



Fii **FAQSON**
INTERNATIONAL
INDUSTRIES



WATSAN
ENGINEERING SERVICES

PE100 PIPE & FITTINGS

Water, Compressed Air, Waste Water, Gas Distribution & Industrial Piping Applications

Introduction

WATSAN Engineering Services is established in 2010 as trading, industrial, Irrigation, Water and Wastewater Pipe and Fittings to meet the market, Consulting Engineer, and departmental requirements. We have readily available import fittings as well-established State of the Art Injection molding machines and Molds to make the quality fittings inhouse available sources. Our main products are HDPE (PE) 100 Fittings for drinking water, Compressed Air, Natural Gas, and Irrigation Piping system. We can also make PPR-C Fittings for Hot and Cold-Water applications.



For meeting market demand we have established a new manufacturing Industry 2018 with named **FAQSON INTERNATIONAL INDUSTRIES**, for making HDPE (PE), PPR-C and PP Compression Pipe and Fittings along with LDPE (LD) Pipe (Plan, Integrated and Fittings, HDPE Pipe and Fittings for Telecom Duct Pipes and Coupling, Spacers based in Bhalwal Industrial Estate (Bhalwal Distt. Sargodha) and Rawat Industrial Estate Rawat Rawalpindi.

Our vision is to develop quality products to meet the Pakistan requirements as well Potential Export business in international market.

Characteristics & advantages

- ▶ Corrosion resistant. PE is inert material. Except for few strong oxidant, this material can resist many chemical matters. No electron chemical corrosion and don't need antiseptic layer.
- ▶ High ductility. PE pipe for water supply possesses high ductility. Its extension ration at break can not excess 500%.
- ▶ Good chemical resistance, PE pipe is suitable for many chemical solutions Corrosion in nature serving circumstance will not degrade the pipe.
- ▶ Extraordinary flexibility and impact resistance even under very low temperature.
- ▶ Toughness: PE has low notch sensitivity, high tear strength, and excellent scratch resistance.
- ▶ Various connection options which make the installations convenient and easy.
- ▶ Resistance to impact, PE pipe is so tough that it does not intent to rupture even if heavy presses to the pipe directly.
- ▶ Long servcel life: Based on international standards, the progression curves of PE pipe project a life of 50 years under the service temperature of 23°C.



Technical Data Sheet

Physical Properties Of Polyethylene (PE100) Black For Pipes

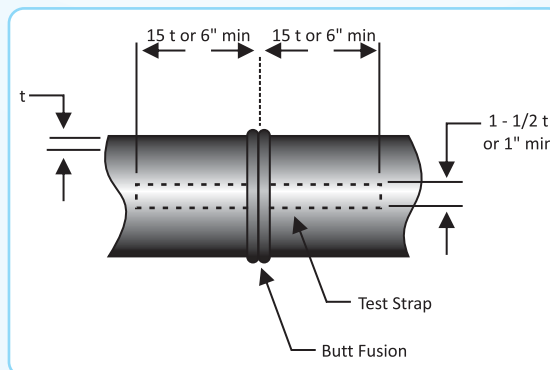
		Typical Value*	Unit	Test Method
Density	(Base resin)	949	kg/m ³	ISO 1183/ISO 1872-2E
Density	(Compound)	959	kg/m ³	ISO 1183/ISO 1872-2E
Melt Flow Rate	(190°C/2.16 kg)	<0.1	g/10 min	ISO 1133
Melt Flow Rate	(190°C/5.0 kg)	0.25	g/10 min	ISO 1133
Tensile Strees at Yield	(50 mm/min)	25	Mpa	ISO 527-2
Elongation at Break		>350	%	ISO 527-2
Charpy Impact, Notched	(0°C)	16	kJ/m ²	ISO 179/1eA
Hardness, Shore D		60	-	ISO 868
Carbon Black Content		>2	%	ASTM D 1603
Brittleness Temperature		<-70	°C	ASTM D 746
ESCR	(10% Igepal), F50	>10000	h	ASTM D 1693-A
Thermal Stability	(210°C)	>15	min	EN 728

Physical Properties Of Polyethylene (PE100) Black For Injection Mold Fittings

	Typical Value*	Unit	Test Method
Density (base resin)	949	kg/m ³	ISO 1183/ISO 1872-2B
Density (compound)	959	kg/m ³	ISO 1183/ISO 1872-2B
Melt Flow Rate (190OC/5 kg)	0.55	g/10 min	ISO 1133
Tensile Modulus	1100	MPa	ISO 527-2
Stress at Yield	24	MPa	ISO 527-2
Elongation at Break	>350	%	ISO 527-2
Carbon Black Content	2,3	%	ISO 6964
Thermal Stability (200OC)	>20	min	EN 728

