



مناف
MANAF



meti

UPVC HIGH PRESSURE
FITTINGS



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COMPANY PROFILE

We, Munir Abdullah Al-Munif Factory for Plastic Pipes and Fittings Company, are specialized in producing all types of plastic pipes with all its accessories of fittings. Our company was established 30 years ago.

Al-Munif Factories are located in Riyadh where the solid and flexible polyethylene is being produced as high and low density at diameters starting from 10mm to 1600mm with different lengths and pressure ratings as one of the leading factories in the region in producing such big diameters.

Besides producing Polyethylene Pipes; we are also producing PP-R pipes and Fittings for hot water applications with capacity of about 2000 ton with diameters starting from 20mm up to 160mm. Moreover; we are also producing uPVC and cPVC pipes and fittings for Potable water, drainage and sewerage network, and electrical and telecommunication networks, in addition to GRP pipes and fittings and Rubber products.

Production censorship is done in our laboratories to be sure of specifications compatibility. Our Laboratories has been equipped with all types of necessary systems to do those compatibility tests.

The production capacity is estimated with about 42,000 ton per year which is marketed and sold inside and outside the Kingdom.





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compound according to ISO/TR 7473 table 1



GENERAL PROPERTIES

USAGE

METI High Pressure fittings can be used in long range of applications such as irrigation, water treatment, water supply, chemical, swimming pool, food stuff industries and industrial applications. METI High Pressure fittings used to joint with any uPVC pipe has the same size. The uPVC compound used is fit for contact with alimentary fluids in accordance with regulations in force in U.S.A., Italy, France, Germany, Holland, UK, Scandinavian countries and Arab countries.

MATERIAL

uPVC (Unplastized Polyvinyl Chloride) compound with high quality stabilizer material (Tin) which is applicable for high pressure fitting products.

RANGE

- A very wide range of fittings is available:
- For solvent jointing metric sizes (20 mm to 400 mm).
- Adaptor fittings to connect a solvent weld uPVC piping system to pipes, fittings, valves, accessories with BSP threads.

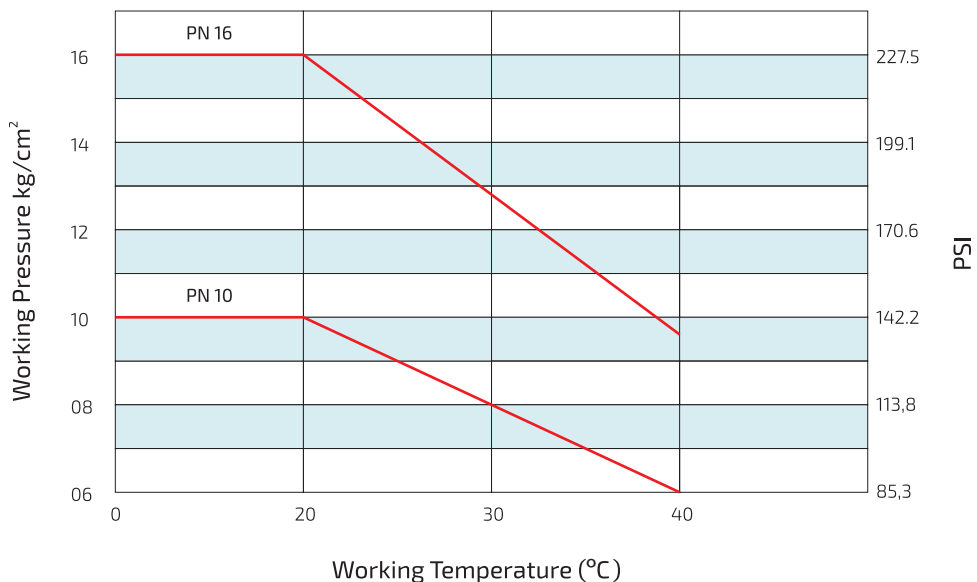
STANDARDS

- ALL METI UPVC High Pressure fittings are manufactured according to the following international standards:
- ISO 727-1
 - ISO 1452
 - DIN 8063

PRESSURE

The maximum working pressure decrease by a linear way with the increase of temperature

Pressure - Temperature Relationship



MECHANICAL PROPERTIES

Maximum Working Pressure in kg/cm ²		
SERIES	DIMENSIONS	PN
Solvent jointing	from D 20mm to D 160mm	16
Solvent jointing	from D 200mm to D 400mm	10
Threaded	from D 1/2" to 6"	up to 16
Adaptor Set	from D 20mm to 160mm	up to 16

PHYSICAL PROPERTIES

Characteristics	Method	Units	uPVC
Specific Gravity @ 23°C	ASTM D 792	g/cm ³	1.4 ± 0.02
Tensile Strength @ 23 °C Minimum	ASTM D 638	Mpa	50
Tensile Modulus Of Elasticity @ 23 °C	ASTM D638	Mpa	3000
Flexural Strength @ 23 °C	ASTM D 790	Mpa	89
Izod Impact Strength (Notched) @ 23 °C	ASTM D 256	J/m ft.lbs/in.	53 1.0
Vicat softening point with 5 Kgs	ISO 306	°C	78
Thermal conductivity	ASTM C177	Kcal / m h °C	0.15
Coefficient of linear expansion	ASTM D696	mm/mm °C	0.8 x 10 ⁻⁴
Water absorption	ISO R527	mg/cm ²	< 4
Flammability	-	-	Self extinguishing



UPVC PIPE-FITTINGS TOLERANCE FOR SOLVENT CEMENT ACCORDING TO:

- Fittings** - ISO 727-1, ISO 1452, DIN 8063
Pipes - ISO 161, ISO 1452, DIN 8062

Nominal Diameter DN	D (mm)	Mean outside diameter of pipes (mm)		Mean inside diameter of fittings (mm)	
		Min	Max	Min	Max
15	20	20	20,20	20,10	20,30
20	25	25	25,20	25,10	25,30
25	32	32	32,20	32,10	32,30
32	40	40	40,20	40,10	40,30
40	50	50	50,20	50,10	50,30
50	63	63	63,30	63,10	63,30
65	75	75	75,30	75,10	75,30
80	90	90	90,30	90,10	90,30
100	110	110	110,40	110,10	110,40
110	*125	125	125,40	125,10	125,40
125	*140	140	140,50	140,20	140,50
150	160	160	160,50	160,20	160,50
175	200	200	200,60	200,20	200,60
200	225	225	225,70	225,30	225,70
225	250	250	250,80	250,30	250,80
280	315	315	316,00	315,40	316,00
315	*400	400	401,20	400,50	401,50

* Available upon request.

THREADING DIMENSIONS ACCORDING TO: ISO 7/1, BS 21, DIN 2999, EN 10226-1.

