

Pressure Ratings, End Loads and Performance Data

DUCTILE IRON GROOVED END COUPLING PERFORMANCE ON PVC PIPE



Style 77 Flexible Coupling



Style 75 Standard Coupling



Style 741 Vic-Flange® Adapter

Pipe Inches/millimeters					Style 77 Maximum		Style 75 Maximum		Style 741 Maximum	
Nominal Outside Diameter	Actual Outside Diameter	Wall Thickness	Sched.	R = Roll C = Cut	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N
3/4 20	1.050 26,9	0.154 3,91	80	R/C	550 3790	475 2115	NOT APPLICABLE			
		0.113 2,87	40	R/C	350 2410	305 1355				
1 25	1.315 33,7	0.179 4,55	80	R/C	550 3790	745 3315	NOT APPLICABLE			
		0.133 3,38	40	R/C	350 2410	475 2115				
1 1/4 32	1.660 42,4	0.191 4,85	80	R/C	450 3100	970 4315	NOT APPLICABLE			
		0.140 3,56	40	R/C	290 2000	625 2780				
1 1/2 40	1.900 48,3	0.200 5,08	80	R/C	410 2825	1,165 5185	410 2825	1165 5185	NOT APPLICABLE	
		0.145 3,68	40	R/C	260 1790	736 3270	260 1790	736 3270		
2 50	2.375 60,3	0.218 5,54	80	R/C	350 2410	1550 6900	350 2410	1550 6900	250 1725	1105 4915
		0.154 3,91	40	R/C	250 1725	1110 4940	250 1725	1110 4940	250 1725	1110 4940
2 1/2 65	2.875 73,0	0.276 7,01	80	R/C	350 2410	2,270 1100	350 2410	2270 10100	250 1725	1620 7210
		0.203 5,16	40	R/C	250 1725	1620 7210	250 1725	1620 7210	250 1725	1620 7210
76,1 mm	3.000 76,1	0.250 6,35	–	R/C	300 2065	2120 9435	300 2065	2120 9435	250 1725	1765 7855
		0.200 5,08	–	R/C	230 1585	1625 7230	230 1585	1625 7230	230 1585	1625 7230
3 80	3.500 88,9	0.300 7,62	80	R/C	300 2065	2885 12840	300 2065	2885 12840	250 1725	2400 10680
		0.216 5,49	40	R/C	230 1585	2215 9855	230 1585	2215 9855	230 1585	2215 9855
3 1/2 90	4.000 101,6	0.318 8,08	80	R/C	240 1655	3015 13415	240 1655	3015 13415	NOT APPLICABLE	
		0.226 5,74	40	R/C	200 1375	2510 11170	200 1375	2510 11170		
4 100	4.500 114,3	0.337 8,56	80	R/C	240 1655	3815 16975	240 1655	3815 16975	240 1655	3815 16975
		0.237 6,02	40	R/C	200 1375	3180 14150	200 1375	3180 14150	200 1375	3180 14150
4 1/2	5.000 127,0	0.247 6,27	–	R/C	NOT APPLICABLE		140 965	2745 12215	NOT APPLICABLE	
5 125	5.563 141,3	0.375 9,53	80	R/C	160 1100	3885 17290	160 1100	3885 17290	160 1100	3885 17290
		0.258 6,55	40	R/C	140 965	3400 15130	140 965	3400 15130	140 965	3400 15130
139,7 mm	5.500 139,7	0.250 6,35	–	R/C	140 965	3315 14750	140 965	3315 14750	NOT APPLICABLE	

Table continued on page 2.

Refer to notes on page 2.