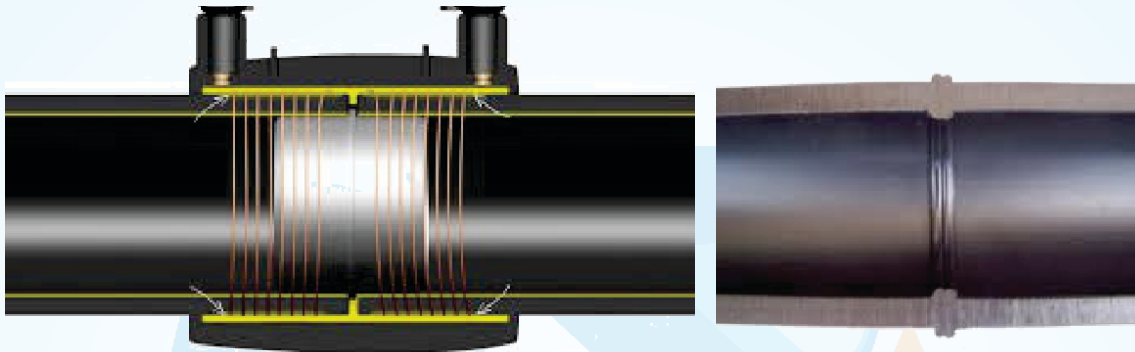
Physical Properties Of Polyethylene (PE100) Orange (Gas Pipe & Fittings)

	Typical Value*	Unit	Test Method	Typical Application
Designation Type				PE100 (Gas)
Colour				Orange
MFR (190°C / 5.0 kg) g / 10 min	0.27	g/10 min	ISO 1133	High stress crack resistant grade for toughest conditions gas pressure pipes
Density Kg/m ³	951	MPa	ISO 527-2	
Tensile stress at yield	25	MPa	ISO 527-2	
Tensile modulus	1000	MPa	ISO 527-2	



Applications

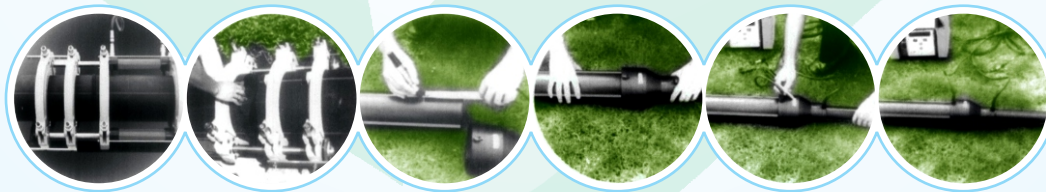
Typical applications of PE pipes include, municipal water, potable water supply, chemical and food industry, mine sand and slurry delivery, fuel gas transport, ducts for cable protection, pipe system for drainage and sewage and many others whose temperature does not exceed 40°C.



Butt Welding Connection:

Temperature for hot-melting connection: 200-210°C. When apply this method, only hot-melting butt equipment is required, procedures as follows,

1. Put the pipe on the clamp of welder, clamp tightly;
2. Clean the connection end of pipe, mill the joint face smooth;
3. Align the two butt parts, their end face misplacement value cannot be beyond 10% of the wall thickness;
4. Heat them on heating plate;
5. Finished heating, withdraw the heating plate;
6. Joint the two heating surface immediately, add pressure to required melting value, dwell and cooling.



Electro-fusion Connection:

It is suitable for all pipes.

1. Set a certain parameter at the beginning.
2. Wait until the heating tool reaches the melting temperature (260+/-10°C). The end of the socket pipe should be cut smoothly and be vertical to the axial line.
3. Make suitable mark on the pipe mouth and socket for connection and position fix.
4. Make sure that to use the female mold of heating tool to melt the external surface of socket pipe end, and use male mold to melt the internal surface of pipe mouth end.
5. When finish heating, please remove the heating tool immediately, then insert the socket mouth end into pipe mouth end straightly.
6. Wait until it reaches the required connection strength, then fix the joint, natural cooling to ambient temperature.

SPECIFICATIONS

The nominal stress and spec of PE pipe (PE100)

Nominal O.D. d_n , mm	The average of permitted Warp	Nominal wall thickness e_n , mm				
		Standard size percentage				
		SDR26	SDR21	SDR17	SDR13.6	SDR11
		Nominal Stress, PN Mpa				
		0.6	0.8	1.0	1.25	1.6
32	+0.3	—	—	—	—	3.0
40	+0.4	—	—	—	—	3.7
50	+0.5	—	—	—	—	4.6
63	+0.6	—	—	—	4.7	5.8
75	+0.7	—	—	4.5	5.6	6.8
90	+0.9	—	4.3	5.4	6.7	8.2
110	+1.0	4.2	5.3	6.6	8.1	10.0
125	+1.2	4.8	6.0	7.4	9.2	11.4
140	+1.3	5.4	6.7	8.3	10.3	12.7
160	+1.5	6.2	7.7	9.5	11.8	14.6
180	+1.7	6.9	8.6	10.7	13.3	16.4
200	+1.8	7.7	9.6	10.9	14.7	18.2
225	+2.1	8.6	10.8	13.4	16.6	20.5
250	+2.3	9.6	11.9	14.8	18.4	22.7
280	+2.6	10.7	13.4	16.6	20.6	25.4
315	+2.9	12.1	15.0	18.7	23.2	28.6
355	+3.2	13.6	16.9	21.1	26.1	32.2
400	+3.6	15.3	19.1	23.7	29.4	36.3
450	+4.1	17.2	21.5	26.7	33.1	40.9
500	+4.5	19.1	23.9	29.7	36.8	45.4
560	+5.0	21.4	26.7	33.2	41.2	50.8
630	+5.7	24.1	30.0	37.4	46.6	57.2