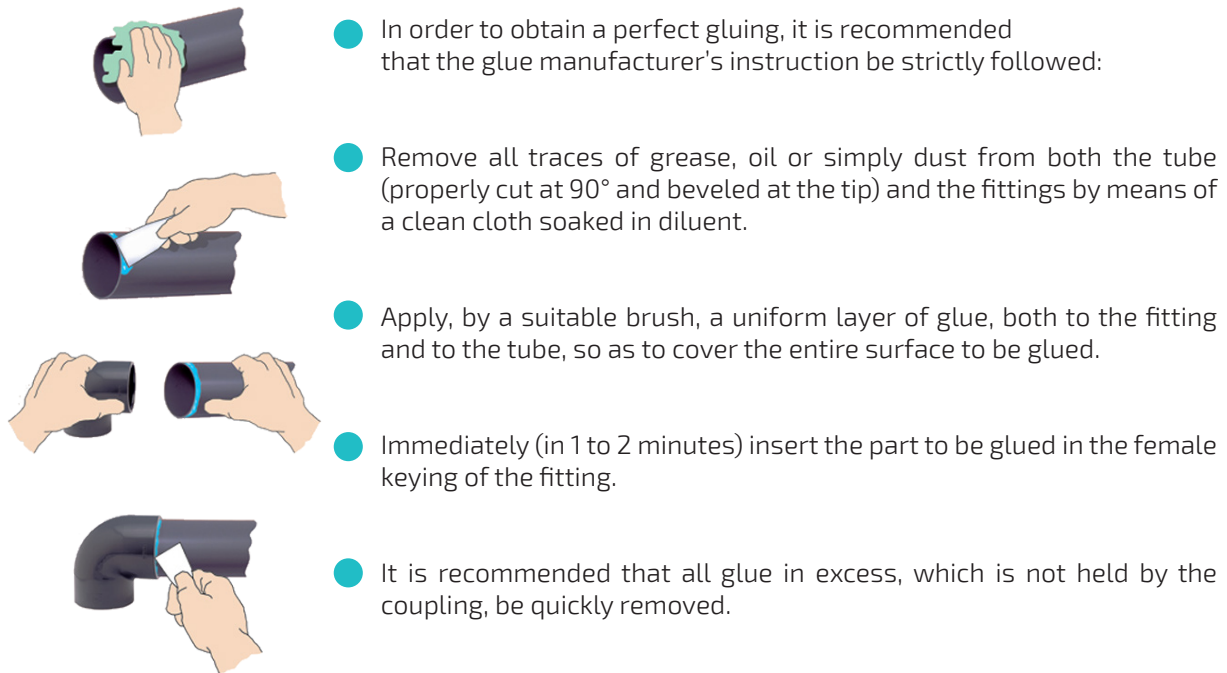
Nominal Diameter	Diameter of screw (mm)	Pitch		Depth of thread (mm)	Length of thread assembling (mm)
		N° of threads/1"	mm		
1/2"	20,95	14	1,814	1,162	15,0
3/4"	26,44	14	1,814	1,162	16,3
1"	33,25	11	2,309	1,479	19,1
1 1/4"	41,91	11	2,309	1,479	21,4
1 1/2"	47,80	11	2,309	1,479	21,4
2"	59,61	11	2,309	1,479	25,7
2 1/2"	75,18	11	2,309	1,479	30,2
3	87,88	11	2,309	1,479	33,3
4	113,03	11	2,309	1,479	39,2
6	163,83	11	2,309	1,479	43,6

ASSEMBLY INSTRUCTIONS

Metric Series

Fittings rigid PVC of metric series can be glued to each other and on tubes in the same material provided that the sizes and tolerances are in accordance with the standardization and tolerances.

A strong, dense-type glue is recommended, especially for coupling large diameters, where the clearance may be tight due to the ovalization effect; such clearance anyhow, in order to guarantee a perfect seal, should never exceed 0.6 mm with a dense-type glue and 0.3 mm with a fluid-type glue.



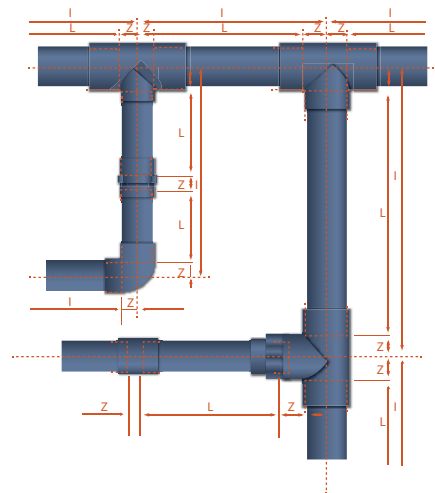
It is also recommended that freshly glued parts should not be submitted to mechanical stresses. The glue manufacturer instructions concerning how long to wait before handling, and concerning sticking and pressure testing the system should be carefully followed.

Generally speaking, none of these operations should take place in the 24 hours following the gluing.

Threaded Series

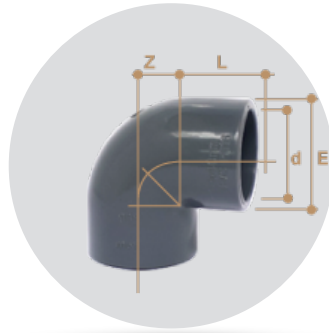
Fittings in rigid PVC of the threaded series or of the adaptor series can be screwed to each other or to tubes and other threaded parts in other materials in accordance with the rules given in this page. In order to obtain easy screwing and perfect seal, the use of high quality PTFE tape (plumber's tape) is recommended in a quantity sufficient to avoid clearance without causing too tight shutting.

The use of hemp, tow and lint, usually employed for metal fittings, is to be absolutely avoided. Such materials, contrary to what happens with PTFE are not rejected by coupling even when used in excess, making the female fitting expand in such a way as to cause breakages both during the assembly stage and later, during operation.



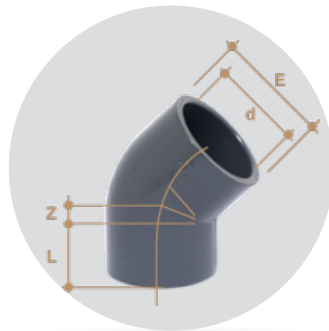


UPVC HIGH PRESSURE FITTINGS



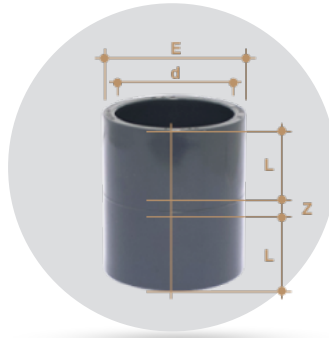
Elbow 90°

CODE	d	L	Z	E	PN	Gr.
*1216010016	16	14	9	23.5	16	13
1216010020	20	16	11	26.5	16	20
1216010025	25	19	14	32.5	16	35
1216010032	32	22	17	41	16	50
1216010040	40	26	23	50	16	90
1216010050	50	31	28	60	16	135
1216010063	63	38	34	75	16	247
1216010075	75	44	40	91	16	375
1216010090	90	51	48	106	16	620
1216010110	110	61	58	129	16	1.060
*1216010125	125	69	66	145	16	1.420
*1216010140	140	76	72	164	16	1.990
1216010160	160	86	81	188	16	3.200
1216010200	200	105	102	232	10	5.850
1216010225	225	119	115	258	10	7.500
*1216010250	250	131.5	187.5	286	10	12.160
*1216010280	280	146	210	319	10	15.620
*1216010315	315	162	240	358	10	23.500
*1216010355	355	184	177	393	6	20.850
*1216010400	400	206	202	439	6	26.350



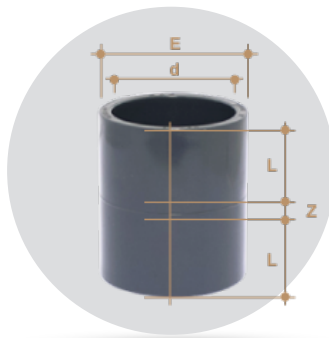
Elbow 45°

CODE	d	L	Z	E	PN	Gr.
*1216011016	16	14	5.5	23.5	16	10
1216011020	20	16	5.5	26.5	16	17
1216011025	25	19	6	32.5	16	30
1216011032	32	22	8	41	16	47
1216011040	40	26	10	50	16	77
1216011050	50	31	12	60	16	115
1216011063	63	38	15	75	16	190
1216011075	75	44	18	91	16	310
1216011090	90	51	21	106	16	485
1216011110	110	61	25	129	16	835
*1216011125	125	69	27	145	16	1.065
*1216011140	140	76	32	164	16	1.640
1216011160	160	86	36	188	16	2.100
1216011200	200	105	43	232	10	4.540
1216011225	225	119	50	258	10	6.200
1216011250	250	131.5	58	286	10	7.681
*1216011280	280	146	62	319	10	10.360
*1216011315	315	162	66	358	10	14.490
*1216011355	355	184	77	393	6	16.000
*1216011400	400	206	83	439	6	20.200



