



The following statements are accurate regarding interchangeability between the different standards, if we consider only the Outer Diameter dimensions: -

- 1) All BS and ASTM Sizes can be interchanged, except sizes 2-1/2" and 5" nominal sizes.
- 2) DIN (metric) size d32mm can be interchanged with JIS 1" and vice-versa.
- 3) DIN (metric) sizes d75mm and d140mm can be interchanged with BS 2-1/2" and 5" and vice-versa. The JIS 5" is also having similar O.D. to the BS and DIN.
- 4) JIS 1-1/2", 2", 3" and 4" can be interchanged with respective BS and ASTM sizes, but be cautious, as the JIS tolerance on pipes is slightly smaller.
- 5) This means that if you have a JIS PVC pipe in these sizes, that is at the lower end of the O.D. tolerance and you are going to join to a BS or ASTM socket at the higher end of the socket dimensions, then the joint could be slightly loose. However, this does not mean that they cannot be joined together, as good solvent cement always has gap filling properties.
- 6) On the other hand, if you have an ASTM PVC pipe that is at the maximum of O.D. tolerance and you are joining it with a JIS socket ends at the minimum of I.D. tolerance, then the joint might be "too tight" during "dry-fit". Again, if you use the right primer or cleanser prior to applying the solvent cement, then the process would have soften the material sufficiently so that the joints can be fitted together with ease.

PVC / CPVC Pressure Pipe ASTM D1784/ 5 Sch. 80

Size	Mean Outside Diameter (mm)	Wall Thickness (mm)	Maximum Working Pressure @ 20 Deg. C. Solvent Weld (psi)	Maximum Working Pressure @ 20 Deg. C. Threaded (psi)
1/2"	21.30	3.74	850	420
3/4"	26.67	3.92	690	340
1"	33.40	4.55	630	320
1 1/4"	42.16	4.85	520	260
1 1/2"	48.26	5.08	471	240
2"	60.32	5.53	400	200
2 1/2"	73.02	7.01	425	210
3"	88.90	7.62	375	190
4"	114.30	8.56	324	160
5"	141.30	9.52	290	Not Recommended
6"	168.27	10.98	280	Not Recommended
8"	219.08	12.70	250	Not Recommended
10"	273.05	15.06	230	Not Recommended
12"	323.85	17.45	230	Not Recommended

PVC / CPVC Pressure Pipe
ASTM D1784/ 5 Schedule 40.

Size	Mean Outside Diameter (mm)	Wall Thickness (mm)	Maximum Working Pressure @ 20 Deg. C. Solvent Weld (psi)
1/2"	21.30	2.76	600
3/4"	26.67	2.87	480
1"	33.40	3.38	450
1 1/4"	42.16	3.56	370
1 1/2"	48.26	3.68	330
2"	60.32	3.92	280
2 1/2"	73.02	5.16	300
3"	88.90	5.49	260
4"	114.30	6.02	220
5"	141.30	6.55	190
6"	168.27	7.11	180
8"	219.08	8.18	160
10"	273.05	9.27	140
12"	323.85	10.31	130

PVC - U Pressure Pipe
DIN 8061/8062
PN 16 Rating

Size	Mean Outside diameter (mm)	Wall Thickness (mm)	Pressure Rating 20° C
1/2"	20	1.5	16 bar
3/4"	25	2	16 bar
1"	32	2.5	16 bar
1 1/4"	40	3.2	16 bar
1 1/2"	50	3.7	16 bar
2"	63	4.7	16 bar
2 1/2"	75	5.6	16 bar
3"	90	6.7	16 bar
4"	110	8.2	16 bar
6"	160	11.9	16 bar
8"	225	16.7	16 bar
10"	250	18.6	16 bar
12"	315	23.8	16 bar

PVC - U Pressure Pipe
BS 3505/ 6 Class E

Size	Mean Outside diameter (mm)	Wall Thickness (mm)	Pressure Rating 20° C
1/2"	21.40	1.90	15 bar
3/4"	26.70	2.20	15 bar
1"	33.60	2.50	15 bar
1 1/4"	42.20	3.00	15 bar
1 1/2"	48.30	3.40	15 bar
2"	60.30	4.20	15 bar
2 1/2"	75.01	5.50	15 bar
3"	88.90	6.20	15 bar
4"	114.30	7.90	15 bar
6"	168.30	11.70	15 bar
8"	219.10	12.56	15 bar
10"	273.10	15.50	15 bar
12"	323.90	17.65	15 bar

Upvc Pipes to Japanese Industrial Standard Class VP and Class VU
JIS K6741 : 1984 Standard

Nominal Size Inches	mm	Mean Outside Diameter mm	Wall Thickness (min) Class AW/VP mm Pressure of 10 bar	Class AE/VU mm Non - Pressure
3/8	13	18.00	2.2	1.8
1/2	16	22.00	2.7	1.8
3/4	20	26.00	2.7	1.8
1	25	32.00	3.1	1.8
1-1/4	30	38.00	3.1	1.8
1-1/2	40	48.00	3.6	1.8
2	50	60.00	4.1	1.8
3	75	89.00	5.5	2.7
4	100	114.00	6.6	3.1
6	150	165.00	8.9	5.1
8	200	216.00	10.3	6.5
10	250	267.00	12.7	7.8
12	300	318.00	15.1	9.2