Style 77 Flexible Coupling



Style 75 Standard Coupling



Style 741 Vic-Flange® Adapter

Pipe Inches/millimeters					Style 77		Style 75		Style 741	
					Maximum		Maximum		Maximum	
Nominal Outside Diameter	Actual Outside Diameter	Wall Thickness	Sched.	R = Roll C = Cut	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N
152,4 mm	6.000 152,4	0.250 6,35	–	R/C	NOT APPLICABLE		140 965	3,960 17620	NOT APPLICABLE	
6 150	6.625 168,3	0.432 10,97	80	R/C	160 1100	5,520 24565	160 1100	5,520 24565	160 1100	5,520 24565
		0.280 7,11	40	R/C	140 965	4,830 21495	140 965	4,830 21495	140 965	4,830 21495
165,1 mm	6.500 165,1	0.250 6,35	–	R/C	140 965	4,645 20670	140 965	4,645 20670	140 965	4,645 20670
203,2 mm	8.000 203,2	0.250 6,35	–	R/C	NOT APPLICABLE		120 825	6,035 26855	NOT APPLICABLE	
8 200	8.625 219,1	0.322 8,18	40	R/C	120 825	7,010 31195	120 825	7,010 31195	120 825	7,010 31195
254,0 mm	10.000 254,0	0.250 6,35	40	R/C	NOT APPLICABLE		120 825	9,420 41920	NOT APPLICABLE	
10 250	10.750 273,0	0.365 9,27	40	R/C	100 690	9,080 40405	NOT APPLICABLE		100 690	9,080 40405
304,8 mm	12.000 304,8	0.250 6,35	–	R/C	NOT APPLICABLE		120 825	13,560 60342	NOT APPLICABLE	
12 300	12.750 323,9	0.375 9,53	STD	R/C	80 550	10,240 45570	NOT APPLICABLE		80 550	10,240 45570
14 350	14.000 355,6	0.375 9,53	30	R/C	60 415	9,240 41120	NOT APPLICABLE		NOT APPLICABLE	
16 400	16.000 406,4	0.375 9,53	30	R/C	50 345	10,050 44720	NOT APPLICABLE		50 345	10,050 44720

Refer to notes below.

NOTES

* Maximum working pressure and end load rating depend upon type/class of pipe, pressure/temperature, groove style and other factors. Contact Victaulic for details. PVC Plastic Pipe – ratings based on modified PVC plastic pipe conforming to ASTM-D-1785-70, Type I, Grade I-PVC 1120 or Grade II-PVC 1220, at operating temperatures of +75°F (24°C) maximum.

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1½ times the figures shown.

† Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for standard **roll** grooved pipe. Figures for standard **cut** grooved pipe may be doubled. These figures are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾ - 3½" (20 - 90 mm); 25% for 4" (100 mm) and larger.

@ Number of bolts required equals number of housing segments.

‡ Metric thread size bolts are available (color coded gold) for all coupling sizes upon request. Contact Victaulic for details.

Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.

This product shall be manufactured by Victaulic Company. All products shall be installed in accordance with current Victaulic installation/assembly instructions.

Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.