Socket

CODE	d	L	Z	E	PN	Gr.
*1216020016	16	14	3	23.5	16	9
1216020020	20	16	3	28	16	15
1216020025	25	19	3	34	16	23
1216020032	32	22	3	42	16	36
1216020040	40	26	3	51	16	60
1216020050	50	31	3	61	16	85
1216020063	63	38	3	75	16	145
1216020075	75	44	4	90	16	222
1216020090	90	51	5	108	16	353
1216020110	110	61	6	131	16	605
*1216020125	125	69	7	145	16	840
*1216020140	140	76	8	161	16	1.100
1216020160	160	86	8	186	16	1.400
1216020200	200	105	11	226	10	2.660
1216020225	225	119	11	258	10	4.440
1216020250	250	131.5	10	287	10	5.800
1216020280	280	146	10	320	10	7.750
1216020315	315	162	12	355	10	9.830
*1216020355	355	184	11	386	6	11.200
*1216020400	400	206	12	432	6	12.900



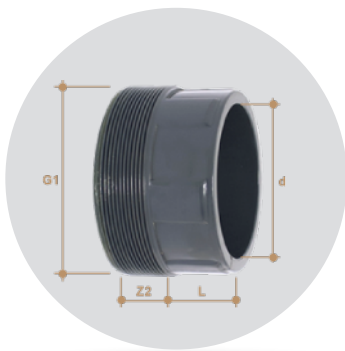
Double Socket Adaptor plain mm/inch

CODE	d X d1	L1	L2	Z	E	E1	PN	Gr.
1216022020012	20 x 1/2	16	16	3	28	28	16	15
1216022025034	25 x 3/4	19	19	3	33	33	16	23
1216022032100	32 x 1	22	22	3	41	41	16	36
1216022040114	40 x 1 1/4	26	26	3	50	50	16	60
1216022050112	50 x 1 1/2	31	31	3	60.5	60.5	16	85
1216022063200	63 x 2	38	38	3	75	75	16	145
1216022075212	75 x 2 1/2	44	44	4	88	88	16	222
1216022090300	90 x 3	51	51	5	106	106	16	353
1216022110400	110 x 4	61	61	6	129	129	16	605
1216022160600	160 x 6	86	90	8	181	189	16	1.500



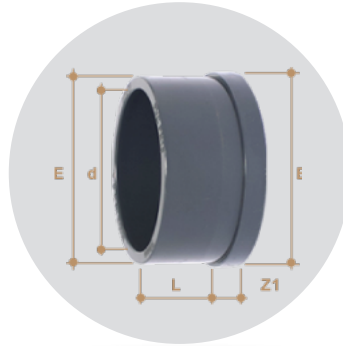
Union with O-Ring

CODE	d	L	Z1	Z2	G1	E	O-RING	PN	Gr.
*1216045016	16	14	3	10	3/4"	34	3062	16	30
1216045020	20	16	3	10	1"	42	4081	16	42
1216045025	25	19	3	10	1 1/4"	52	4112	16	70
1216045032	32	22	3	10	1 1/2"	59	4131	16	97
1216045040	40	26	3	12	2"	72	6162	16	155
1216045050	50	31	3	14	2 1/4"	79	6187	16	216
1216045063	63	38	3	18	2 3/4"	96	6237	16	340
1216045075	75	44	3	18	3 1/2"	119	6312	16	580
1216045090	90	51	5	18	4	134	6362	16	780
1216045110	110	61	5	18	5	163	6450	16	1,280



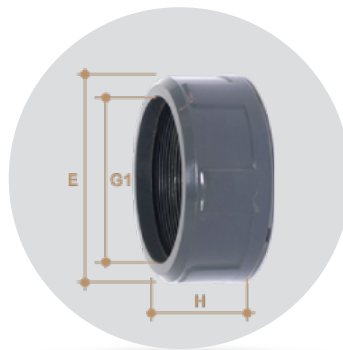
Union Bush

d	L	Z1	Z2	G1	Gr.
*16	14	3	10	3/4"	10
20	16	3	10	1"	15
25	19	3	10	1 1/4"	25
32	22	3	10	1 1/2"	35
40	26	3	12	2"	57
50	31	3	14	2 1/4"	80
63	38	3	18	2 3/4"	145
75	44	3	18	3 1/2"	220
90	51	5	18	4	285
110	61	5	18	5	480



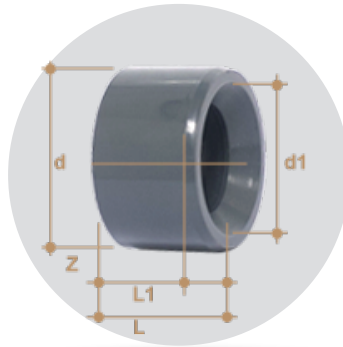
Union End

d	L	Z1	E	E1	Gr.
*16	14	3	22	24	6
20	16	3	27.5	30	10
25	19	3	36	39	16
32	22	3	41.5	44.5	22
40	26	3	53	56.5	40
50	31	3	59	62.5	45
63	38	3	74	78.5	80
75	44	3	92.5	97	150
90	51	5	105	110	195
110	61	5	129	135.5	350



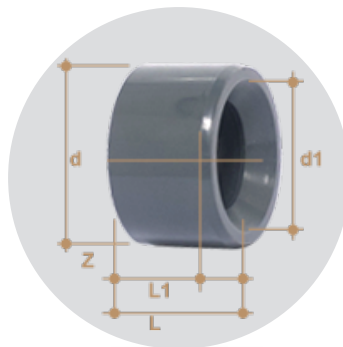
Nut for Union

d	H	G1	E	G1	Gr.
*16	21	21	34	3/4"	13
20	23	23	43	1"	17
25	25	25	53	1 1/4"	27
32	27	27	60	1 1/2"	40
40	30	30	73	2"	55
50	34	34	80	2 1/4"	90
63	38	38	98	2 3/4"	120
75	45	45	120	3 1/2"	210
90	52	52	134	4	280
110	60	60	163	5	450



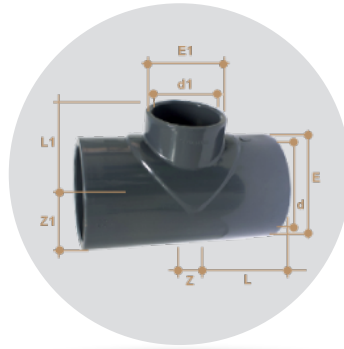
Reducing Bush

CODE	d X d1	L	L1	Z	PN	Gr.
1216060025020	25x20	19	16	3	16	6
1216060032020	32x20	22	16	6	16	15
1216060032025	32x25	22	19	3	16	10
1216060040020	40x20	26	16	10	16	28
1216060040025	40x25	26	19	7	16	29
1216060040032	40x32	26	22	4	16	19
1216060050025	50x20	31	19	12	16	45
1216060050032	50x32	31	22	9	16	45
1216060050040	50x40	31	26	5	16	35
1216060063025	63x25	38	19	19	16	86
1216060063032	63x32	38	22	16	16	83
1216060063040	63x40	38	26	12	16	83
1216060063050	63x50	38	31	7	16	61
*1216060075032	75x32	44	22	22	16	135
*1216060075040	75x40	44	26	18	16	125
1216060075050	75x50	44	31	13	16	122
1216060075063	75x63	44	38	6	16	85
1216060090050	90x50	51	31	20	16	210
1216060090063	90x63	51	38	13	16	180
1216060090075	90x75	51	44	7	16	140
1216060110063	110x63	61	38	23	16	372
1216060110075	110x75	61	44	17	16	335
1216060110090	110x90	61	51	10	16	262



