

Schedule 80 CPVC Technical Information  
Schedule 80 CPVC Fittings



ASTM STANDARD DIMENSIONS

**SCHEDULE 80 PIPE DIMENSIONS  
ASTM D 1785**

Nominal Pipe Size In.	Mean Outside Diameter In.	O. D. Tolerance In.	Minimum Wall Thickness In.
1/8	0.405	± 0.004	0.095
1/4	0.540	± 0.004	0.119
3/8	0.675	± 0.004	0.126
1/2	0.840	± 0.004	0.147
3/4	1.050	± 0.004	0.154
1	1.315	± 0.005	0.179
1-1/4	1.660	± 0.005	0.191
1-1/2	1.900	± 0.006	0.200
2	2.375	± 0.006	0.218
2-1/2	2.875	± 0.007	0.276
3	3.500	± 0.008	0.300
4	4.500	± 0.009	0.337
5	5.563	± 0.010	0.375
6	6.625	± 0.011	0.432
8	8.625	± 0.015	0.500
10	10.750	± 0.015	0.593
12	12.750	± 0.015	0.687

**SCHEDULE 80 SOCKET DIMENSIONS  
ASTM D 2467**

Nominal Size In.	Diameter			Socket Length Minimum C
	Entrance A	Bottom B	Tolerance A	
1/8	0.417	0.401	± 0.004	0.500
1/4	0.552	0.536	± 0.004	0.625
3/8	0.687	0.671	± 0.004	0.750
1/2	0.848	0.836	± 0.004	0.875
3/4	1.058	1.046	± 0.004	1.000
1	1.325	1.310	± 0.005	1.125
1-1/4	1.670	1.655	± 0.005	1.250
1-1/2	1.912	1.894	± 0.006	1.375
2	2.387	2.369	± 0.006	1.500
2-1/2	2.889	2.868	± 0.007	1.750
3	3.516	3.492	± 0.008	1.875
4	4.518	4.491	± 0.009	2.250
5	5.583	5.553	± 0.010	2.625
6	6.647	6.614	± 0.011	3.000
8	8.655	8.610	± 0.015	4.000
10	10.780	10.735	± 0.015	5.000
12	12.780	12.735	± 0.015	6.000
14	14.030	13.985	± 0.015	7.000

**AMERICAN NATIONAL STANDARD  
TAPER PIPE THREADS (NPT) ANSI  
B1 .20.1 ASTM F 1498**

Nominal Size In.	Threads Per Inch	Effective Thread Length L	Pitch Of Thread P
1/8	27	0.2639	0.03704
1/4	18	0.4018	0.05556
3/8	18	0.4078	0.05556
1/2	14	0.5337	0.07143
3/4	14	0.5457	0.07143
1	11-1/2	0.6828	0.08696
1-1/4	11-1/2	0.7068	0.08696
1-1/2	11-1/2	0.7235	0.08696
2	11-1/2	0.7565	0.08696
2-1/2	8	1.1375	0.12500
3	8	1.2000	0.12500
4	8	1.3000	0.12500
5	8	1.4063	0.12500
6	8	1.5125	0.12500
8	8	1.7125	0.12500

STANDARD COMPARISONS

SPEARS® IPS-to-Metric transition unions are listed by nominal size. The chart below compares nominal and actual\* pipe O.D. for each size according to the designated standard.

JIS K6741 (mm)		DIN 8062 (mm)		ASTM D1785 (in.)		NPT—ANSI B1.20.1** Tapered Thread		BSP—BS21, DIN 2999, ISO 7/1 Thread	
Nominal	Actual*	O.D.	Actual*	Nominal	Actual*	Designation	Threads/in.	Designation	Threads/25.4mm
16	22	15	20	1/2	.840	1/2	14	1/2	14
20	26	20	25	3/4	1.050	3/4	14	3/4	14
25	32	25	32	1	1.315	1	11.5	1	11
30	38	38	40	1-1/4	1.660	1-1/4	11.5	1-1/4	11
40	48	40	50	1-1/2	1.900	1-1/2	11.5	1-1/2	11
50	60	50	63	2	2.375	2	11.5	2	11
75	89	80	90	3	3.500	3	8	3	11
100	114	100	110	4	4.500	4	8	4	11

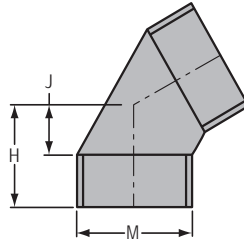
\*Specified dimension, certain tolerances apply

\*\*NPT and BSP have different thread angles and not compatible.

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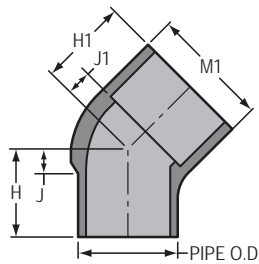


**60° ELBOW**  
 Socket x Socket



Part Number	Size	H	J	M	Approx. Wt. (Lbs.)
824-005CF	1/2	1-5/8	5/8	1-1/8	.14
824-007CF	3/4	1-11/16	11/16	1-3/8	.09
824-010CF	1	2	3/4	1-11/16	.34
824-012CF	1-1/4	2-1/2	1	2-1/16	.69
824-015CF	1-1/2	2-5/8	1-1/8	1-3/8	.37
824-020CF	2	3	1-1/4	2-13/16	.59
824-025CF	2-1/2	3-9/16	1-9/16	3-7/16	.95
824-030CF	3	4	1-3/4	4-1/8	1.34
824-040CF	4	4-5/16	2-1/16	5-3/16	5.10
824-050CF	5	5-3/8	2-3/8	6-5/16	7.39
824-060CF	6	6-1/8	2-7/8	7-1/2	10.87
824-080CF	8	7-3/4	3-1/2	9-5/8	19.49
824-100CF	10	9-11/16	4-7/16	11-15/16	36.34
824-120CF	12	11-5/16	5-1/16	14-1/8	63.05
824-140CF	14	12-15/16	5-15/16	15-1/2	88.90
824-160CF	16	14-13/16	6-13/16	17-11/16	126.09
824-180CF	18	16-3/4	7-3/4	19-7/8	175.82
824-200CF	20	26-5/8	16-5/8	22-1/16	247.63
824-240CF	24	32-1/8	20-1/8	26-7/16	362.00

