Polyfab
Plastic Industry LLC

HIGH DENSITY
POLYETHYLENE
PIPE SYSTEMS

WRAS Water Regulations Advisory Scheme
FM APPROVED
SGS SGS SGS
ICV CERTIFIED

PE PIPES
PE FITTINGS
PE FUSION MACHINES

Certificates

International Certificates

Govt. Department Certificates

Polyfab the experts in plastic piping solution, started their operation in the year 2005 with the manufacturing facility located at New Industrial Area Ajman, United Arab Emirates.

Polyfab was founded in the year 2005. We are experts in plastic piping solution having the manufacturing facility located at New Industrial Area Ajman UAE.

Polyfab operates with a humble **vision** to provide quality products at competitive rates ensuring quality service always. Irrespective of the motivation we strive with a **mission** for better results in plastic piping solutions.

We manufacture products conforming to international standards and offer complete range of plastic pipes and fittings irrespective of their applications, size, grade colour, etc.

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Introduction

Polyfab manufacture and supply Plastic Pipe Systems and related products for various applications including residential and commercial construction,industrial, infrastructure public utilities.

Our HDPE division supply all types and sizes of fittings for water transportation in the utilities and for gas distribution networks.

Products

The construction industry is increasingly turning to novel materials which are waterproof, stable, weather resistant, light and easy to handle. Polyethylene (PE) was introduced in the late 1950s and has undergone tremendous development to reach the world-wide position it enjoys today.

Understanding customer need we focus on the wide acceptance on PE fittings and begin the supply to local market. Our aim to become one roof source for complete PE pipe fittings, fusion machines and its accessories. Our products comply with relevant national, European and International products standards. All HDPE pipes and fittings supplied by polyfab are WRAS approved for portable water installations, which ensures that the products comply with the requirements of the water supply regulations of 1999 and amendments.

Material Properties

TECHNICAL SPECIFICATIONS :	PE100 HDPE	Units	Method of Test
Density	0.959	g/cm³	ISO 1183
Melt flow rate 190°C/2.16 kg	< 0.15	g/10min	ISO 1133
Melt flow rate 190°C/5.0 kg	0.2 to 1.4	g/10min	ISO 1133
Tensile stress at yield	23	Mpa	ISO 6259
Elongation at break	> 350	%	ISO 6259
Carbon Black Content	2.25 ± 0.25	%	ISO 6964
Carbon Black Dispersion	≤ 3	Grade	ISO 11420
Thermal Stability (200°C)	> 20	Min	ISO/ TR 10837
ESCR	> 1000	hr	ASTM D1693
Flexural Modulus	<-100	Mpa	ISO 527
Vicat Softening Point	124	°C	EN ISO 306
Brittleness temperature	<- 70	°C	ASTM D 746 - ISO 9784
Linear thermal expansion	1.5 X10^{-4}	°C	ASTM D696
Thermal conductivity	0.4	W/m°K	BS874 - DIN 52612

Reference Standards

Standard	Title
ISO 4427 :2007	PE pipes for water supply
DIN 8074:1999	Pipes of High density polyethylene (HDPE) type-2 dimensions
DIN 8075:1999	Pipes of High density polyethylene (HDPE) type-testing
DIN 16963 :1980	Part 1-Highdensity polyethylene (HDPE) fittings dimensions, type 2
EN 12201 :2002	Plastics piping systems for water supply polyethylene part-3-fittings
ENISO 15494	Plastics piping systems for industrial applications
BS EN1555 :2004	PLASTICS PIPING SYSTEMS FOR THE SUPPLY OF GASEOUS FUELS - POLYETHYLENE - PART 4: VALVES
ISO 12176 :2000	PLASTICS PIPES AND FITTINGS - EQUIPMENT FOR FUSION JOINTING POLYETHYLENE SYSTEMS PART 2 &3

Manufacturing Facilities

Manufacturing Facility

We have state of art manufacturing facility equipped with new generation production lines of machines. Well trained and highly qualified production team ensures products quality as per International standards.