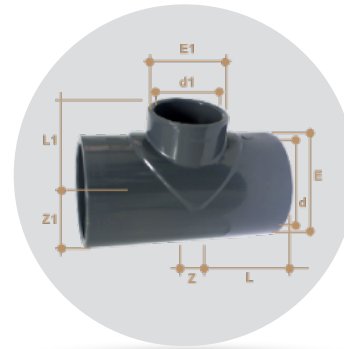
Reducing Bush

CODE	d X d1	L	L1	Z	PN	Gr.
*1216060125075	125x75	69	44	25	16	440
*1216060125090	125x90	69	51	18	16	365
*1216060125110	125x110	69	61	8	16	260
*1216060140090	140x90	76	51	25	16	600
*1216060140110	140x110	76	61	15	16	480
*1216060140125	140x125	76	69	7	16	335
1216060160090	160x90	86	51	25	16	800
1216060160110	160x110	86	61	25	16	820
*1216060160125	160x125	86	69	17	16	745
*1216060160140	160x140	86	76	10	16	565
1216060200160	200x160	106	86	20	10	1.360
1216060225160	225x160	119	86	33	10	1.700
1216060225200	225x200	119	106	13	10	1.360
1216060250160	250x160	134	87	47	10	2.784
1216060250200	250x200	134	107	27	10	2.700
*1216060250225	250x225	132	120	12	10	2.100
*1216060280225	280x225	147	120	27	10	3.090
*1216060280250	280x250	147	132	15	10	2.520
1216060315200	315x200	165	107	58	10	8.550
*1216060315225	315x225	165	132	33	10	8.085
1216060315250	315x250	165	132	33	10	4.100
*1216060315280	315x280	165	149	16	10	4.630



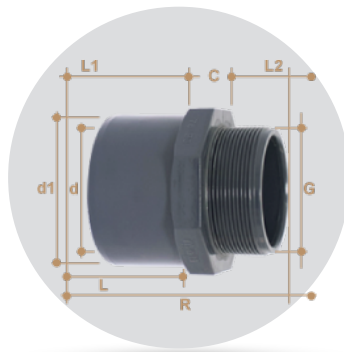
Tee Reducer

CODE	d X d1	L1	L2	Z	Z1	E	E1	PN	Gr.
1216055025020	25x20	19	16	14	14	33.5	28	16	42
1216055032020	32x20	22	16	17	17	42	28	16	69
1216055032025	32x25	22	19	17	17	42	34	16	70
*1216055040020	40x20	26	16	21	21	51	28	16	112
*1216055040025	40x25	26	16	21	21	51	34	16	115
*1216055040032	40x32	26	22	21	21	51	42	16	118
1216055050020	50x20	31	26	26	26	61	28	16	155
1216055050025	50x25	31	16	26	26	61	34	16	166
1216055050032	50x32	31	19	26	26	61	42	16	170
1216055050040	50x40	31	22	26	26	61	51	16	178
1216055063020	63x20	38	26	33	33	75	28	16	268
1216055063025	63x25	38	31	33	33	75	34	16	270
1216055063032	63x32	38	22	33	33	75	42	16	275
1216055063040	63x40	38	26	33	33	75	51	16	288
1216055063050	63x50	38	33	33	33	75	61	16	300
1216055075032	75x32	44	22	39	39	89	42	16	463
*1216055075040	75x40	44	26	39	39	89	51	16	465
1216055075050	75x50	44	31	39	39	89	61	16	465
1216055075063	75x63	44	38	39	39	89	75	16	478
*1216055090040	90x40	51	26	47	47	106	51	16	702
1216055090050	90x50	51	31	47	47	106	61	16	740
1216055090063	90x63	51	38	47	47	106	75	16	740
1216055090075	90x75	51	44	47	47	106	89	16	760
1216055110050	110x50	61	31	57	57	129	61	16	1250
1216055110063	110x63	61	38	57	57	129	75	16	1200
1216055110075	110x75	61	44	57	57	129	89	16	1220



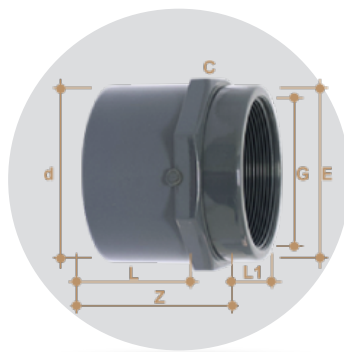
Tee Reducer

CODE	d X d1	L1	L2	Z	Z1	E	E1	PN	Gr.
1216055110090	110x90	61	51	57	57	129	106	16	1250
*1216055125063	125x63	69	44	66	66	148	75	16	1660
*1216055125075	125x75	69	44	66	66	148	89	16	1700
*1216055125090	125x90	69	51	66	66	148	106	16	1750
*1216055125110	125x110	69	61	66	66	148	129	16	1830
*1216055140075	140x75	76	44	72	72	163	89	16	2460
*1216055140090	140x90	76	51	72	72	163	106	16	2490
*1216055140110	140x110	76	61	72	72	163	129	16	2530
*1216055140125	140x125	76	69	72	72	163	148	16	2590
1216055160090	160x90	86	51	82	82	184	106	16	3790
1216055160110	160x110	86	61	82	82	184	129	16	3840
*1216055160125	160x125	86	69	82	82	184	148	16	3890
1216055160140	160x140	86	76	82	82	184	163	16	3940
*1216055200090	200x90	106	52	58	102	228	112	10	5200
*1216055200110	200x110	106	63	58	113	228	137	10	5200
*1216055200160	200x160	106	87	87	105	228	185	10	6200
*1216055225110	225x110	119.5	63	58	114	258	135	10	6600
*1216055225160	225x160	119.5	88	84	115	258	193	10	8300
*1216055250110	250x110	129	63	61	128	284	134	10	8300
*1216055250160	250x160	129	87	86	129	284	189	10	9900
*1216055250200	250x200	129	106	133	132	284	228	10	12100
*1216055280160	280x160	146	88	84	153	320	193	10	12500
*1216055280225	280x225	146	117.3	117	148.5	320	258	10	15200
*1216055315160	315x160	164	86	85	161	355	195	10	15150
*1216055315200	315x200	164	106	102	179	355	228	10	16600
*1216055315225	315x225	164	118.5	117	162	355	320	10	17500
*1216055315250	315x250	164	131	127	160	355	285	10	18500



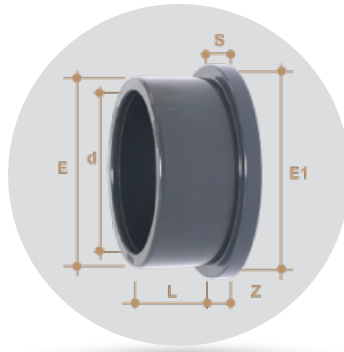
Adaptor with male threaded

CODE	d x G	L	L1	L2	H	C	PN	Gr.
1216030020012	20/25 x 1/2"	16	19	15.0	46	27	16	15
1216030025034	20/32 x 3/4"	19	22	16.3	50	50	16	26
1216030032100	32/40 x 1"	22	26	19.1	57	57	16	40
1216030040114	40/50 x 1 1/4"	26	31	21.4	66.5	55	16	75
1216030050112	50/63 x 1 1/2"	31	38	21.4	74	65	16	113
1216030063200	63/75 x 2"	38	44	25.7	84	75	16	150
1216030075212	75/90 x 2 1/2"	44	51	30.2	99	95	16	270
1216030090300	90 x 110 x 3"	51	61	33.3	110	115	16	490
1216030110400	110/125 x 4"	61	69	39.3	120	130	16	490
1216030160400	160/180 x 6"	75	80	45	200	130	16	740



