SUBMITTAL FOR CHARLOTTE PIPE®
PVC SCHEDULE 40 SOLID WALL PIPE AND PVC DWV FITTING SYSTEM

Date: _____

Job Name: _____ Location: _____

Engineer: _____ Contractor: _____

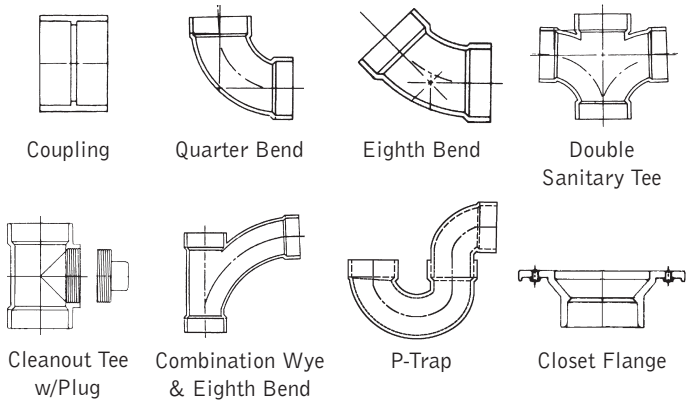
Scope:
This specification covers PVC Schedule 40 solid wall pipe and PVC DWV fittings used in sanitary drain, waste and vent (DWV), sewer and storm drainage applications. This system is intended for use in non-pressure applications where the operating temperature will not exceed 140° F.

Specification:
Pipe shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a cell class of 12454 as identified in ASTM D 1784. PVC Schedule 40 pipe shall be Iron Pipe Size (IPS) conforming to ASTM D 1785 and ASTM D 2665. Injection molded PVC DWV fittings shall conform to ASTM D 2665. Fabricated PVC DWV fittings shall conform to ASTM F 1866. All pipe and fittings shall be manufactured in the United States. All systems shall utilize a separate waste and vent system. Pipe and fittings shall conform to NSF International Standard 14.

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 cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM D 2564. The system shall be protected from chemical agents, fire-stopping materials, thread sealant, plasticized-vinyl products or other aggressive chemical agents not compatible with PVC compounds. The system shall be hydrostatically tested after installation.
WARNING! Never test with or transport/store compressed air or gas in PVC pipe or fittings. Doing so can result in explosive failures and cause severe injury or death.

Referenced Standards:

ASTM D 1784:	Rigid Vinyl Compounds
ASTM D 1785:	PVC Plastic Pipe, Schedule 40
ASTM D 2665:	PVC Drain, Waste and Vent Pipe and Fittings
ASTM D 2564:	Solvent Cements for PVC Pipe and Fittings
ASTM D 2321:	Underground Installation of Thermoplastic Pipe (non-pressure applications)
ASTM F 656:	Primers for PVC Pipe and Fittings
ASTM F 1668:	Procedures for Buried Plastic Pipe
ASTM F 1866:	Fabricated PVC DWV Fittings
NSF Standard 14:	Plastic Piping Components and Related Materials



Not all fitting patterns shown

MADE IN USA

PVC Schedule 40 DWV Pipe

PVC Schedule 40 DWV Pipe

NSF

PVC SCHEDULE 40 (WHITE)		PLAIN END		PVC 1120		ASTM D 2665
PART NO.	NOM. SIZE	UPC # 611942-	QTY. PER SKID	AVG. OD (IN.)	MIN. WALL (IN.)	WT. PER 100 FT. (LBS.)
PVC 7100*	1¼″x10′	03945	2120′	1.660	.140	42.4
PVC 7100*	1¼″x20′	03946	4240′	1.660	.140	42.4
PVC 7112*	1½″x10′	03947	1650′	1.900	.145	51.8
PVC 7112*	1½″x20′	03948	3300′	1.900	.145	51.8
PVC 7200*	2″x10′	03949	1110′	2.375	.154	69.5
PVC 7200*	2″x20′	03950	2220′	2.375	.154	69.5
PVC 7300*	3″x10′	03951	1130′	3.500	.216	144.2
PVC 7300*	3″x20′	03952	1000′	3.500	.216	144.2
PVC 7400†	4″x10′	03953	670′	4.500	.237	205.5
PVC 7400†	4″x20′	03954	1340′	4.500	.237	205.5
PVC 7500†	5″x20′	04837	760′	5.563	.258	272.5
PVC 7600†	6″x10′	03955	330′	6.625	.280	361.2
PVC 7600†	6″x20′	03956	660′	6.625	.280	361.2
PVC 7800†	8″x10′	13087	180′	8.625	.322	543.6
PVC 7800†	8″x20′	03958	360′	8.625	.322	543.6
PVC 7910†	10″x20′	03959	220′	10.750	.365	770.7
PVC 7912†	12″x20′	03961	120′	12.750	.406	1019.0
PVC 7914†	14″x20′	04862	60′	14.000	.437	1205.0
PVC 7916†	16″x20′	04918	60′	16.000	.500	1575.7

