical resistance suitability of CPVC ChemDrain thermoplastic piping materials and Fluoroelastomer (FKM), a commonly used seal material. The information shown is based upon laboratory tests conducted by the manufacturers of the materials, and it is intended to provide a general guideline on the resistance of these materials to various chemicals. **NOTICE:** This information is not a guarantee, and any piping systems using products made of these materials should be tested under actual service conditions to determine their suitability for a particular purpose. See website for most current data: [www.charlottepipe.com](http://www.charlottepipe.com).

C = Consult Charlotte Pipe      NR = Not Recommended  
 R = Recommended      •• = No Data

	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Barium Sulfide	R	R
Beer	R	R
Beet Sugar Liquors	R	R
Benzaldehyde	NR	NR
Benzene	NR	R
Benzene Sulfonic Acid	R	R
Benzoic Acid, aqueous	R	R
Benzyl Alcohol	R	R
Benzyl Chloride	NR	R
Bismuth Carbonate	R	R
Black Liquor	R	R
Bleach	R	R
Blood	R	R
Borax	R	R
Boric Acid	R	R
Brine Acid	R	••
Bromic Acid	R	••
Bromine, liquid	R	R
Bromine, aqueous	R	R
Bromobenzene	NR	R
Bromotoluene	NR	••
Butanol, pure	R	R
Butyl Acetate	NR	NR
Butyl Carbitol	R	R
Butyl Cellosolve	NR	NR
Butyl Phenol	NR	••
Butyric Acid, >1%	NR	NR
Cadmium Acetate	R	NR
Cadmium Chloride	R	••
Cadmium Cyanide	R	R
Cadmium Sulfate	R	••
Calcium Acetate	R	NR
Calcium Bisulfide	R	R
Calcium Bisulfite	R	R
Calcium Carbonate	R	R

## ⚠ CAUTION

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Calcium Chlorate	R	R
Calcium Chloride	R	R
Calcium Hydroxide	R	R
Calcium Hypochlorite	R	R
Calcium Nitrate	R	R
Calcium Oxide	R	R
Calcium Sulfate	R	R
Cane Sugar Liquors	R	R
Caprolactam, aqueous	R	NR
Caprolactone, aqueous	R	NR
Carbitol	R	R
Carbolic Acid, pure	R	R
Carbon Disulfide	NR	R
Carbon Tetrachloride	NR	R
Carbonic Acid	R	R
Castor Oil	NR	R
Caustic Potash	R	R
Caustic Soda (Sodium Hydroxide)	R	NR
Cellosolve	NR	NR
Cellosolve Acetate	NR	NR
Chloramine, aqueous	R	NR
Chloric Acid	R	••
Chlorine, aqueous	R	R
Chlorine Dioxide, aqueous	R	R
Chloroacetic Acid, pure	R	NR
Chlorobenzene	NR	R
Chloroform	NR	R
Chromic Acid, 40%	R	R
Chromium Nitrate	R	••
Citric Acid	R	R
Citrus Oils	R	••
Coconut Oil	NR	R
Coffee	R	••
Copper Acetate	R	NR
Copper Carbonate	R	R

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## Chemical Resistance

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Copper Chloride	R	R
Copper Cyanide	R	R
Copper Fluoride	R	• •
Copper Nitrate	R	R
Copper Sulfate	R	R
Corn Oil	NR	R
Corn Syrup	R	R
Cottonseed Oil	NR	R
Creosote	NR	R
Cresol	NR	R
Crotonaldehyde	R	NR
Cumene	NR	R
Cupric Fluoride	R	R
Cupric Sulfate	R	R
Cuprous Chloride	R	• •
Cyclohexane	R	R
Cyclohexanol	R	R
Cyclohexanone	R	NR
Decahydronaphthalene	R	• •
Detergents	R	R
Dextrin	R	R
Dextrose	R	R
Diacetone Alcohol	R	NR
Dibutoxyethyl Phthalate	NR	NR
Dibutyl Ether	NR	NR
Dibutyl Phthalate	NR	NR
Dibutyl Sebacate	NR	NR
Dichlorobenzene	NR	R
Dichloroethylene	NR	NR
Diesel Fuel	NR	R
Diethylamine	NR	NR
Diethyl Cellosolve	R	NR
Diethyl Ether	NR	NR
Diglycolic Acid	R	• •
Dill Oil	C	• •