**45° STREET ELBOW**  
 Spigot x Socket



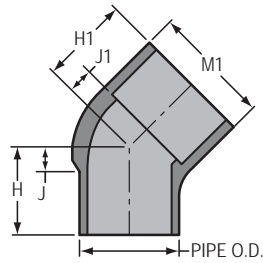
Part Number	Size	H	H1	J	J1	M1	Approx. Wt. (Lbs.)
827-005C	1/2	1-9/32	1-5/16	11/32	7/16	1-3/16	.06
827-007C	3/4	1-1/2	1-1/2	7/16	1/2	1-13/32	.10
827-010C	1	1-25/32	1-1/2	19/32	3/8	1-3/4	.16
827-012C	1-1/4	2	1-23/32	5/8	15/32	2-3/32	.24
827-015C	1-1/2	2-1/32	2-1/8	19/32	25/32	2-11/32	.32
827-020C	2	2-5/16	2-11/32	11/16	3/8	2-27/32	.47
827-025C	2-1/2	3-11/16	2-9/16	1-11/16	13/16	3-1/2	1.29
827-030C	3	3-1/4	2-13/16	1-3/16	29/32	4-5/32	1.25
827-040C	4	3-13/16	3-13/16	1-9/32	1-9/16	5-1/4	2.20
827-060C	6	5-3/32	4-25/32	2-1/16	2-1/16	7-19/32	5.91
827-080C	8	6-5/8	5-31/32	2-19/32	1-3/4	9-3/4	10.51



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**45° STREET ELBOW (continued)**

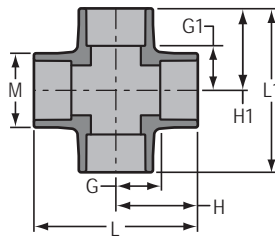
Spigot x Socket



Part Number	Size	H	H1	J	J1	M1	Approx. Wt. (Lbs.)
827-100C	10	10-21/32	8-3/16	2-19/32	5-5/16	12-3/16	26.59
827-120C	12	13-1/4	9-11/16	6-3/8	3-3/32	14-13/32	46.00
827-140CF	14	11-9/16	11-9/16	4-9/16	4-9/16	15-1/2	70.37
827-160CF	16	18-5/16	13-5/16	9-5/16	5-5/16	17-11/16	90.40
827-180CF	18	20-1/2	15	10-1/2	6	19-7/8	131.12
827-200CF	20	22-3/4	16-3/4	11-3/4	6-3/4	22-1/16	153.18
827-240CF	24	27-3/16	20-3/16	14-3/16	8-3/16	26-7/16	---

**CROSS**

Socket x Socket x Socket x Socket



Part Number	Size	G	G1	H	H1	L	L1	M	Approx. Wt. (Lbs.)
820-002C	1/4	13/32	13/32	1-1/32	1-1/32	2-1/16	2-1/16	27/32	.05
820-005C	1/2	9/16	9/16	1-15/32	1-15/32	2-15/16	2-15/16	1-3/16	.13
820-007C	3/4	5/8	5/8	1-5/8	1-5/8	3-9/32	3-9/32	1-13/32	.21
820-010C	1	31/32	31/32	2-3/32	2-3/32	4-7/32	4-7/32	1-23/32	.46
820-012C	1-1/4	1-3/32	1-3/32	2-3/8	2-3/8	4-3/4	4-3/4	2-1/8	.65
820-015C	1-1/2	1-1/4	1-1/4	2-5/8	2-5/8	5-1/4	5-1/4	2-3/8	.81
820-020C	2	1-1/2	1-1/2	3	3	6	6	3	1.38
820-025C	2-1/2	1-11/16	1-11/16	3-15/32	3-15/32	6-29/32	6-29/32	3-17/32	2.11
820-030C	3	2-3/32	2-3/32	3-31/32	3-31/32	7-15/16	7-15/16	4-11/32	3.39
820-040C	4	2-5/8	2-5/8	4-7/8	4-7/8	9-3/4	9-3/4	5-11/32	5.30
820-050CF	5	5-1/2	5-1/2	8-1/2	8-1/2	17	17	6-5/16	15.06
820-060CF	6	6-1/4	6-1/4	9-1/2	9-1/2	19	19	7-1/2	16.94
820-080CF	8	7-5/8	7-5/8	11-7/8	11-7/8	23-3/4	23-3/4	9-5/8	40.50
820-100CF	10	9	9	14-1/4	14-1/4	28-1/2	28-1/2	11-15/16	67.20
820-120CF	12	11-1/4	11-1/4	17-1/2	17-1/2	35	35	14-1/8	107.80
820-140CF	14	12-1/4	12-1/4	19-1/4	19-1/4	38-1/2	38-1/2	15-1/2	148.16
820-160CF	16	13	13	21	21	42	42	17-11/16	180.80
820-180CF	18	13-3/4	13-3/4	22-3/4	22-3/4	45-1/2	45-1/2	19-7/8	198.00
820-200CF	20	16-3/8	16-3/8	26-3/8	26-3/8	52-3/4	52-3/4	22-1/16	249.75
820-240CF	24	20-1/4	20-1/4	32-1/4	32-1/4	64-1/2	64-1/2	26-7/16	355.98