HDPE Telecom & Energy Cable Duct Dimensions

Pipe Sizes (mm)	Max. Outer Diameter	Min. Outer Diameter	Min. Thickness (mm)	Min. Thickness (mm)	Coil Length (Meters)
12	12.1	12	1.9	2.1	100 - 500
16	16.2	16	2	2.2	100 - 500
20	20.20	20.00	2.20	2.50	100 - 200
25	25.20	25.00	2.27	2.31	100 - 200
32	32.30	32.00	2.40	2.90	100 - 200
40	40.40	40.00	3.00	3.20	100 - 200
40	40.40	40.00	3.50	3.70	100 - 200
50	50.30	49.75	5.70	6.30	100 - 150
57	57.40	56.60	3.25	3.71	100 - 150
57	57.40	56.60	4.20	4.51	100 - 150
63	63.50	63.00	4.71	5.41	100 - 125
90	91.00	90.00	5.41	6.21	50 - 100
90	91.00	90.00	7.35	8.61	50 - 100
90	91.00	90.00	9.31	10.31	50 - 100
110	111.00	110.00	6.21	6.55	50 - 60

NOTE:-

Special inner Ribbed/Silicore HDPE duct pipe can be produce according to requirements

Colored HDPE telcom and energy duct can be produced against requirements

Special Color Strip/Lines can be marked on outer surface of pipes can be produce according to requirements.

Other than above sizes can be produced against required sizes

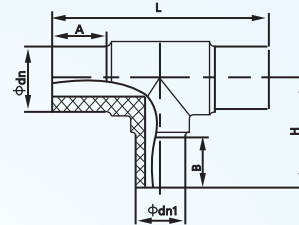
0.5~1% Variation may possible in Pipe dimensions in outer/ inner & wall thickness during manufacturing process.

Couplers all sizes from 20mm to 110mm Blue Series ITALIAN PLAST PN16 (Nominal Pressure 16 Bars) for Telecom Duct Pipe/Water/ Air/Gas & Irrigation available.

Coupler & Socket 40mm, 50mm, 57mm, 63mm and 90mm also available ITALIAN PLAST Blue/Green and Black or Choice Color Caps.

PE EF(Electrofusion) Couplers also available with EF Machine for Air Jet Cable Pulling from 20mm to 110mm

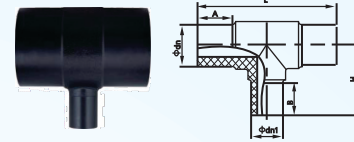
SPECIFICATIONS



PE Spigot Reducing Tee (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Reducing Tee									
SDR11					SDR17				
SIZE	L±5	A+5	B+5	H±5	SIZE	L±5	A+5	B+5	H±5
50x32x50	169	55	54	86					
63x25x63	168	63	44	92					
63x32x63	174	63	44	93					
63x40x63	182	63	55	102					
63x50x63	191	63	55	102					
75x32x75	227	72	40	95					
75x40x75	227	72	49	106					
75x50x75	227	72	55	108					
75x63x75	227	72	63	118					
90x32x90	212	79	44	101					
90x40x90	223	79	49	115					
90x50x90	230	79	55	110	90x50x90	230	79	55	110
90x63x90	244	79	63	115	90x63x90	244	79	63	115
90x75x90	251	79	70	128	90x75x90	251	79	70	128
110x32x110	222	82	48	115					
110x40x110	230	82	49	128					
110x50x110	240	82	55	135	110x50x110	240	82	55	135
110x63x110	245	82	63	138	110x63x110	245	82	63	138
110x75x110	262	82	70	145	110x75x110	262	82	70	145
110x90x110	273	82	79	152	110x90x110	277	82	79	145
125x63x125	318	87	63	146					
125x75x125	318	87	70	160	125x75x125	318	87	70	150
125x90x125	318	87	79	160	125x90x125	318	87	79	150
125x110x125	318	87	82	165	125x110x125	318	87	82	160
140x110x140	315	92	82	160	140x110x140	315	92	82	160
140x125x140	333	92	87	175	140x125x140	333	92	87	167
160x63x160	275	98	63	163	160x63x160	275	98	63	153
160x75x160	288	98	70	173	160x75x160	288	98	70	165