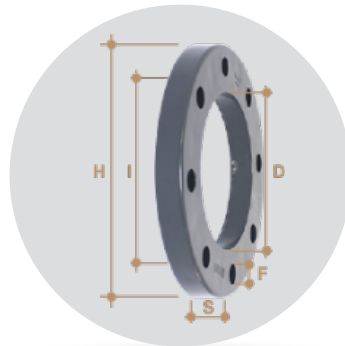
Adaptor with female threaded

CODE	d x G	L	L1	E	Z	C	PN	Gr.
1216040020012	20 x 1/2"	16	15.0	28	24	30	16	20
1216040025034	25 x 3/4"	19	16.3	34	27	36	16	25
1216040032100	32 x 1"	22	19.1	42	30	46	16	43
1216040040114	40 x 1 1/4"	26	21.4	51	36	55	16	65
1216040050112	50 x 1 1/2"	31	21.4	58	41	60	16	80
1216040063200	63 x 2"	38	25.7	75	48	75	16	135
1216040075212	75 x 2 1/2"	44	30.2	89	58	90	16	125
1216040090300	90 x 3"	51	33.3	103	65	95	16	310
1216040110400	110 x 4"	61	39.3	130	76	130	16	480



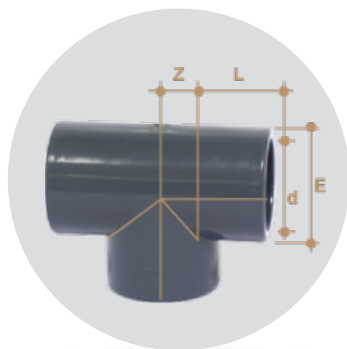
Stub

CODE	d	DN	L	Z	S	E	E1	PN	Gr.
1216090025	25	20	19	3	7	41	41	16	16
1216090032	32	25	22	3	7	50	50	16	25
1216090040	40	32	26	3	8	61	61	16	40
1216090050	50	40	31	3	8	73	73	16	60
1216090063	63	50	38	33	9	90	90	16	113
1216090075	75	65	44	3	10	106	106	16	160
1216090090	90	80	51	5	11	125	125	16	263
1216090110	110	100	61	5	12	150	150	16	425
*1216090125	125	110	69	5	13	168	168	16	540
*1216090140	140	125	76	5	14	188	188	16	750
1216090160	160	150	86	5	16	213	213	16	1.045
1216090200	200	190	106	7	18	253	253	10	1.746
1216090225	225	200	119	8	19	274	274	10	1.890
1216090250	250	225	131	10	20	307	307	10	2.320
*1216090280	280	250	142	10	23	330	330	10	3.040
1216090315	315	300	162	11	27	379	379	10	4.578
*1216090355	355	350	184	8	30	431	431	6	6.05
*1216090400	400	400	206	12	30	483	483	6	8.10
*1216090450	450	450	155	8	30	539	539	6	7.40



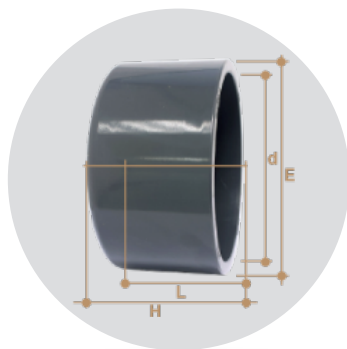
Losse Flange

CODE	d	DN	D	E	S	I	F	Drill N. Fori	Bolts Bulloni	PN	Gr.
1216091025	25	20	34	105	12	75	14	4	M12x60	16	90
1216091032	32	25	42	115	14	85	14	4	M12x60	16	120
1216091040	40	32	51	142	15	100	18	4	M16x70	16	195
1216091050	50	40	62	152	16	110	18	4	M16x75	16	230
1216091063	63	50	78	165	18	125	18	4	M16x80	16	280
1216091075	75	65	92	185	19	145	18	4	M16x90	16	355
1216091090	90	80	110	200	20	160	18	8	M16x90	16	430
1216091110	110	100	133	220	22	180	18	8	M16x100	16	520
*1216091125	125	110	149	230	24	190	18	8	M16x100	16	585
*1216091140	140	125	167	250	26	210	18	8	M16x100	16	700
1216091160	160	150	190	285	28	240	22	8	M20x120	16	930
1216091200	200	190	235	340	30	295	22	8	M20x120	16	1.200
1216091225	225	200	250	340	30	295	22	8	M20x120	10	1.270
1216091250	250	225	280	395	34	350	22	12	M20x120	10	1.680
*1216091280	280	250	310	395	30	350	22	12	M20x120	10	2.000
1216091315	315	300	349	445	31	400	22	12	M20x120	10	2.700
*1216091355	355	350	388	434	34	460	22	16	M20x120	6	3.550
*1216091400	400	400	438	572	34	515	25	16	M20x120	6	4.500
*1216091450	450	450	488	614	32	565	25	20	M20x120	6	4.100



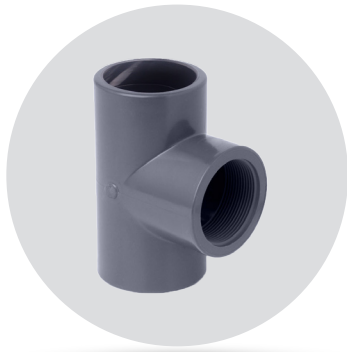
Tee 90°

CODE	D	L	Z	E	PN	Gr.
*1216050016	16	14	9	23.5	16	15
1216050020	20	16	11	28	16	25
1216050025	25	19	14	34	16	44
1216050032	32	22	17	42	16	75
1216050040	40	26	21	51	16	125
1216050050	50	31	26	61	16	183
1216050063	63	38	33	75	16	315
1216050075	75	44	39	90	16	495
1216050090	90	51	47	108	16	790
1216050110	110	61	57	131	16	1.330
*1216050125	125	69	64	145	16	1.850
*1216050140	140	76	72	161	16	2.610
1216050160	160	86	81	186	16	4.100
1216050200	200	105	102	226	10	7.200
1216050225	225	119	114	258	10	9.700
*1216050250	250	131.5	127	287	10	12.070
*1216050280	280	146	142	320	10	17.480
*1216050315	315	162	159	355	10	24.350
*1216050355	355	184	294	386	6	35.900
*1216050400	400	206	280	432	6	39.900



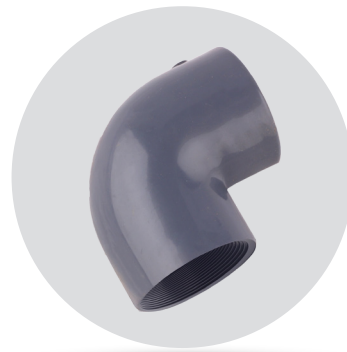
Cap

CODE	d	L	Z	E	PN	Gr.
*1216070016	16	14	22	23	16	7
1216070020	20	16	27	28	16	10
1216070025	25	19	31	33	16	18
1216070032	32	22	36	41	16	30
1216070040	40	26	43	50	16	45
1216070050	50	31	49	60.5	16	70
1216070063	63	38	57	75	16	120
1216070075	75	44	67	89	16	188
1216070090	90	51	80	106	16	295
1216070110	110	61	95	129	16	490
*1216070125	125	69	102	145	16	680
*1216070140	140	76	114	161	16	927
1216070160	160	86	126	181	16	1.146
1216070200	200	105	145	227	10	2.048
1216070225	225	119	160	254	10	2.684



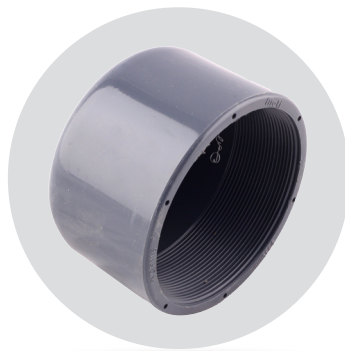
Tee 90° Female Threaded

CODE	SIZE	PN
1216054020012	20mm X 1/2"	16
1216054025034	25mm X 3/4"	16
1216054075212	75mm X 2 1/2"	16
1216054090300	90mm X 3"	16
1216054110400	110mm X 4"	16