*** Dual Marked ASTM D 1785 & ASTM D 2665.**
† Triple Marked ASTM D 1785 & ASTM D 2665 & ASTM F 480.

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

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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

ConnecTite® PUSH-FIT DWV FITTINGS
ASME A112.4.4, IAPMO IGC 334
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

ABS Plus, ChemDrain, and ConnecTite are registered trademarks of Charlotte Pipe and Foundry Company.
FlowGuard Gold is a registered trademark of Lubrizol Corp.

Physical Properties of Charlotte Pipe® ABS and PVC Materials*

PROPERTY	UNITS	ABS	ASTM NO.		PVC	ASTM NO.
Specific Gravity	g/cc	1.05	D 792		1.40	D 792
Tensile Strength (73°F) Minimum	Psi	4,500	D 638		7,000	D 638
Modulus of Elasticity in Tension (73°F) Minimum	Psi	240,000	D 638		400,000	D 638
Flexural Strength (73°F)	Psi	10,585	D 790		14,000	D 790
Izod Impact (notched at 73°F) Minimum	ft lb/ in. of notch	6.00	D 256		0.65	D 256
Hardness (Durometer D)		70	D 2240		80 ± 3	D 2240
Hardness (Rockwell R)		100	D 785		110 - 120	D 785
Compressive Strength (73°F)	Psi	7,000	D 695		9,600	D 695
Hydrostatic Design Stress	Psi	N/A			2,000	D 1598
Coefficient of Linear Expansion	in./ in./ °F	5.5×10^{-5}	D 696		3.0×10^{-5}	D 696
Heat Distortion Temperature at 264 psi Minimum	degrees F	180	D 648		158	D 648
Coefficient of Thermal Conductivity	BTU/ hr/sq ft/ °F/ in.	1.1	C 177		1.2	C 177
Specific Heat	BTU/ °F/lb	0.35	D 2766		0.25	D 2766
Water Absorption (24 hrs at 73°F)	% weight gain	0.40	D 570		.05	D 570
Cell Classification - Pipe		42222	D 3965		12454	D 1784
Cell Classification - Fittings		32222	D 3965		12454	D 1784
Burning Rate					Self Ext.	D 635

*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.

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)
ABS DWV	1½ - 6	ASTM D 2235	Black	Regular or Medium-Bodied	Not Recommended
ABS Plus® Foam Core Pipe	1½ - 4	ASTM D 2235	Black	Regular or Medium-Bodied	Not Recommended
FlowGuard Gold® CTS CPVC	½ - 2	ASTM F 493	Yellow	Regular-Bodied	Optional
CPVC Sch. 80	½ - 2	ASTM F 493	IPS 714 or Oatey CPVC Heavy Duty Orange	Heavy-Bodied	IPS P-70 or Oatey Industrial Grade
CPVC Sch. 80	2½ - 8	ASTM F 493	IPS 714 or Oatey CPVC Heavy Duty Orange	Heavy-Bodied	IPS P-70 or Oatey Industrial Grade
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
PVC DWV or Sch. 40 Pressure	½ - 4	ASTM D 2564	Clear	Regular or Medium-Bodied	Required ASTM F 656
PVC DWV or Sch. 40 Pressure	6 - 16	ASTM D 2564	Clear or Grey	Medium or Heavy-Bodied	Required ASTM F 656
PVC Sch. 80	¼ - 2	ASTM D 2564	Grey	Medium or Heavy-Bodied	Required ASTM F 656
PVC Sch. 80	2½ - 16	ASTM D 2564	Grey	Heavy-Bodied	IPS P-70 or Oatey Industrial Grade