Quality

We are proud to have in-house Testing Laboratory with complete range of highly sophisticated Testing equipment. Our QA/QC department continuously monitors and analyzes the quality of pipes produced and ensure its compliance with various International standard BS, ASTM, ISO, DIN, EN etc.

The tests conducted at our in-house Laboratory are Tensile Strength, Elongation, Impact Resistance, Hydrostatic Pressure Test (long term and short term), VSP Test, Heat Reversion, Water Absorption, MFI, Carbon Black Content, Carbon Black Dispersion, MFI, ESCR, Opacity, Dichloro Methane, Acetone, Sulphuric Acid Test etc.

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HDPE Pipes as per ISO 4427* PE100

Design Stress 8.0 Mpa

Nominal OD (min) mm	Maximum OD mm	SDR26			SDR17			SDR11			SDR9			ISO4427
		PN6			PN10			PN16			PN20			
		Wall Thickness (mm)												
		Min	Max	Weight (kg/m)	Min	Max	Weight (kg/m)	Min	Max	Weight (kg/m)	Min	Max	Weight (kg/m)	
16	16.3										2.00	2.30	0.09	
20	20.3							2.00	2.30	0.11	2.30	2.70	0.13	
25	25.3							2.30	2.70	0.17	3.00	3.40	0.20	
32	32.3				2.00	2.30	0.19	3.00	3.40	0.27	3.60	4.10	0.32	
40	40.4				2.40	2.80	0.29	3.70	4.20	0.43	4.50	5.10	0.50	
50	50.4	2.00	2.30	0.31	3.00	3.40	0.45	4.60	5.20	0.66	5.60	6.30	0.78	
63	63.4	2.50	2.90	0.49	3.80	4.30	0.71	5.80	6.50	1.04	7.10	8.00	1.25	
75	75.5	2.90	3.30	0.67	4.50	5.10	1.01	6.80	7.60	1.46	8.40	9.40	1.76	
90	90.6	3.50	4.00	0.97	5.40	6.10	1.45	8.20	9.20	2.11	10.10	11.30	2.53	
110	110.7	4.20	4.80	1.42	6.60	7.40	2.15	10.00	11.10	3.13	12.30	13.70	3.76	
125	125.8	4.80	5.40	1.83	7.40	8.30	2.74	11.40	12.70	4.06	14.00	15.60	4.87	
140	140.9	5.40	6.10	2.30	8.30	9.30	3.45	12.70	14.10	5.06	15.70	17.90	6.18	
160	161.0	6.20	7.00	3.02	9.50	10.60	4.50	14.60	16.20	6.65	17.90	19.80	7.94	
180	181.1	6.90	7.70	3.76	10.70	11.90	5.69	16.40	18.20	8.40	20.10	22.30	10.05	
200	201.2	7.70	8.60	4.67	11.90	13.20	7.02	18.20	20.20	10.36	22.40	24.80	12.42	
225	226.4	8.60	9.60	5.86	13.40	14.90	8.90	20.50	22.70	13.11	25.20	27.90	15.72	
250	251.5	9.60	10.70	7.27	14.80	16.40	10.91	22.70	25.10	16.13	27.90	30.80	20.15	
280	281.7	10.70	11.90	9.06	16.60	18.40	13.71	25.40	28.10	20.22	31.30	34.60	24.29	
315	316.9	12.10	13.50	11.54	18.70	20.70	17.36	28.60	31.60	25.59	35.20	38.90	30.73	
355	357.2	13.60	15.10	14.59	21.10	23.40	22.10	32.20	35.60	32.49	39.70	43.80	39.03	
400	402.4	15.30	17.00	18.50	23.70	26.20	27.93	36.30	40.10	41.25	44.70	49.30	49.52	
450	452.7	17.20	19.10	23.39	26.70	29.50	35.38	40.90	45.10	52.23	50.30	55.50	62.69	
500	503.0	19.10	21.20	28.72	29.70	32.80	43.72	45.40	50.10	64.45	55.80	61.50	77.25	
560	563.4	21.40	23.70	36.17	33.20	36.70	54.77	50.80	56.00	80.74	62.50	68.90	96.92	
630	633.8	24.10	26.70	45.83	37.40	41.30	69.37	57.20	63.10	102.30	70.30	77.50	122.65	

***HDPE Pipe Dimensions as per DIN 8074 & EN 13244-2 Conforming to ISO 4427.**

1 The pipe series number derived from the ratio Ós/. PMS, where Ós is the design stress at 20° C and PMS is the maximum allowable operating pressure of the pipe at 20° C.