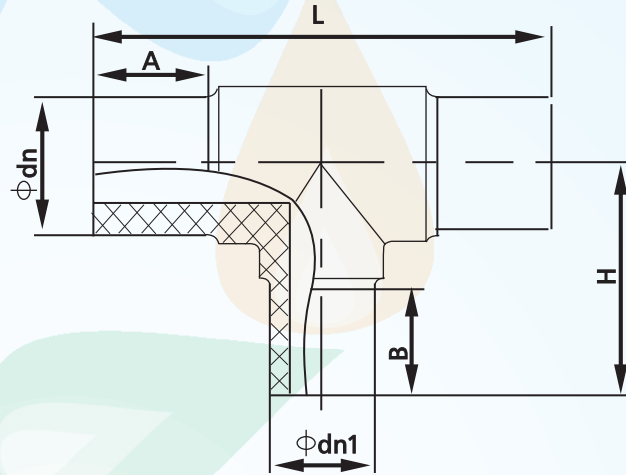
SPECIFICATIONS



PE Spigot Reducing Tee (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Reducing Tee									
SDR11					SDR17				
SIZE	L±5	A+5	B+5	H±5	SIZE	L±5	A+5	B+5	H±5
160x90x160	300	98	79	185	160x90x160	300	98	79	170
160x110x160	325	98	82	195	160x110x160	325	98	82	170
160x125x160	335	98	87	192	160x125x160	335	98	87	180
160x140x160	347	98	92	197					
180x90x180	340	105	79	190	180x90x180	340	105	79	180
180x110x180	355	105	82	190	180x110x180	365	105	82	185
180x125x180	365	105	87	202	180x125x180	365	105	87	185
200x63x200	307	112	63	181	200x63x200	307	112	63	175
200x75x200	315	112	70	182	200x75x200	315	112	70	180
200x90x200	334	112	79	190	200x90x200	334	112	79	190
200x110x200	356	112	82	200	200x110x200	356	112	82	195
200x125x200	380	112	87	204	200x125x200	380	112	87	195
200x160x200	420	112	98	210	200x160x200	420	112	98	210
225x90x225	360	120	79	220	225x90x225	360	120	79	210
225x110x225	370	120	82	215	225x110x225	374	120	82	215
225x160x225	422	120	98	230	225x160x225	422	120	98	210
225x180x225	430	95	85	195	225x180x225	430	115	85	220
250x90x250	375	130	79	230	250x90x250	375	130	79	220
250x110x250	378	120	82	225	250x110x250	385	130	82	220
250x125x250	412	125	87	235					
250x160x250	380	95	98	235	250x160x250	380	95	98	240
250x180x250	464	130	102	248					
250x200x250	380	75	112	255	250x200x250	380	75	112	255
280x90x280	406	139	79	245	280x90x280	406	139	79	230
280x110x280	410	139	82	250					
280x125x280	427	139	87	255					
280x160x280	459	139	98	270					
280x225x280	545	147	127	285	280x225x280	545	147	127	280
315x90x315	425	150	79	265	315x90x315	425	150	79	255
315x110x315	437	150	82	265	315x110x315	437	150	82	270
315x160x315	450	132	77	250	315x160x315	450	132	77	240
315x180x315	450	118	100	285					

SPECIFICATIONS



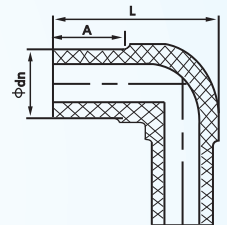
PE Spigot Reducing Tee (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Reducing Tee									
SDR11					SDR17				
SIZE	L±5	A+5	B+5	H±5	SIZE	L±5	A+5	B+5	H±5
315x200x315	450	113	98	285	315x200x315	450	113	98	270
315x225x315	450	95	100	275	315x225x315	450	95	100	275
315x250x315	454	93	77	268	315x250x315	450	90	70	245
315x280x315	583	140	110	320	315x280x315	570	130	105	280
					355x250x355	635	165	110	290
					355x315x355	725	165	140	355
400x315x400	670	130	150	380	400x315x400	680	160	150	380
400x355x400	670	130	150	380	400x355x400	675	145	130	374
450x315x450	660	150	150	410	450x315x450	660	150	150	410
450x400x450	740	150	170	410	450x400x450	740	150	170	410
500x125x500	500	160	120	410	500x125x500	500	160	120	410
500x160x500	530	160	135	420	500x160x500	530	160	135	420
500x250x500	620	160	135	420	500x250x500	620	160	135	420
500x315x500	685	160	180	470	500x315x500	685	160	180	470
500x400x500	770	160	170	470	500x400x500	770	160	170	470
560x160x560	715	128	120	440	560x160x560	715	128	120	440
560x250x560	715	155	135	470	560x250x560	715	155	135	470
560x355x560	720	155	135	555	560x355x560	720	155	135	555
560x400x560	760	155	170	555	560x400x560	760	155	170	555
630x400x630	770	135	170	570	630x400x630	770	135	170	570
630x500x630	1000	135	190	570	630x500x630	1000	135	190	570