Style 78 Snap-Joint® Coupling

Style 791 Vic-Boltless® Coupling

Style 743 Vic-Flange® Adapter

Style HP-70 Rigid Coupling

Pipe Inches/millimeters					Style 78		Style 791		Style 743		Style HP-70	
					Maximum		Maximum		Maximum		Maximum	
Nominal Outside Diameter	Actual Outside Diameter	Wall Thickness	Sched.	R = Roll C = Cut	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N	Work. * Press. PSI/kPa	End * Load Lbs./N
1 25	1.315 33,7	0.179 4,55	80	R/C	300 2065	410 1825	NOT APPLICABLE					
		0.133 3,38	40	R/C	300 2065	410 1825						
1 1/4 32	1.660 42,4	0.191 4,85	80	R/C	300 2065	650 2890	NOT APPLICABLE					
		0.140 3,56	40	R/C	290 2000	625 2780						
1 1/2 40	1.900 48,3	0.200 5,08	80	R/C	300 2065	850 3780	NOT APPLICABLE					
		0.145 3,68	40	R/C	260 1790	735 3270						
2 50	2.375 60,3	0.218 5,54	80	R/C	300 2065	1,330 6920	350 2410	1,550 6895	300 2065	1,330 6920	350 2410	1,550 6895
		0.154 3,91	40	R/C	250 1725	1,105 4915	250 1725	1,110 4940	300 2065	1,330 6920	250 1725	1,110 4940
2 1/2 65	2.875 73,0	0.276 7,01	80	R/C	300 2065	1,950 8680	350 2410	2,270 10100	300 2065	1,950 8680	350 2410	2,270 10100
		0.203 5,16	40	R/C	250 1725	1,620 7210	250 1725	1,620 7210	260 1790	1,690 7520	250 1725	1,620 7210
76,1 mm	3.000 76,1	0.250 6,35	–	R/C	300 2065	2,120 9435	NOT APPLICABLE					
		0.200 5,08	–	R/C	230 1585	1,625 7230						
3 80	3.500 88,9	0.300 7,62	80	R/C	300 2065	2,885 12840	300 2065	2,885 12840	300 2065	2,885 12840	300 2065	2,885 12840
		0.216 5,49	40	R/C	230 1585	2,215 9855	230 1585	2,215 9855	230 1585	2,215 9855	230 1585	2,215 9855
4 100	4.500 114,3	0.337 8,56	80	R/C	240 1655	3,815 16975	240 1655	3,815 16975	240 1655	3,815 16975	240 1655	3,815 16975
		0.237 6,02	40	R/C	200 1375	3,180 14150	200 1375	3,180 14150	200 1375	3,180 14150	200 1375	3,180 14150
5 125	5.563 141,3	0.375 9,53	80	R/C	160 1105	3,885 17290	NOT APPLICABLE		160 1105	3,885 17290	NOT APPLICABLE	
		0.258 6,55	40	R/C	140 965	3,400 15130			140 965	3,400 15130		
6 150	6.625 168,3	0.432 10,97	80	R/C	160 1105	5,520 24565	160 1105	5,520 24565	160 1105	5,520 24565	160 1105	5,520 24565
		0.280 7,11	40	R/C	140 965	4,830 21495	140 965	4,830 21495	140 965	4,830 21495	140 965	4,830 21495
165,1 mm	6.500 165,1	0.250 6,35	–	R/C	140 965	4,645 20670	NOT APPLICABLE					
8 200	8.625 219,1	0.322 8,18	40	R/C	120 825	7,010 31195	120 825	7,010 31195	120 825	7,010 31195	120 825	7,010 31195
10 250	10.750 273,0	0.365 9,27	40	R/C	NOT APPLICABLE				100 690	9,080 40405	100 690	9,080 40405
12 300	12.750 323,9	0.375 9,53	STD	R/C	NOT APPLICABLE				80 550	10,240 45570	80 550	10,240 45570

Refer to notes on page 2.

SCHEDULE 40 PVC PLASTIC PIPE

The following Performance Data applies only to modified PVC plastic pipe conforming to ASTM D-1785-70. The mechanical properties of PVC plastic pipe differ significantly from metallic pipe. PVC has a lower modulus of elasticity, greater notch-sensitivity, tendency to "cold flow," reduced impact strength and a thermal expansion five times that of steel. At higher temperatures, both tensile strength and creep strength are greatly reduced. For these reasons, external loads should be avoided and additional care taken in providing adequate supports when designing PVC piping systems.

For PVC pipe conforming to ASTM D-1785-70 roll grooved (A) to Victaulic standard roll groove specifications, or radius cut grooved (B) to Victaulic standard plastic radius cut groove specifications.

PERFORMANCE DATA

Schedule 40 PVC

Nominal Size Inches/mm	Dimensions Inches/millimeters		Type I Grade I — PVC 1120 Grade II — PVC 1220		Type II Grade I — PVC 2116	
			Max. Joint Working Pressure PSI/kPa		Max. Joint Working Pressure PSI/kPa	
	Outside Diameter	Wall Thickness	@ 75°F	@ 100°F†	@ 75°F	@ 100°F†
3/4 20	1.050 26.9	0.113 2.87	350 2413	220 1517	220 1517	140 965
1 25	1.315 33.4	0.133 3.39	350 2413	220 1517	220 1517	140 965
1 1/4 32	1.660 42.2	0.140 3.56	290 1999	180 1241	180 1241	110 758
1 1/2 40	1.900 48.3	0.145 3.68	260 1792	160 1103	170 1172	110 758
2 50	2.375 60.3	0.154 3.91	250 1724	160 1103	140 965	90 621
2 1/2 65	2.875 73.0	0.203 5.16	250 1724	160 1103	150 1034	90 621
3 80	3.500 88.9	0.216 5.49	230 1586	140 965	130 896	80 552
4 100	4.500 114.3	0.237 6.02	200 1379	120 827	110 758	70 483
6 150	6.625 168.3	0.280 7.11	140 965	90 621	90 621	60 414
8 200	8.625 219.1	0.322 8.18	120 827	80 552	80 552	50 345
10 250	10.750 273.0	0.365 9.27	100 689	60 414	70 483	40 276
12 300	12.750 323.9	0.406 10.31	80 552	50 345	70 483	40 276