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

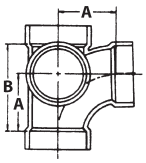
Nominal Pipe Size (in.)	Applicator Type		
	Dauber	Brush Width (in.)	Swab Length (in.)
¼	A	½	NR
⅜	A	½	NR
½	A	½	NR
¾	A	1	NR
1	A	1	NR
1¼	A	1	NR
1½	A	1 - 1½	NR
2	A	1 - 1½	NR
2½	NR	1½ - 2	NR
3	NR	1½ - 2½	NR
4	NR	2 - 3	3
6	NR	3 - 5	3
8	NR	4 - 6	7
10	NR	6 - 8	7
12	NR	6 - 8	7
14	NR	7 - 8	7
16	NR	8+	8

A = Acceptable NR = Not Recommended

NOTICE: Rollers are not recommended.

PART NO. PVC 449

Sanitary Tee with 2″ Left Hand Sanitary Inlet on Center

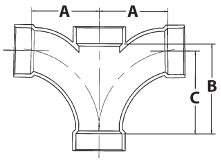


ALL HUB

SIZE	A	B
2 (PVC)	2 5/16	3 11/16

PART NO. 500

Double Fixture Fitting



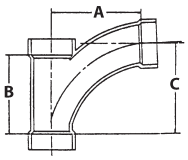
ALL HUB

SIZE	A	B	C
2 (PVC)	3 1/2	4 5/8	4 1/4
2 (ABS)	3 15/32	4 17/32	4 7/32
2 x 1 1/2 x 1 1/2 (PVC)	2 7/8	3 1/2	3 1/8
2 x 1 1/2 x 1 1/2 (ABS)	2 27/32	3 9/16	3 3/32
2 x 1 1/2 x 2 x 2 (ABS)	3 15/32	4 17/32	4 7/32
2 x 2 x 1 1/2 x 1 1/2 (PVC)	2 7/8	3 1/2	3 1/8
2 x 2 x 1 1/2 x 1 1/2 (ABS)	2 27/32	3 13/32	3 1/16
3 (PVC)	4 15/16	6 3/4	6 1/4
3 (ABS)	4 7/8	6 5/8	6 1/8
3 x 2 x 3 x 3 (ABS)	4 7/8	6 5/8	6 1/4

PART NO. 501

Combination Wye & 1/8 Bend

(One Piece)



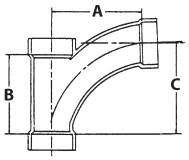
ALL HUB

SIZE	A	B	C
1 1/2 (PVC)	3 15/16	3 1/2	3 15/16
1 1/2 (ABS)	3 7/8	3 1/2	3 13/16
2 (PVC)	5 1/8	4 7/16	5 1/8
2 (ABS)	5 5/32	4 7/16	5
3 (PVC)	7 9/16	6 1/2	7 9/16
3 (ABS)	7 17/32	6 15/32	7 7/16
4 (PVC)	10	8 1/2	10
4 (ABS)	9 31/32	8 15/32	9 27/32

PART NO. 502

Combination Wye & 1/8 Bend, Reducing

(One Piece)



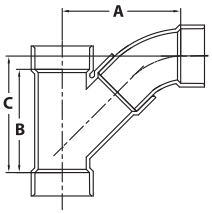
ALL HUB

SIZE	A	B	C
2 x 1 1/2 x 1 1/2 (PVC)	4 3/16	3 1/2	3 15/16
2 x 1 1/2 x 1 1/2 (ABS)	4 1/8	3 17/32	3 3/4
2 x 2 x 1 1/2 (PVC)	4 3/16	3 1/2	3 15/16
2 x 2 x 1 1/2 (ABS)	4 1/8	3 7/16	3 7/8
3 x 3 x 1 1/2	4 3/4	3 1/2	3 15/16
3 x 3 x 2	5 11/16	4 7/16	5 1/8
4 x 4 x 2	6 1/8	4 1/2	5 1/8
4 x 4 x 3 (PVC)	8 1/16	6 1/2	7 9/16
4 x 4 x 3 (ABS)	7 29/32	6 13/32	7 5/16