2 The nominal pressure PN corresponds to the maximum allowable operating pressure PMS in bars, of the pipe at 20° C.

HDPE Pipes PE100 as per EN 13244-2:2002 (E)

Nominal OD (min)	SDR9		SDR11		SDR17		SDR26		EN 13244-2
	PN20		PN16		PN10		PN6		
	Wall Thickness (mm)[b]								
mm	Min	Max	Min	Max	Min	Max	Min	Max	
63	7.1	8.0	5.8	6.5	3.8	4.3	2.5	2.9	
75	8.4	9.4	6.8	7.6	4.5	5.1	2.9	3.3	
90	10.1	11.3	8.2	9.2	5.4	6.1	3.5	4.0	
110	12.3	13.7	10.0	11.1	6.6	7.4	4.2	4.8	
125	14.0	15.6	11.4	12.7	7.4	8.3	4.8	5.4	
140	15.7	17.4	12.7	14.1	8.3	9.3	5.4	6.1	
160	17.9	19.8	14.6	16.2	9.5	10.6	6.2	7.0	
180	20.1	22.3	16.4	18.2	10.7	11.9	6.9	7.7	
200	22.4	24.8	18.2	20.2	11.9	13.2	7.7	8.6	
225	25.2	27.9	20.5	22.7	13.4	14.9	8.6	9.6	
250	27.9	30.8	22.7	25.1	14.8	16.4	9.6	10.7	
280	31.3	34.6	25.4	28.1	16.6	18.4	10.7	11.9	
315	35.2	38.9	28.6	31.6	18.7	20.7	12.1	13.5	
355	39.7	43.8	32.2	35.6	21.1	23.4	13.6	15.1	
400	44.7	49.3	36.3	40.1	23.7	26.2	15.3	17.0	

a. PN values are based on C= 1.25

b. Tolerances in accordance with grade V of ISO 11922-1.

c. The calculated value of emin is rounded up to the nearest value of either 2.0 or 3.0. This is to satisfy certain national requirements.

Nominal Outside Diameter	SDR 13.6	SDR 17.6	ISO 4437 / DIN 8074
	PN 12.50	PN 9.50	
	Wall Thickness		
MM	Min (mm)	Min (mm)	
63	4.7	3.6	
75	5.6	4.3	
90	6.7	5.2	
110	8.1	6.3	
125	9.2	71	
140	10.3	8.0	
160	11.8	9.1	
180	13.3	10.3	
200	14.7	11.4	
225	16.6	12.8	
250	18.4	14.2	
280	20.6	15.9	
315	23.2	17.9	
355	26.1	20.2	
400	29.4	22.8	

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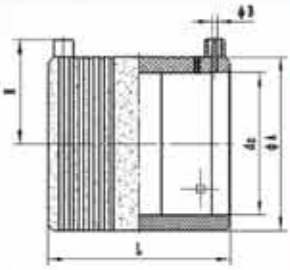
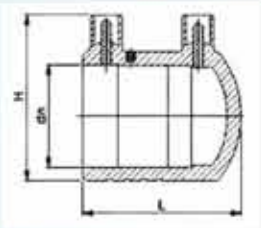


Electrofusion Coupler

Specification dn(mm)	ΦA	ΦB	L	
20	30	4.7	90	35
25	35	4.7	90	
32	42	4.7	90	41
40	52	4.7	100	
50	64	4.7	110	52
63	80	4.7	120	
75	95	4.7	140	68
90	112	4.7	145	
110	134	4.7	160	87
125	154	4.7	180	
160	196	4.7	186	118
180	220	4.7	200	
200	242	4.7	192	142
225	272	4.7	226	
250	302	4.7	230	172
280	338	4.7	240	
315	374	4.7	235	209
355	426	4.7	270	
400	454	4.7	284	227