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Dimethyl Phthalate	NR	R
Dimethylamine	NR	NR
Dimethylformamide (DMF)	NR	NR
Dimethylhydrazine	NR	NR
Diocetyl Phthalate	NR	R
Disodium Phosphate	R	R
Dioxane, pure	R	NR
Distilled Water	R	R
Dry Cleaning Fluid	NR	R
EDTA, Tetrasodium Aqueous	R	R
Ethanol, pure	R	R
Ethyl Acetate	R	NR
Ethyl Acetoacetate	R	NR
Ethyl Acrylate	R	NR
Ethyl Benzene	NR	R
Ethyl Chloride	NR	R
Ethyl Chloroacetate	NR	• •
Ethyl Ether	NR	NR
Ethyl Formate	NR	R
Ethyl Mercaptan	NR	R
Ethyl Oxalate	NR	R
Ethylene Bromide	NR	• •
Ethylene Chloride	NR	R
Ethylene Chlorohydrin	NR	R
Ethylene Glycol, <50%	R	R
Ethylene Glycol, >50%	NR	R
Ethylene Oxide	R	NR
Ethylenediamine	R	NR
2-Ethylhexanol	NR	R
Fatty Acids	C	R
Ferric Chloride	R	R
Ferric Hydroxide	R	R
Ferric Nitrate	R	R
Ferric Sulfate	R	R
Ferrous Chloride	R	R

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# Chemical Resistance

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Ferrous Hydroxide	R	R
Ferrous Nitrate	R	R
Ferrous Sulfate	R	R
Fish Oil	C	R
Fluoboric Acid	R	••
Fluosilicic Acid	R	R
Formaldehyde, 35-50% aqueous	R	NR
Formalin (37% to 50% Formaldehyde)	R	NR
Formic Acid, pure	R	NR
Fructose	R	R
Furfural	NR	NR
Gallic Acid, aqueous	R	R
Gasoline	NR	R
Gelatine	R	R
Glucose	R	R
Glycerine	R	R
Glycol, Ethylene, <50%	R	R
Glycol, Ethylene, >50%	NR	R
Glycol, Polyethylene (carbowax)	R	R
Glycol, Polypropylene, >25%	NR	R
Glycol, Propylene, <25%	R	R
Glycol, Propylene, >25%	NR	R
Glycolic Acid	R	••
Glyoxal, aqueous	R	••
Green Liquor	R	••
Halocarbon Oils	NR	••
Heptane	R	R
Hexane	R	R
Hexanol	R	R
Hydrazine	R	NR
Hydrobromic Acid	R	R
Hydrochloric Acid	R	R
Hydrocyanic Acid	R	R
Hydrofluoric Acid	R	NR
Hydrogen Peroxide, 50%	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Hydrogen Sulfide, aqueous	R	NR
Hydroquinone, aqueous	R	R
Hydroxylamine Sulfate	R	••
Hypochlorous Acid	R	R
Iodine	R	R
Isobutyl Alcohol	R	R
Isophorone	NR	NR
Isopropanol, pure	R	R
Isopropyl Acetate	R	NR
Isopropyl Chloride	NR	R
Isopropyl Ether	NR	NR