SPECIFICATIONS

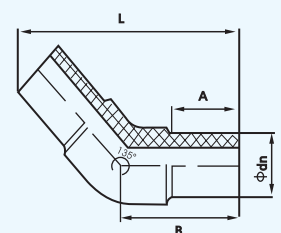
PE Spigot Elbow 90° (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Elbow 90°							
SDR11				SDR17			
SIZE	L +5,-3	A+5	B±5	SIZE	L +5,-3	A+5	B±5
63	160	63	80	63	160	63	80
75	180	70	89	75	180	70	89
90	227	79	112	90	229	79	112
110	245	82	118	110	245	82	120
125	244	87	118	125	244	87	113
140	258	80	135	140	258	80	135
160	258	80	135	160	258	80	135
180	340	80	145	180	340	80	145
200	355	80	160	200	355	80	160
225	390	80	170	225	390	80	170
250	405	80	185	250	405	80	185
280	460	140	215	280	465	140	215
315	505	150	220	315	510	140	220
355	530	145	235	355	530	145	235
400	580	160	270	400	580	160	270
450	650	155	280	450	650	155	280
500	735	180	320	500	735	180	320
560	760	160	330	560	760	160	330
630	820	160	360	630	820	160	360

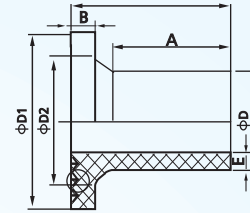


PE Spigot Elbow 45° (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Elbow 45°							
SDR11				SDR17			
SIZE	L +5,-3	A+5	B±5	SIZE	L +5,-3	A+5	B±5
63	160	63	80	63	160	63	80
75	180	70	89	75	180	70	89
90	227	79	112	90	229	79	112
110	245	82	118	110	245	82	120
125	244	87	118	125	244	87	113
140	258	80	135	140	258	80	135
160	258	80	135	160	258	80	135
180	340	80	145	180	340	80	145
200	355	80	160	200	355	80	160
225	390	80	170	225	390	80	170
250	405	80	185	250	405	80	185
280	460	140	215	280	465	140	215
315	505	150	220	315	510	140	220
355	530	145	235	355	530	145	235
400	580	160	270	400	580	160	270
450	650	155	280	450	650	155	280
500	735	180	320	500	735	180	320
560	760	160	330	560	760	160	330
630	820	160	360	630	820	160	360



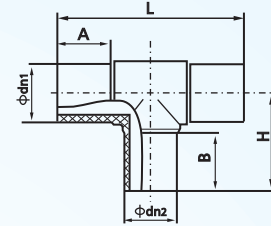
SPECIFICATIONS



PE Spigot Flange Adapter (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Stub End									
SDR11					SDR17				
SIZE	D1 ±2	L ±5	A +5	B ±1	SIZE	D1 ±2	L ±5	A +5	B ±1
20	45	84	63	7					
25	58	84	61	8					
32	68	84	61	10					
40	78	79	61	12					
50	88	84	67	12					
63	102	85	68	13	63	102	85	68	13
75	122	94	75	14	75	122	94	75	14
90	138	98	75	17	90	138	98	75	17
110	158	103	81	19	110	158	103	79	19
125	158	100	102	21	125	158	100	102	21
140	188	100	97	22	140	188	100	97	22
160	212	100	100	26	160	212	100	100	26
180	212	100	100	30	180	212	100	100	30
200	268	100	112	35	200	268	100	112	35
225	268	100	105	30	225	268	100	105	30
250	320	100	118	32	250	320	100	118	32
280	320	110	105	35	280	320	110	105	35
315	370	110	130	35	315	370	110	130	35
355	430	120	125	35	355	430	120	125	35
400	482	175	135	34	400	482	175	135	34
450A	530	208	135	43	450A	530	205	135	43
450B	546	208	135	43	450B	546	205	135	43
450C	585	208	135	43	450C	585	205	135	43
500	585	210	150	47	500	585	210	150	47
560A	630	215	160	45	560A	630	215	160	45
560B	685	215	160	45	560B	685	215	160	45
					630A	685	210	145	52
					630B	720	210	145	52
					710	800	190	117	57
					800	905	185	122	54
					900	1005	190	124	56
					1000	1110	189	105	58
					1200	1330	335	215	70