Elbow 90° Female Threaded

CODE	SIZE	PN
1216012020012	20mm X 1/2"	16
1216012025034	25mm X 3/4"	16
1216012032100	32mm X 1"	16
1216012040114	40mm X 1 1/4"	16
1216012050112	50mm X 1 1/2"	16
1216012063200	63mm X 2"	16
1216012075212	75mm X 2 1/2"	16
1216012090300	90mm X 3"	16
12160120110400	110mm X 4"	16
12160120160600	160mm X 6"	16



Cap Female Threaded

CODE	SIZE (in)	PN
1216072012	1/2"	16
1216072032	1"	16
1216072034	3/4"	16
1216072050	1 1/2"	16
1216072063	2"	16
1216072075	2 1/2"	16
1216072090	3"	16
1216072100	1"	16
1216072110	4"	16
1216072160	6"	16



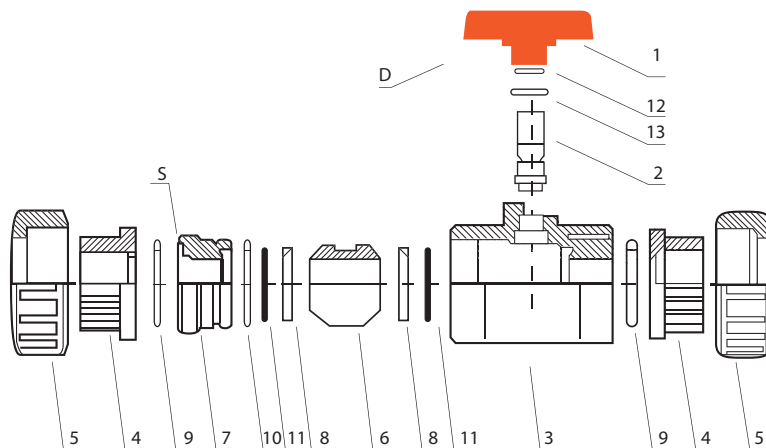
Double Union Ball valve with Female Threaded

CODE	d	DN	L	Z	H	A	B	C	E	F	PN	Gr.
*1216200038	3/8"	10	14	48	75	50	10	49	40	19	16	140
1216200012	1/2"	15	16	48	80	50	10	49	40	19	16	145
1216200034	3/4"	20	19	53	91	60	11	55	47	22	16	210
1216200100	1"	25	22	58	102	68	13	62	55	25	16	310
*1216200114	1.1/4"	32	26	68	120	80	118	76	60	30	16	450
1216200112	1.1/2"	40	31	78	140	96	20	88	68	35	16	730
1216200200	2"	50	38	93	170	116	20	101	80	40	16	1.220
1216200212	2.1/2"	65	44	126	214	145	25	123	90	45	10	2.300
1216200300	3"	80	52	139	241	166	28	138	100	50	10	3.660
1216200400	4"	100	61	159	281	210	28	160	120	60	10	6.010



Double Union Ball valve with Female Socket

CODE	d	DN	L	Z	H	A	B	C	E	F	PN	Gr.
*1216200016	16	10	14	48	75	50	10	49	40	19	16	140
1216200020	20	15	16	48	80	50	10	49	40	19	16	145
1216200025	25	20	19	53	91	60	11	55	47	22	16	210
1216200032	32	25	22	58	102	68	13	62	55	25	16	310
1216200040	40	32	26	68	120	80	118	76	60	30	16	450
1216200050	50	40	31	78	140	96	20	88	68	35	16	700
1216200063	63	50	38	93	170	116	20	101	80	40	16	1.180
1216200075	75	65	44	126	214	145	25	123	90	45	10	2.260
1216200090	90	80	52	139	241	166	28	138	100	50	10	3.610
1216200110	110	100	61	159	281	210	28	160	120	60	10	5.940



- | Pos. | Components |
|------|----------------------|
| 1. | Handle |
| 2. | Stem |
| 3. | Body |
| 4. | Union End |
| 5. | Union Nut |
| 6. | Ball |
| 7. | Sealing Brush |
| 8. | Ball Seat |
| 9. | Union O-ring |
| 10. | O-ring Sealing Brush |
| 11. | O-ring Ball Seat |
| 12. | O-ring Stem |
| 13. | Stem O-ring inner |



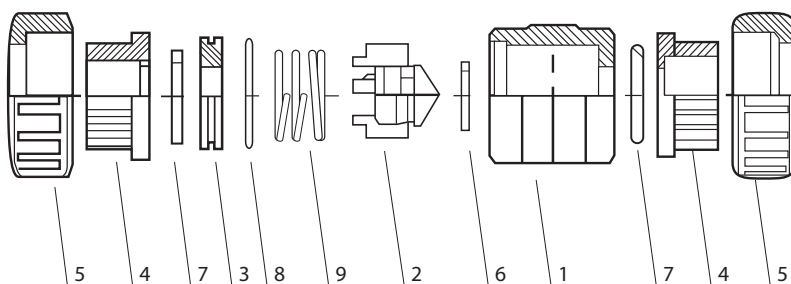
Check Ball Valve with Female Socket

CODE	d	DN	L	Z	H	A	PN	Gr.
*1216250016	16	10	14	48	75	50	16	90
*1216250020	20	15	16	48	80	50	16	92
*1216250025	25	20	19	53	91	60	16	140
*1216250032	32	25	22	58	102	68	16	230
*1216250040	40	32	26	68	120	80	16	400
*1216250050	50	40	31	78	140	96	16	685
*1216250063	63	50	38	93	170	116	16	1.160
*1216250075	75	65	44	139	227	168	10	5.000
*1216250090	90	80	52	139	242	168	10	7.000
*1216250110	110	100	61	160	282	210	10	10.000



Check Ball Valve with female Threaded

CODE	d	DN	L	Z	H	A	PN	Gr.
*1216250038	3/8"	10	14	48	75	50	16	90
*1216250012	1/2"	15	16	48	80	50	16	92
1216250034	3/4"	20	19	53	91	60	16	140
1216250100	1"	25	22	58	102	68	16	230
*1216250114	1.1/4"	32	26	68	120	80	16	400
1216250112	1.1/2"	40	31	78	140	96	16	685
1216250200	2"	50	38	93	170	116	16	1.160
*1216250212	2 1/2"	65	44	139	227	168	10	5.000
1216250300	3"	80	52	139	242	168	10	7.000
1216250400	4"	100	61	160	282	210	10	10.000



Pos. Components

- 1. Body
- 2. Shutter
- 3. Sealing Brush
- 4. Union
- 5. Union Nut
- 6. Gasket
- 7. Union O-ring
- 8. O-ring
- 9. Spring



Tee 90°

R/J

CODE	d	L	Z	h	PN
*1216020630000	63	224	76	112	16
*1216020750000	75	245	81.5	122.5	16
*1216020900000	90	330	115	165	16
1216021100000	110	410	122	206	16
1216021600000	160	473	141.5	238	16
*1216022000000	200	560	152	280	10
*1216022250000	225	615	166	308	10
*1216022500000	250	666	176	333	10
*1216023150000	315	780	198	390	10