Kerosene	NR	R
Ketchup	R	R
Kraft Liquors	R	R
Lactic Acid	R	R
Lard Oil	NR	R
Lauryl Chloride	R	R
Lead Acetate	R	NR
Lead Chloride	R	R
Lead Nitrate	R	R
Lead Sulfate	R	R
Lemon Oil	C	R
Ligroin	R	R
Limonene	R	R
Linoleic Acid	C	R
Linseed Oil	C	R
Lithium Bromide	R	R
Lithium Chloride	R	R
Lithium Hydroxide	R	NR
Lithium Sulfate	R	R
Lubricating Oils (Petroleum Based)	R	R
Magnesium Carbonate	R	R
Magnesium Chloride	R	R
Magnesium Citrate	R	R
Magnesium Fluoride	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Magnesium Hydroxide	R	R
Magnesium Nitrate	R	R
Magnesium Oxide	R	R
Magnesium Sulfate	R	R
Maleic Acid	R	R
Malic Acid	R	R
Manganese Sulfate	R	R
Mercuric Chloride	R	R
Mercuric Cyanide	R	R
Mercuric Sulfate	R	R
Mercurous Nitrate	R	R
Mercury	R	R
Methanesulfonic Acid	R	• •
Methanol, up to 10%	R	NR
Methanol	R	NR
Methanol, pure	R	NR
Methyl Acetate, pure	NR	NR
Methyl Cellosolve	NR	NR
Methyl Chloride	NR	R
Methyl Chloroform	NR	R
Methyl Ethyl Ketone	NR	NR
Methyl Formate	NR	NR
Methyl Isobutyl Ketone	NR	NR
Methyl Isopropyl Ketone	NR	NR
Methyl Methacrylate	NR	NR
Methylamine	NR	NR
Methylene Bromide	NR	NR
Methylene Chloride	NR	NR
Methylene Chlorobromide	NR	NR
Methylene Iodide	NR	NR
Mineral Oil	R	R
Molasses	R	R
Monoethanolamine	NR	NR
Morpholine	R	• •
Motor Oil (Petroleum Based)	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Muriatic Acid	R	R
Naphtha	C	R
Naphthalene	NR	R
Nickel Acetate	R	NR
Nickel Chloride	R	R
Nickel Nitrate	R	R
Nickel Sulfate	R	R
Nitric Acid, <30%	R	R
Nitrobenzene	NR	NR
Nitroethane	NR	NR
Nitroglycerine	C	• •
Nitromethane	NR	NR
Nitrous Acid	R	C
Octane	R	R
Octanol	R	R
Oil, Crude	C	R
Oleum	R	R
Olive Oil	C	R
Oxalic Acid	R	R
Ozonated Water	R	NR
Palm Oil	C	R
Paraffin	R	R
Peanut Oil	C	R
Peppermint Oil	C	R
Peracetic Acid	R	• •
Perchloric Acid, 10%	R	R
Perchloroethylene	NR	R
Phenol, pure	R	R
Phenylhydrazine	NR	NR
Phosphate Esters	NR	NR
Phosphoric Acid	R	R
Phosphorus Pentoxide	R	• •
Phosphorus Trichloride	R	R
Photographic Solutions	R	R
Phthalic Acid	NR	NR