Refer to notes on page 5.

SCHEDULE 80 PVC PLASTIC PIPE

The following Performance Data applies only to modified PVC plastic pipe conforming to ASTM D-1785-70. The mechanical properties of PVC plastic pipe differ significantly from metallic pipe. PVC has a lower modulus of elasticity, greater notch-sensitivity, tendency to "cold flow," reduced impact strength and a thermal expansion five times that of steel. At higher temperatures, both tensile strength and creep strength are greatly reduced. For these reasons, external loads should be avoided and additional care taken in providing adequate supports when designing PVC piping systems.

For PVC pipe conforming to ASTM D-1785-70 roll grooved (A) to Victaulic standard roll groove specifications, or radius cut grooved (B) to Victaulic standard plastic radius cut groove specifications.

PERFORMANCE DATA

Schedule 80 PVC

Nominal Size Inches millimeters	Dimensions Inches millimeters		Type I Grade I — PVC 1120 Grade II — PVC 1220		Type II Grade I — PVC 2116	
			Max. Joint Working Pressure PSI kPa		Max. Joint Working Pressure PSI kPa	
	Outside Diameter	Wall Thickness	@75°F	@ 100°F†	@75°F	@ 100°F†
³ / ₄	1.050	0.154	550	340	320	200
20	26.9	3.91	3792	2344	2206	1379
1	1.315	0.179	550	340	320	200
25	33.4	4.55	3792	2344	2206	1379
1 ¹ / ₄	1.660	0.191	450	280	260	160
32	42.2	4.85	3102	1930	1792	1103
1 ¹ / ₂	1.900	0.200	410	250	240	150
40	48.3	5.08	2827	1724	1655	1034
2	2.375	0.218	350	220	200	120
50	60.3	5.54	2413	1517	1379	827
2 ¹ / ₂	2.875	0.276	350	220	210	130
65	73.0	7.01	2413	1517	1448	896
3	3.500	0.300	300	190	190	120
80	88.9	7.62	2068	1310	1310	827
4	4.500	0.337	240	150	160	100
100	114.3	8.56	1655	1034	1103	689
6	6.625	0.432	160	100	140	90
150	168.3	10.97	1103	689	965	621
8	8.625	0.500	140	90	120	70
200	219.1	12.70	965	621	827	483
10	10.750	0.594	140	90	120	70
250	273.0	15.09	965	621	827	483
12	12.750	0.688	120	80	NOT APPLICABLE	
300	323.9	17.48	827	552		

Refer to notes below.

NOTES

A - Pressure Ratings and End Loads (total from all internal and external loads) for roll grooved pipe are based upon tests on pipe prepared in accordance with Victaulic specifications using Victaulic Vic-Easy® roll grooving tools. Use of other equipment may adversely affect joint performance.

B - Pressure Ratings and End Loads for cut grooved pipe are based upon tests on pipe prepared in accordance with Victaulic specifications.

@ Ratings apply to available sizes of Victaulic coupling Styles 77, 791, 75, 78, 750, HP-70 and 72, up to maximum rating of any coupling or pipe whichever is lesser. Style 07 Zero-Flex® couplings are not recommended for use with PVC plastic pipe.

† Victaulic couplings are generally not recommended for service on PVC plastic pipe above 100°F. Contact Victaulic for recommendations.