Tee Reducer 90°

R/J

CODE	d	L	h1	h2	Z	PN
*1216022090063	90x63	304	115	76	128	16
*1216022090075	90x75	304	115	81.5	153	16
*1216022110063	110x63	340	122	76	141	16
*1216022110075	110x75	340	122	81.5	138	16
*1216022110090	110x90	340	122	115	197	16
*1216022160063	160x63	384	141	76	169	16
*1216022160075	160x75	384	141	81.5	175	16
*1216022160090	160x90	384	141	115	225	16
1216022160110	160x110	430	142	122	220	16
*1216022200063	200x63	416	152	76	195	10
*1216022200075	200x75	416	152	81.5	200	10
*1216022200090	200x90	416	152	115	250	10
*1216022200110	200x110	477	155	122	235	10
*1216022200160	200x160	535	155	142	255	10
*121602225110	225x110	492	166	122	250	10
*121602225160	225x160	545	166	142	270	10
*1216022250110	250x110	516	180	122	265	10
*1216022250160	250x160	576	180	142	285	10
*1216022250200	250x200	618	180	155	315	10
*1216022315110	315x110	570	198	122	312	10
*1216022315160	315x160	618	198	142	317	10
*1216022315200	315x200	658	198	155	344	10



Elbow 45°

R/J

CODE	d	Z	h	PN
*121602011063	63	92	76	16
*121602011090	90	136	114	16
*121602011110	110	162.5	122	16
*121602011160	160	183	141.5	16
*121602011200	200	210	155	10
*121602011225	225	222	166	10
*121602011250	250	248	180	10
*121602011315	315	298	195	10



Elbow 90°

R/J

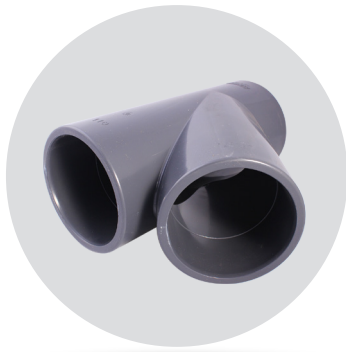
CODE	d	Z	h	PN
*121602010063	63	112	76	16
*121602010075	75	123	81.5	16
*121602010090	90	165	114	16
*121602010110	110	190	122	16
*121602010160	160	229	142	16
*121602010200	200	266	153	10
*121602010225	225	312	163	10
*121602010250	250	338	177	10
*121602010315	315	393	198	10



Reducing Socket

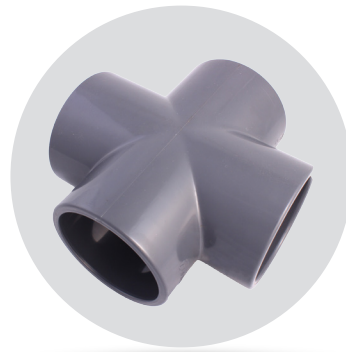
R/J

CODE	d	H	h1	h2	PN
*121600090063	90x63	210	115	76	16
*121600110090	110x90	255	123	116	16
*121600160110	160x110	305	140	122	16
*121600200110	200x110	324	156	122	10
*121600200160	200x160	325	155	140	10
*121600225110	225x110	362	160	122	10
*121600225160	225x160	355	160	140	10
*121600225200	225x200	355	160	155	10
*121600250110	250x110	385	175	122	10
*121600250160	250x160	375	175	140	10
*121600250200	250x200	372	175	155	10
*121600250225	250x225	375	175	165	10
*121600315160	315x160	431	195	140	10
*121600315200	315x200	430	195	155	10
*121600315250	315x250	435	195	182	10



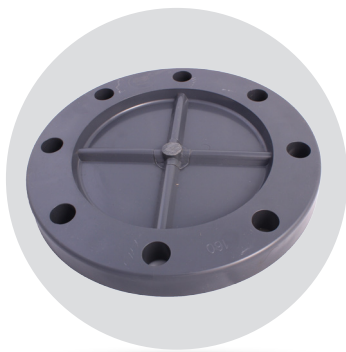
Wye

CODE	SIZE (mm)	PN
*1216080040	40	16
*1216080050	50	16
*1216080063	63	16
*1216080075	75	16
*1216080110	110	16
*1216080160	160	16



Cross Tee

CODE	SIZE (mm)	PN
*1216057032	32	16
*1216057040	40	16
*1216057050	50	16
*1216057063	63	16
*1216057075	75	16
*1216057090	90	16
*1216057110	110	16



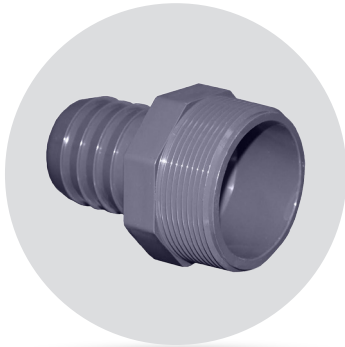
Blind Flange

CODE	SIZE (mm)	PN
*1216092032	32	16
*1216092040	40	16
*1216092050	50	16
*1216092063	63	16
*1216092075	75	16
*1216092090	90	16
*1216092110	110	16
*1216092125	125	16
*1216092140	140	16
*1216092160	160	16
*1216092200	200	10
*1216092225	225	10
*1216092250	250	10
*1216092280	280	10
*1216092315	315	10



Nipple

CODE	SIZE (in)	PN
*1216093038	3/8"	16
*1216093012	1/2"	16
*1216093034	3/4"	16
*1216093100	1"	16
*1216093114	1 1/4"	16
*1216093112	1 1/2"	16
*1216093200	2"	16
*1216093212	2 1/2"	16
*1216093300	3"	16
*1216093400	4"	16



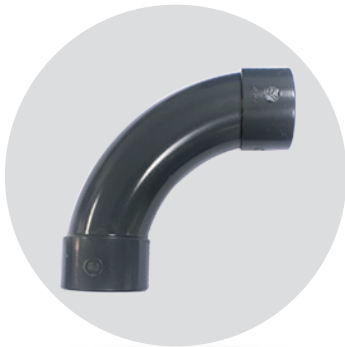
Hose Adapter

CODE	SIZE	PN
*1216028012	1/2"	16
*1216028014	1/4"	16
*1216028032	32x32mm	16
*1216028034	3/4"	16
*1216028038	20x3/8"	16
*1216028040	40x40mm	16
*1216028063	63x63mm	16
*1216028100	1"	16
*1216028112	1 1/2"	16
*1216028114	1 1/4"	16
*1216028200	2"	16



Cap Male Threaded

CODE	SIZE (in)	PN
*1216073038	3/8"	16
*1216073012	1/2"	16
*1216073034	3/4"	16
*12160730100	1"	16
*12160730114	1 1/4"	16
*12160730112	1 1/2"	16
*12160730200	2"	16
*12160730212	2 1/2"	16
*12160730300	3"	16
*12160730400	4"	16



UPVC Long Radius Bend 90°

CODE	d	L	Z	E	PN	Gr.
*1216015020	20	16	40	28	16	45
*1216015025	25	25	50	35	16	75
*1216015032	32	32	65	42	16	125
*1216015040	40	40	80	51	16	201
*1216015050	50	50	100	63	16	318
*1216015063	63	63	126	77	16	510
*1216015075	75	75	150	95	16	1.016
*1216015090	90	90	180	113	16	1.790
*1216015110	110	110	220	133	16	2.860



UPVC Long Radius Bend 90°

CODE	D mm	L mm
115032000	32	115
115040000	40	144
115050000	50	179
115063000	63	364
115075000	75	414
115090000	90	476
115110000	110	559
115160000	160	768



UPVC Long Radius Bend 45°

CODE	D mm	L mm
115451600	160	768



Repair Coupling

CODE	Size(mm)	CL	PN
117050510	50	5	16
117063410	63	4	10
117063516	63	5	16
117075410	75	4	10
117075516	75	5	16
117090410	90	4	10
117090516	90	5	16
117110306	110	3	6
117110410	110	4	10
117110516	110	5	16
117160306	160	3	6
117160410	160	4	10
117160516	160	5	16
117200306	200	3	6
117200410	200	4	10
117200516	200	5	16
117225306	225	3	6
117225410	225	4	10
117225516	225	5	16
117250306	250	3	6
117250516	250	5	16
117280306	280	3	6
117315516	315	5	16
117630306	630	3	6
117800302	800	3	6