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Picric Acid, <10%	R	R
Pine Oil	R	R
Plating Solutions	R	R
POE Oil (Polyolester)	NR	NR
Polyethylene Glycol (carbowax)	R	R
Polyvinyl Alcohol	R	R
Potash	R	R
Potassium Acetate	R	NR
Potassium Bicarbonate	R	R
Potassium Bichromate	R	R
Potassium Bisulfate	R	R
Potassium Borate	R	R
Potassium Bromate	R	R
Potassium Bromide	R	R
Potassium Carbonate	R	R
Potassium Chlorate	R	R
Potassium Chloride	R	R
Potassium Chromate	R	R
Potassium Cyanate	R	R
Potassium Cyanide	R	R
Potassium Dichromate	R	R
Potassium Ferricyanide	R	R
Potassium Ferrocyanide	R	R
Potassium Fluoride	R	R
Potassium Hydroxide	R	NR
Potassium Hypochlorite	R	NR
Potassium Iodide	R	R
Potassium Nitrate	R	R
Potassium Perborate	R	R
Potassium Perchlorate	R	R
Potassium Permanganate	R	R
Potassium Persulfate	R	R
Potassium Phosphate	R	R
Potassium Sulfate	R	R
Potassium Sulfide	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Potassium Sulfite	R	R
Potassium Tripolyphosphate	R	R
Propanol, pure	R	R
Propargyl Alcohol	R	• •
Propionic Acid, >5%	R	R
Propionic Acid, pure	R	NR
Propyl Acetate	NR	NR
Propyl Bromide	NR	NR
Propylene Dichloride	NR	R
Propylene Glycol, <25%	R	R
Propylene Glycol, >25%	NR	R
Propylene Oxide	R	NR
Pyridine	R	NR
Pyrogallol	R	• •
Pyrrole	NR	NR
Reverse Osmosis Water	R	R
Salicylaldehyde	R	• •
Sea Water	R	R
Silicic Acid	R	• •
Silicone Oil	R	R
Silver Chloride	R	• •
Silver Cyanide	R	R
Silver Nitrate	R	R
Silver Sulfate	R	R
Soaps	R	R
Sodium Acetate	R	R
Sodium Aluminate	R	R
Sodium Arsenate	R	R
Sodium Benzoate	R	R
Sodium Bicarbonate	R	R
Sodium Bichromate	R	R
Sodium Bisulfate	R	R
Sodium Bisulfite	R	R
Sodium Borate	R	R
Sodium Bromide	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Sodium Carbonate	R	R
Sodium Chlorate	R	R
Sodium Chloride	R	R
Sodium Chlorite	R	R
Sodium Chromate	R	R
Sodium Cyanide	R	R
Sodium Dichromate	R	R
Sodium Ferricyanide	R	R
Sodium Ferrocyanide	R	R
Sodium Fluoride	R	R
Sodium Formate	R	••
Sodium Hydroxide	R	NR
Sodium Hypobromite	R	••
Sodium Hypochlorite	R	R
Sodium Iodide	R	R
Sodium Metaphosphate	R	R
Sodium Nitrate	R	R
Sodium Nitrite	R	R
Sodium Palmitate	R	••
Sodium Perborate	R	R
Sodium Perchlorate	R	••
Sodium Peroxide	R	R
Sodium Phosphate	R	R
Sodium Silicate	R	R
Sodium Sulfate	R	R
Sodium Sulfide	R	R
Sodium Sulfite	R	R
Sodium Thiosulfate	R	R
Sodium Tripolyphosphate	R	••
Soybean Oil	C	R
Stannic Chloride	R	R
Stannous Chloride	R	R
Stannous Sulfate	R	R
Starch	R	R
Stearic Acid	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
Strontium Chloride	R	••
Styrene Monomer	NR	R
Succinic Acid	R	R
Sugar	R	R
Sulfamic Acid	R	R
Sulfuric Acid	R	R
Sulfurous Acid	R	R
Tall Oil	R	R
Tannic Acid	R	R
Tartaric Acid	R	R
Tetrachloroethylene	NR	R
Tetrahydrofuran	NR	NR
Tetrahydronaphthalene	NR	R
Tetrasodium Pyrophosphate	R	••
Thionyl Chloride	R	R
Toluene	NR	R
Tomato Juice	R	R
Tributyl Citrate	NR	NR
Tributyl Phosphate	NR	NR
Trichloroacetic Acid	R	NR
Trichloroethylene	NR	R
Triethanolamine	R	NR
Triethylamine	R	NR
Trimethyl Propane	R	••
Trisodium Phosphate	R	••
Tung Oil	C	R
Turpentine	C	R
Urea	R	••
Urine	R	••
Vegetable Oils	C	R
Vinegar	R	R
Vinyl Acetate	R	NR
Water	R	R
Water - Deionized	R	R
Whiskey	R	R