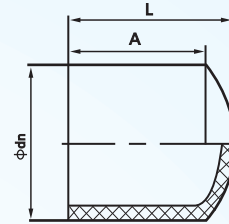
SPECIFICATIONS



PE Spigot Equal Tee (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Equal Tee									
SDR11					SDR17				
SIZE	L±5	A+5	B+5	H±5	SIZE	L±5	A+5	B+5	H±5
50x50x50	170	55	55	87					
63x63x63	203	63	63	104	63x63x63	203	63	63	104
75x75x75	230	70	70	118	75x75x75	230	70	70	114
90x90x90	263	79	77	134	90x90x90	263	79	77	134
110x110x110	295	82	82	145	110x110x110	295	82	82	145
125x125x125	315	87	87	163	125x125x125	315	87	87	163
140x140x140	345	92	92	178	140x140x140	345	92	92	174
160x160x160	325	70	70	169	160x160x160	325	70	70	169
180x180x180	437	105	105	225	180x180x180	437	105	105	225
200x200x200	380	78	87	200	200x200x200	380	78	87	200
225x225x225	423	87	104	240	225x225x225	430	95	105	235
250x250x250	517	120	120	275	250x250x250	517	120	120	265
280x280x280	600	139	139	310	280x280x280	600	139	139	297
315x315x315	619	137	127	315	315x315x315	619	137	127	300
355x355x355	635	120	120	350	355x355x355	635	120	120	350
400x400x400	675	110	120	380	400x400x400	675	110	120	380
450x450x450	800	155	170	410	450x450x450	800	155	170	410
500x500x500	860	140	160	505	500x500x500	860	140	160	505
560x560x560	910	140	160	555	560x560x560	910	140	160	555
630x630x630	1000	140	160	570	630x630x630	1000	140	160	570

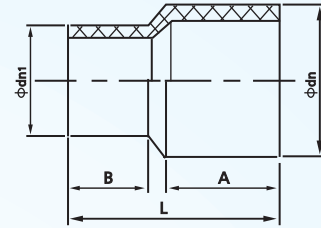
SPECIFICATIONS



PE Spigot End Cap (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion End Cap					
SDR11			SDR17		
SIZE	L±5	A+5	SIZE	L±5	A+5
20	55	45			
25	46	40			
32	52	44			
40	87	67			
50	90	67			
63	84	70	63	84	70
75	87	74			
90	93	84	90	93	84
110	98	82	110	98	82
125	107	87	125	107	87
140			140		
160	128	102	160	128	102
180	145	112	180	145	112
200	142	112	200	142	112
225	146	119	225	146	119
250	173	128	250	176	128
280	166	140	280	166	136
315	192	150	315	192	155
355			355	210	152
400	215	150	400	215	150
			500	243	195
			630	238	182

SPECIFICATIONS

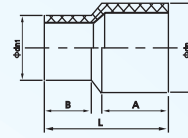


PE Spigot Reducer (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Reducer							
SDR11				SDR17			
SIZE	L +5,-3	A +5	B +5	SIZE	L +5,-3	A +5	B +5
63x25	146	65	58				
63x32	155	70	55				
63x40	152	70	55				
63x50	158	70	55				
75x32	160	80	60				
75x50	160	80	60				
75x63	160	80	63				
90x32	170	79	60				
90x40	175	79	60				
90x50	174	79	60	90x50	174	79	60
90x63	174	79	65	90x63	174	79	65
90x75	175	79	70	90x75	175	79	70
110x40	180	89	60				
110x50	180	89	60	110x50	180	89	60
110x63	185	89	63	110x63	185	89	63
110x75	188	89	70	110x75	188	89	70
110x90	190	89	79	110x90	190	89	79
125x63	192	87	63				
125x75	186	87	70				
125x90	195	87	80	125x90	195	87	80
125x110	195	87	82	125x110	195	87	82
140x90	232	92	79				
140x110	232	92	82	140x110	232	92	82
160x32	210	98	70				
160x63	210	98	70	160x63	210	98	70
160x75	210	98	70	160x75	210	98	70
160x90	212	98	80	160x90	212	98	80
160x110	215	98	82	160x110	215	98	82
160x125	218	98	87	160x125	218	98	87

SPECIFICATIONS

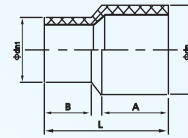
PE Spigot Reducer (PN16 WATER PN10 GAS/AIR)



