CPVC and PVC Pipe Groove Specifications Standard Radius Cut Grooving Specifications



— B →

— A —

For Schedule 40 or Schedule 80 CPVC and PVC plastic pipe¹⁻²

15° Max. Exaggerated for Clarity									
1		2	3	4		5	6	7	
	Size		Dimensions						
Actual Outside Diameter			Groove Diameter C						
Nominal	Basic	Tolerance (+/-)	Gasket Seat A ±0.03 ±0.79	Groove Width B ±0.03 ±0.79	Basic	Tolerance +0.000	Groove Depth D	Groove Radius R	
inches	inches	inches	inches	inches	inches	inches	inches	inches	
mm	mm	mm	mm	mm	mm	mm	mm	mm	
³ ⁄ ₄	1.050	0.004	0.625	0.312	0.938	-0.015	0.056	0.078	
20	26.7	0.10	15.9	7.9	23.8	-0.38	1.4	2.0	
1	1.315	0.005 0.13	0.625	0.312	1.190	-0.015	0.062	0.078	
25	33.7		15.9	7.9	30.2	-0.38	1.6	2.0	
1 ¼	1.660	0.005	0.625	0.312	1.535	-0.015	0.062	0.078	
32	42.4	0.13	15.9	7.9	39.0	-0.38	1.6	2.0	
1½ 40	1.900 48.3	0.006 0.15	0.625	0.312 7.9	1.775 45.1	-0.015 -0.38	0.062	0.078	
2	2.375	0.006	0.625	0.344	2.250	-0.015	0.062	0.078	
50	60.3	0.15	15.9	8.7	57.2	-0.38		2.0	
2½	2.875	0.007	0.625	0.344	2.720	-0.018	0.078	0.078	
65	73.0	0.18	15.9	8.7	69.1	-0.46	2.0	2.0	
3 80	3.500 88.9	0.008 0.20	0.625 15.9	0.344 8.7	3.344 84.9	-0.018 -0.46	0.078 2.0	0.078 2.0	
4	4.500	0.009	0.625	0.344	4.334	-0.020	0.083	0.078	
100	114.3	0.20	15.9	8.7	110.1	-0.51	2.1	2.0	
5 125	5.563 141.3	0.010 0.25	0.625 15.9	0.344 8.7	5.395 137.03	-0.022 -0.56	0.083	0.078 2.0	
6	6.625	0.011	0.625	0.344	6.455	-0.022	0.085	0.078	
150	168.3	0.28	15.9	8.7	164.0	-0.56	2.2	2.0	
8	8.625	0.015	0.750	0.469	8.441	-0.025	0.092	0.078 2.0	
200	219.1	0.38	19.1	11.9	214.4	-0.64	2.3		
10	10.750	0.015	0.750	0.469	10.562	-0.027	0.094	0.078	
250	273.0	0.38	19.1	11.9	268.2	-0.69	2.4	2.0	
12	12.750	0.015	0.750	0.469	12.531	-0.030	0.109	0.078	
300	323.9	0.38	19.1	11.9	318.2	-0.76	2.8	2.0	
14	14.000	0.015	0.938	0.500	13.781	-0.030	0.109	0.078	
350	355.6	0.38	23.8	12.7	350.0	-0.76	2.8	2.0	
16	16.000	0.019	0.938	0.500	15.781	-0.030	0.109	0.078	
400	406.4	0.48	23.8	12.7	400.8	-0.76	2.8	2.0	

NOTES

COLUMN 1 – Nominal pipe size.

COLUMN 2 – IPS outside diameter. The nominal outside diameter of grooved pipe shall not vary more than the tolerance listed. Maximum allowable tolerance from square cut ends is 0.030° (0.8 mm) for sizes $\frac{3}{4} - 3\frac{1}{2}^{\circ}$ (20 – 90 mm); 0.045° (1.1 mm) for sizes $4 - 6^{\circ}$ (100 – 150 mm); and 0.060° (1.5 mm) for sizes 8° (200 mm) and above. Measured from true square line.

COLUMN 3 – Gasket seat. The pipe shall be free from indentations, projections and/or grooving tool marks from the end of the pipe to the groove to provide a leak tight seat for the gasket. It is acceptable to groove and join pipe with chamfers up to 15°. Pipe end chamfers greater than 15° are not recommended for use with Victaulic grooved mechanical couplings.

COLUMN 4 – Groove width. (Prior to August 2016, the 2 – 3" groove width was 0.312"; the 4 – 6" groove width was 0.375"; the 8" groove width was 0.437"; and the 10 – 12" groove width was 0.500". Continued use of prior groove widths will not effect the pipe joint performance with Victaulic grooved mechanical couplings.) COLUMN 5 – Groove diameter. The groove must be uniform depth for the entire pipe circumference. The "C" diameter must be maintained. COLUMN 6 – Groove depth. Reference only. GROOVE MUST CONFORM TO "C" DIAMETER SHOWN.

COLUMN 7 – Groove radius. The radius necessary at the bottom of the groove to eliminate point loaded stress concentrations.

¹ CPVC pipe manufactured to ASTM F441 with material confirming to Type IV, Grade 1 CPVC compound with a cell classification of 23447 or 24448 per ASTM D1784.

² PVC plastic pipe – Based on modified PVC plastic pipe conforming to ASTM D1785-70, Type I, Grade I-PVC 1120 or Grade II-PVC 1220 at a maximum operating temperature of +75°F/+24°C. For other types of PVC pipe and other operating temperatures, contact Victaulic.

System No.	Location	Spec Section	Paragraph
Submitted By	Date	Approved	Date

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