CHEMICAL RESISTANCE

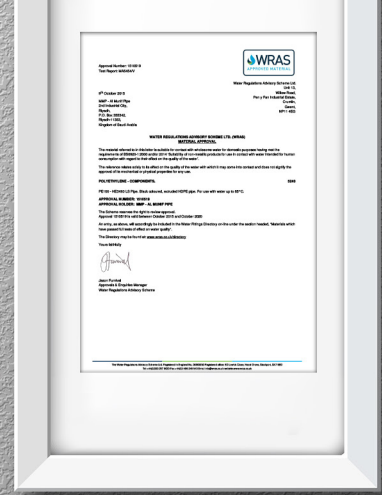
Chemical Resistance of UPVC compound according to ISO/TR 7473 table 1

Reactives	Concentration	Temperature	
		20 °C	60 °C
Acetaldehyde	40%	NS	-
Acetaldehyde	100%	NS	-
Acetic Acid	Glacial	NS	NS
Acetic Acid	25%	S	L
Acetic Acid	60%	S	L
Acetic Anhydride	100%	NS	NS
Acetone	100%	NS	NS
Adipic Acid	Sat. sol.	S	L
Allyl Alcohol	96%	L	NS
Aluminum Chloride	Sat. sol.	S	S
Aluminum Potassium Sulphate	Sat. sol.	S	S
Aluminum Sulphate	Sat. sol.	S	S
Ammonia, Dry gas	100%	S	S
Ammonia, Liquid	100%	L	NS
Ammonia, Aqueous	Dil. sol.	S	L
Ammonium Chloride	Sat. sol.	S	S
Ammonium Fluoride	20%	S	L
Ammonium Nitrate	Sat. sol.	S	S
Ammonium Sulphate	Sat. sol.	S	S
Amyl Acetate (1-Pentanol Acetate)	100%	NS	NS
Amyl Alcohol (1-Pentanol)	100%	S	L
Aniline	100%	NS	NS
Aniline	Sat. sol.	NS	NS
Aniline Hydrochloride	Sat. sol.	NS	NS
Antimony (III) Chloride	90%	S	S
Anthraquinone Sulphonic Acid	Sol.	S	L
Arsenic Acid	Dil. sol.	S	-
Arsenic Acid	Sat. sol.	S	L
Benzaldehyde	0.1%	NS	NS
Benzene	100%	NS	NS
Benzoic Acid	Sat. sol.	L	NS
Borax	Sat. sol.	S	L
Boric Acid	Dil. sol.	S	L
Bromic Acid	10%	S	-
Bromine, Liquid	100%	NS	NS
Butadiene	100%	S	S
Butane, Gas	100%	S	-
Butanols	Up to 100%	S	L
Butyl Acetate	100%	NS	NS
Butyl Phenol	100%	NS	NS
Butyric Acid	20%	S	L
Butyric Acid	98%	NS	NS
Calcium Chloride	Sat. sol.	S	S
Calcium Nitrate	50%	S	S
Carbon Dioxide (Aqueous Solution)	Sat. sol.	L	L
Carbon Dioxide, Dry Gas	100%	S	S
Carbon Dioxide, Wet Gas	-	S	S
Carbon Disulphide	100%	NS	NS
Carbon Tetrachloride	100%	NS	NS
Chlorine, Dry Gas	100%	L	NS
Chlorine, Aqueous	Sat. sol.	L	NS
Chloroacetic Acid	Sol.	S	L
Chlorosulphonic Acid	100%	L	NS
Chromic Acid	From 1% to 50%	S	L
Citric Acid	Sat. sol.	S	S
Copper (II) Chloride	Sat. sol.	S	S
Copper (II) Fluoride	2%	S	S
Copper (III) Sulphate	Sat. sol.	S	S
Cresols	Sat. sol.	-	NS
Cresylic Acid (Methyl Benzoic Acid)	Sat. sol.	-	NS
Crotonaldehyde	100%	NS	NS
Cyclohexanol	100%	NS	NS
Cyclohexanone	100%	NS	NS
Developers (Photographic)	Work. sol.	S	S
Dextrin	Sat. sol.	S	L
Dichloroethane	100%	NS	NS
Dichloromethane	100%	NS	NS
Diethyl Ether	100%	NS	-
Diglycolic Acid	18%	S	L
Dimethylamine	30%	S	-
Ethanediol (Ethylene-glycol)	Work. sol.	S	S

Continue Chemical Resistance of UPVC compound according to ISO/TR 7473 table 1

Ethanol	%95	S	L
Ethyl Acetate	%100	NS	NS
Ethyl Acrylate	%100	NS	NS
Fluosilicic Acid	%32	S	S
Formaldehyde	.Dil. sol	S	L
Formaldehyde	%40	S	S
Formic Acid	%50 to %1 From	S	L
Furfuryl Alcohol	%100	NS	NS
Gasoline (Aliphatic Hydrocarbons)	-	S	S
Glucose	.Sat. sol	S	L
Glycerol	%100	S	S
Glycolic Acid	%30	S	S
Hexadecanol	%100	S	S
Hydrobromic Acid	%10	S	L
Hydrobromic Acid	%50	S	L
Hydrobromic Acid	%20	S	L
Hydrobromic Acid	%30 Greater than	S	S
Hydrobromic Acid	%40	L	NS
Hydrobromic Acid	%60	L	NS
Hydrobromic Acid, Gas	%100	L	NS
Hydrogen	%100	S	S
Hydrogen Peroxide	%30	S	S
Hydrogen Sulphide, Gas	%100	S	S
Iron (III) Chloride	.Sat. sol	S	S
Lactic Acid	%10	S	L
Lactic Acid	%90 to %10 From	L	NS
Lead Acetate	.Dil. sol	S	S
Lead Acetate	.Sat. sol	S	S
Lead Tetraethyl	%100	S	-
Magnesium Chloride	.Sat. sol	S	S
Magnesium Sulphate	.Sat. sol	S	S
Maleic Acid	.Sat. sol	S	L
Methanol	%100	S	L
Methyl Methacrylate	%100	NS	NS
Milk	-	S	S
Molasses	.Work. sol	S	L
Nickel Sulphate	.Sat. sol	S	S
Nicotinic Acid	.Work. sol	S	S
Nitric Acid	%45 Up to	S	L
Nitric Acid	98 to 50 From	NS	NS
Oils and Fats	-	S	S
Oleic Acid	%100	S	S
Oleum	to 503 %10	NS	NS
Orthophosphoric Acid, Aqueous	%30	S	L
Orthophosphoric Acid, Aqueous	%30 Greater than	S	S
Oxalic Acid	.Dil. sol	S	L
Oxalic Acid	.Sat. sol	S	S
Oxygen	%100	S	S
Ozone	%100	S	S
Perchloric Acid	%10	S	L
Perchloric Acid	%70	L	NS
Petrol (Aliphatic Hydrocarbons/ Benzene)	20/80	NS	NS
Phenol	%90	NS	NS
Phenylhydrazine	%100	NS	NS
Phenylhydrazine Hydrochloride	%97	NS	NS
Phosphine	%100	S	S
Phosphorus (III) Chloride	%100	NS	-
Picric Acid	.Sat. sol	S	S
Potassium Bromide	.Sat. sol	S	S
Potassium Chloride	.Sat. sol	S	S
Potassium Chromate	%40	S	S
Potassium Cyanide	.Sol	S	S
Potassium Dichromate	%40	S	S
(Potassium Hexacyanoferrate (II))	.Sat. sol	S	S
(Potassium Hexacyanoferrate (III))	.Sat. sol	S	S
Potassium Hydroxide	.Sol	S	S
Potassium Nitrate	.Sat. sol	S	S
Potassium Permanganate	%20	S	S
Potassium Persulphate	.Sat. sol	S	L
Propane, Liquefied Gas	%100	S	-
Pyridine	%100 Up to	NS	-









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