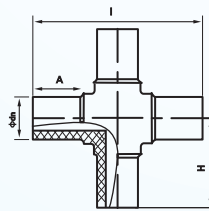
PE Butt Fusion Reducer							
SDR11				SDR17			
SIZE	L +5,-3	A +5	B +5	SIZE	L +5,-3	A +5	B +5
180x90	240	108	80	180x90	240	108	80
180x110	228	108	82	180x110	228	108	82
180x125	240	108	87	180x125	240	108	87
180x160	240	104	93				
200x63	227	112	63				
200x90	230	112	80	200x90	230	112	80
200x110	230	112	82	200x110	230	112	82
200x125	230	112	87				
200x160	240	112	98	200x160	240	112	98
200x180	242	112	105				
225x90	237	110	79				
225x110	250	110	82	225x110	250	110	82
225x160	258	110	98	225x160	258	110	98
225x180	250	110	88	225x180	250	110	88
225x200	255	115	88	225x200	255	110	88
250x90	230	110	88	250x90	230	110	88
250x110	237	110	88	250x110	237	110	88
250x125	230	110	90	250x125	230	110	90
250x160	245	110	100	250x160	245	110	100
250x180	248	110	105	250x180	248	110	105
250x200	250	110	105	250x200	250	110	105
250x225	235	110	85	250x225	280	130	120
280x160	256	110	88	280x160	253	110	85
280x180	255	110	85				
280x200	252	108	85				
280x225	250	110	85	280x225	250	110	85
280x250	248	110	82				
315x90	255	118	90	315x90	255	118	90
315x110	255	118	92	315x110	255	118	92
315x160	256	118	92	315x160	256	118	92
315x180	256	118	94	315x180	256	118	94
315x200	258	118	94	315x200	258	118	94

SPECIFICATIONS

PE Spigot Reducer (PN16 WATER PN10 GAS/AIR)



PE Butt Fusion Reducer							
SDR11				SDR17			
SIZE	L +5,-3	A +5	B +5	SIZE	L +5,-3	A +5	B +5
315x225	255	117	95	315x225	255	117	95
315x250	255	117	95	315x250	255	117	95
160x125	218	98	87	160x125	218	98	87
315x280	255	120	104				
				355x200	300	110	110
				355x250	290	110	110
355x280	285	115	110	355x280	285	110	110
400x200	285	110	110	400x200	285	110	110
400x250	285	110	110	400x250	285	110	110
400x315	285	110	110	400x315	285	110	110
400x355	285	110	110	400x355	285	110	110
				450x200	255	110	100
				450x250	255	110	100
				450x315	265	110	110
				450x355	265	110	110
				450x400	270	110	110
				500x400	250	100	100
				500x450	250	100	100
				560x500	250	100	100
				630x500	250	100	100
				710x630	250	100	100
				800x710	250	100	100

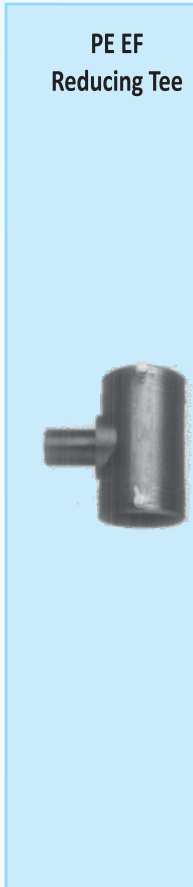


PE Spigot Equal Cross (PN16 WATER PN10 GAS/AIR)

PE Butt Fusion Equal Cross							
SDR11				SDR17			
SIZE	L +5,-3	A +5	B +5	SIZE	L +5,-3	A +5	B +5
63	230	82	102				
90	290	79	143				
110	290	82	145				
160	428	98	225				
200	420	88	210				
				250	507	120	252
				315	605	120	305
				355	655	120	330

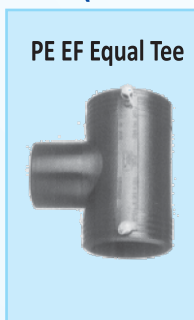
SPECIFICATIONS

PE EF (Electro Fusion) Reducing Tee (PN16 WATER PN10 GAS/AIR)



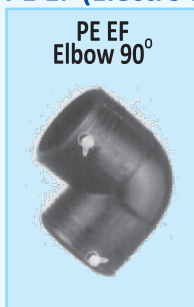
Dimension	ΦD	L	C1	ΦD1	C2	H	Φd
DN32-25-32	45	120	43	25	45	36	4.8
DN40-32-40	52	130	45	32	50	41	4.8
DN50-32-50	65	150	50	32	55	48	4.8
DN50-40-50	65	150	50	40	55	48	4.8
DN63-32-63	80	176	57	32	65	58	4.8
DN63-40-63	80	176	57	40	65	58	4.8
DN63-50-63	80	176	57	50	65	58	4.8
DN75-50-63	95	205	65	32	70	64	4.8
DN75-40-75	95	205	65	40	70	64	4.8
DN75-50-75	95	205	65	50	70	64	4.8
DN75-63-75	95	205	65	63	70	64	4.8
DN90-50-90	112	225	70	50	79	71	4.8
DN90-63-90	112	225	70	63	79	71	4.8
DN90-75-90	112	225	70	75	79	71	4.8
DN110-50-110	139	255	77	50	82	87	4.8
DN110-63-110	139	255	77	63	82	87	4.8
DN110-75-110	139	255	77	75	82	87	4.8
DN110-90-110	139	255	77	90	82	87	4.8
DN25-63-125	156	285	83	63	87	95	4.8
DN25-75-125	156	285	83	75	87	95	4.8
DN25-90-125	156	285	83	90	87	95	4.8
DN25-110-125	156	285	83	110	87	95	4.8
DN60-63-160	198	320	90	63	98	114	4.8
DN60-75-160	198	320	90	75	98	114	4.8
DN60-90-160	198	320	90	90	98	114	4.8
DN60-110-160	198	320	90	110	98	114	4.8
DN60-125-160	198	320	90	125	98	114	4.8