PART NO. PVC 503

Combination Wye & 1/8 Bend

(Two Pieces)



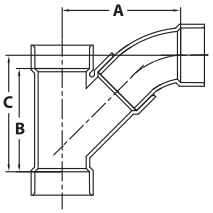
ALL HUB

SIZE	A	B	C
6∞ (PVC)	11 15/32	10 1/8	11 9/64
8∞ (PVC)	14 19/32	14 1/8	14 23/32
10∞ (PVC)	18 1/2	16 1/2	18 1/4
12∞ (PVC)	21 1/2	19 1/2	21 1/2
14(F)∞ (PVC)	36 7/8	32 1/2	37 3/16
16(F)∞ (PVC)	39 1/2	35 1/2	39 13/16

PART NO. PVC 504

Combination Wye & 1/8 Bend, Reducing

(Two Pieces)



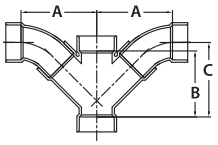
ALL HUB

SIZE	A	B	C
6 x 6 x 3∞ (PVC)	8 7/8	7 1/4	8
6 x 6 x 4(1) (PVC)	8 15/16	7 9/32	7 13/16
8 x 8 x 4∞ (PVC)	11 17/32	10 1/2	10 1/2
8 x 8 x 6∞ (PVC)	12 1/2	10 1/2	11 3/16
10 x 10 x 4§ (PVC)	16 3/16	14 1/4	15 27/64
10 x 10 x 6§ (PVC)	15 31/32	14 1/4	15 9/64
10 x 10 x 8∞ (PVC)	15 7/16	14 1/4	14 25/32
12 x 12 x 4§ (PVC)	16 3/4	13 1/2	15 11/32
12 x 12 x 6§ (PVC)	16 7/16	13 1/2	15 5/64
12 x 12 x 8∞ (PVC)	16 3/32	13 17/32	14 5/8
12 x 12 x 10∞ (PVC)	19 15/32	17 1/16	18 3/16
14 x 14 x 4(F)∞ (PVC)	15 47/64	12 31/32	11 31/32
14 x 14 x 6(F)∞ (PVC)	17 7/32	15 21/32	15 19/64
14 x 14 x 8(F)∞ (PVC)	18 21/32	18 1/8	18 1/2
14 x 14 x 10(F)∞ (PVC)	22 1/2	20 3/4	22 1/4
14 x 14 x 12(F)∞ (PVC)	21 3/16	25 1/2	26 3/8
16 x 16 x 4(F)∞ (PVC)	16 1/2	12 9/16	12 7/8
16 x 16 x 6(F)∞ (PVC)	18 5/8	15 41/64	15 3/16
16 x 16 x 8(F)∞ (PVC)	19 11/16	18 5/8	19 3/16
16 x 16 x 10(F)∞ (PVC)	23 1/4	23	22 15/16
16 x 16 x 12(F)∞ (PVC)	26 3/16	27 3/16	27 13/16
16 x 16 x 14(F)∞ (PVC)	37 1/8	27 13/16	33 1/4

PART NO. PVC 507

Double Combination Wye & 1/8 Bend

(Three Pieces or Five Pieces)



ALL HUB

SIZE	A	B	C
4 (PVC)	9 13/32	8 1/4	9 5/32
2 x 2 x 1 1/2 x 1 1/2 (PVC)	4 7/8	4 3/8	4 15/16
3 x 3 x 2 x 2 (PVC)	6 5/64	4 15/16	5 11/64
4 x 4 x 2 x 2 (PVC)	7 5/16	5	6
4 x 4 x 3 x 3 (PVC)	8 19/64	6 5/8	7 19/32
6 x 6 x 4 x 4§ (PVC)	11 21/32	10 1/8	10 3/16

(1) One piece short pattern
(F) Fabricated
§ Fitting shipped with any required bushing(s) installed, street bend strapped to fitting; assembled from molded components.
∞ Fitting shipped with street bend strapped to fitting.

Note: If PVC or ABS is not listed for a specific size, that size fitting is available in PVC and ABS materials, and the dimensions listed are the same for both materials.