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	ChemDrain® CPVC in Laboratory Drainage Service	Fluoroelastomer (FKM) Transition Couplings (AW 95C, AW 96C)
White Liquor	R	R
Wine	R	R
Xylene	NR	R
Zinc Acetate	R	NR
Zinc Carbonate	R	R



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Zinc Chloride	R	R
Zinc Nitrate	R	R
Zinc Sulfate	R	R

## LIMITED WARRANTY

Charlotte Pipe and Foundry Company® (Charlotte Pipe®) Products are warranted to be free from manufacturing defects and to conform to currently applicable ASTM standards for a period of five (5) years from date of delivery. Buyer's remedy for breach of this warranty is limited to replacement of, or credit for, the defective product. This warranty excludes any expense for removal or reinstallation of any defective product and any other incidental, consequential, or punitive damages.

**This limited warranty is the only warranty made by seller and is expressly in lieu of all other warranties, express and implied, including any warranties of merchantability and fitness for a particular purpose.** No statement, conduct or description by Charlotte Pipe or its representative, in addition to or beyond this Limited Warranty, shall constitute a warranty. This Limited Warranty may only be modified in writing signed by an officer of Charlotte Pipe.

This Limited Warranty will not apply if:

This Limited Warranty will not apply if:

- 1) The Products are used for purposes other than their intended purpose as defined by local plumbing and building codes, and the applicable ASTM standard.
- 2) The Products are not installed in good and workmanlike manner consistent with normal industry standards; installed in compliance with the latest instructions published by Charlotte Pipe and good plumbing practices; and installed in conformance with all applicable plumbing, fire and building code requirements.
- 3) This limited warranty does not apply when the products of Charlotte Pipe are used with the products of other manufacturers that do not meet the applicable ASTM or CISPI standards or that are not marked in a manner to indicate the entity that manufactured them.
- 4) In hubless cast iron installations, this warranty will not apply if products are joined with unshielded hubless couplings. Charlotte Pipe requires that its hubless cast iron pipe and fittings be joined only with shielded hubless couplings manufactured in accordance with CISPI 310, ASTM C 1277 and certified by NSF® International or with Heavy Duty Couplings meeting ASTM C 1540.
- 5) The Products fail due to defects or deficiencies in design, engineering, or installation of the piping system of which they are a part.
- 6) The Products have been the subject of modification; misuse; misapplication; improper maintenance or repair; damage caused by the fault or negligence of anyone other than Charlotte Pipe; or any other act or event beyond the control of Charlotte Pipe.

- 7) The Products fail due to the freezing of water in the Products.
- 8) The Products fail due to contact with chemical agents, fire stopping materials, thread sealant, plasticized vinyl products, or other aggressive chemical agents that are not compatible.
- 9) Pipe outlets, sound attenuation systems or other devices are permanently attached to the surface of Charlotte® PVC, ABS or CPVC products with solvent cement or adhesive glue.

Charlotte Pipe products are manufactured to the applicable ASTM or CISPI standard. Charlotte Pipe and Foundry **cannot** accept responsibility for the performance, dimensional accuracy, or compatibility of pipe, fittings, gaskets, or couplings not manufactured or sold by Charlotte Pipe and Foundry.


Any Charlotte Pipe products alleged to be defective **must** be made available to Charlotte Pipe at the following address for verification, inspection and determination of cause:

Charlotte Pipe and Foundry Company  
Attention: Technical Services  
2109 Randolph Road  
Charlotte, North Carolina 28207

**Purchaser must obtain a return materials authorization** and instructions for return shipment to Charlotte Pipe of any product claimed defective or shipped in error.

Any Charlotte Pipe product **proved** to be defective in manufacture will be replaced F.O.B. point of original delivery, or credit will be issued, at the discretion of Charlotte Pipe.


4/24/15



## WARNING

**Testing with or use of compressed air or gas in PVC / ABS / CPVC / Cast Iron pipe or fittings can result in explosive failures and cause severe injury or death.**

**AIR/GAS**



- NEVER test with or transport/store compressed air or gas in PVC / ABS / CPVC / Cast Iron pipe or fittings.
- NEVER test PVC / ABS / CPVC / Cast Iron pipe or fittings with compressed air or gas, or air over water boosters.
- ONLY use PVC / ABS / CPVC / Cast Iron pipe or fittings for water or approved chemicals.
- Refer to warnings on PPFA's website and ASTM D 1785.

PO Box 35430 Charlotte, NC 28235 USA 704/348-6450 800/438-6091 FAX 800/553-1605

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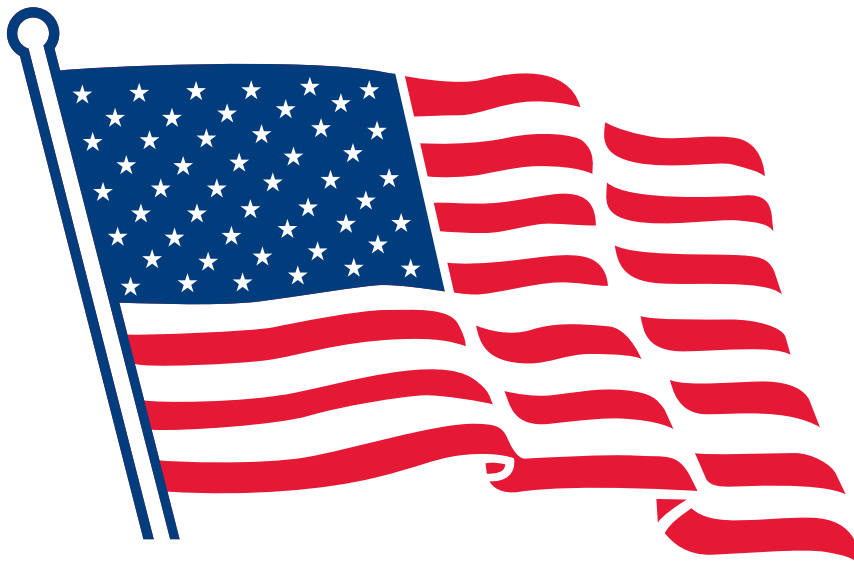
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