PE EF (Electro Fusion) Equal Tee (PN16 WATER PN10 GAS/AIR)



Dimension	ΦD	L	C1	ΦD1	C2	H	Φd
DN32-32-32	45	120	43	32	45	36	4.8
DN40-40-40	52	130	45	40	50	41	4.8
DN50-50-50	65	150	50	50	55	48	4.8
DN63-63-63	80	176	57	63	65	58	4.8
DN75-75-75	95	205	65	75	70	64	4.8
DN90-90-90	112	225	70	90	79	71	4.8
DN110-110-110	139	225	77	110	82	87	4.8
DN125-125-125	156	285	83	125	87	95	4.8
DN160-160-160	198	320	90	160	98	114	4.8

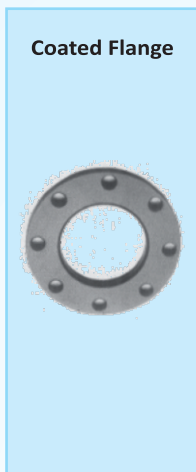
PE EF (Electro Fusion) Elbow 90° (PN16 WATER PN10 GAS/AIR)



Dimension	ΦD	L	C	H	Φd
DN32-90°	45	63	43	36	4.8
DN40-90°	52	68	45	41	4.8
DN50-90°	65	80	50	48	4.8
DN63-90°	80	93	57	58	4.8
DN75-90°	95	108	65	64	4.8
DN90-90°	112	118	70	71	4.8
DN110-90°	139	140	77	87	4.8
DN125-90°	156	152	83	95	4.8
DN160-90°	198	178	90	114	4.8

SPECIFICATIONS

PE / PP Coated Flanges (PN16 WATER PN10 GAS/AIR)



Dimension	D	K	B	n	d
63	160	125	68	4	18
75	185	145	80	4	18
90	200	160	95	8	18
110	220	180	115	8	18
125	250	210	130	8	18
160	285	240	165	8	22
200	340	295	205	8	22
250	395	350	260	12	22
315	445	400	325	12	22
350	505	460	358	16	22
400	565	515	410	16	22
450	615	565	460	20	25
500	670	620	510	20	25
630	780	725	640	20	30

PE EF (Electro Fusion) Equal Coupler (PN16 WATER PN10 GAS/AIR)

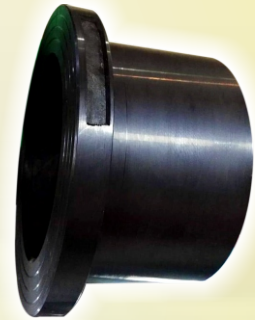
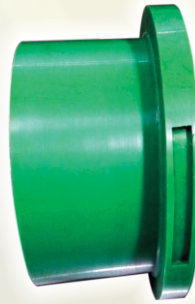


Dimension	ΦD	L	C	H	Φd
Dn32	45	90	43	36	4.8
Db40	52	95	45	41	4.8
Dn50	65	105	50	48	4.8
Dn63	80	115	57	58	4.8
Dn75	95	135	65	64	4.8
Dn90	112	145	70	71	4.8
Dn110	139	160	77	87	4.8
Dn125	156	170	83	95	4.8
Dn160	198	186	90	114	4.8
Dn200	246	208	102	137	4.8
Dn250	306	220	107	169	4.8

PE EF (Electro Fusion) Reducing Coupler (PN16 WATER PN10 GAS/AIR)



Dimension	ΦD	C1	ΦD	C2	L	H1	H2	ΦD
DN40-32	52	45	45	43	96	41	36	4.8
DN50-32	65	50	45	43	102	48	36	4.8
DN50-32	65	50	52	45	100	48	41	4.8
DN63-32	79	55	45	43	114	58	36	4.8
DN63-32	79	55	52	45	112	58	41	4.8
DN63-32	79	55	65	50	112	58	48	4.8
DN75-32	95	65	65	50	128	64	48	4.8
DN75-32	95	65	79	55	126	64	58	4.8
DN90-32	112	70	79	55	139	71	58	4.8
DN90-32	112	70	95	65	143	71	64	4.8
DN110-32	139	77	79	55	156	87	58	4.8
DN110-32	139	77	95	65	160	87	64	4.8
DN110-32	139	77	112	70	157	87	71	4.8
DN125-32	156	83	139	77	168	95	87	4.8
DN160-32	198	90	139	77	192	114	87	4.8






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