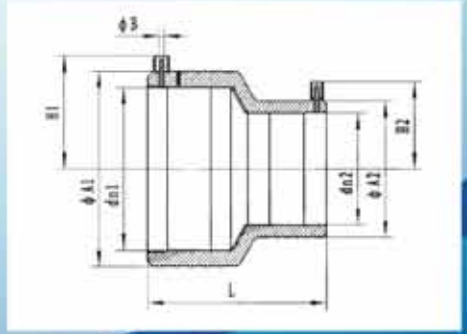
Electrofusion Cap

Spe. Dn (mm)	H	L
32	60	67
40	68	74
50	82	80
63	96	90



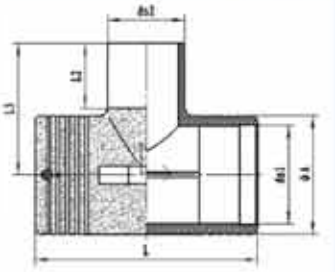
Electrofusion Reducer

Specification Dn1xdn2(mm)	ΦA1	H1	ΦA2	H2	Φ B	L
25x20	35	38	30	35	4.7	100
32x25	42	41	35	38	4.7	100
40x32	52	46	42	41	4.7	108
50x32	64	52	42	41	4.7	113
50x40	64	52	52	46	4.7	119
63x32	80	60	42	41	4.7	119
63x40	80	60	52	46	4.7	125
63x50	80	60	64	52	4.7	130
75x63	95	68	80	60	4.7	148
90x63	112	76	80	60	4.7	152
90x75	112	76	95	68	4.7	164
110x63	134	87	80	60	4.7	164
110x90	134	87	112	76	4.7	178
160x90	190	112	112	76	4.7	195
160x110	190	112	134	80	4.7	195



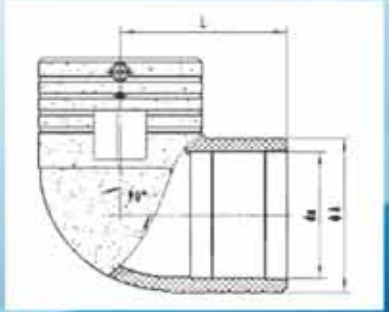
Electrofusion Tee

Spe.dn1xdn2xdn 1(mm)	ΦA	L	L2	L3
20x20x20	30	110	50	71
25x20x25	35	115	50	73
25x25x25	35	115	50	73
32x20x32	42	122	50	77
32x25x32	42	122	50	77
32x32x32	42	122	50	77
40x20x40	52	139	55	87
40x25x40	52	139	55	87
40x32x40	52	139	55	87
40x40x40	52	139	55	87
50x25x50	64	156	60	97
50x32x50	64	156	60	97
50x40x50	64	156	60	97
50x50x50	64	156	60	97
63x32x50	80	176	65	110
63x40x50	80	176	65	110
63x50x50	80	176	65	110
63x63x50	80	176	65	110
75x32x75	95	206	75	127
75x40x75	95	206	75	127
75x50x75	95	206	75	127
75x63x75	95	206	75	127
75x75x75	95	206	75	127
90x32x90	112	224	78	139
90x40x90	112	224	78	139
90x50x90	112	224	78	139
90x63x90	112	224	78	139
90x75x90	112	224	78	139
90x90x90	112	224	78	139
110x32x110	138	256	92	164
110x40x110	138	256	92	164
110x50x110	138	256	92	164
110x63x110	138	256	92	164
110x75x110	138	256	92	164
110x90x110	138	256	92	164
110x110x110	138	256	92	164
160x50x160	195	345	90	190
160x90x160	195	345	90	190
160x110x160	195	345	90	190
160x160x160	195	345	90	190
200x110x200	245	385	120	240
200x160x200	245	385	120	240
200x200x200	245	385	120	240



Electrofusion Elbow 90°

Spe. Dn (mm)	ΦA	L
20	28	55
25	33	60
32	44	65
40	52	74
50	64	87
63	80	95
75	95	110
90	112	118
110	134	143
160	195	206
200	245	210



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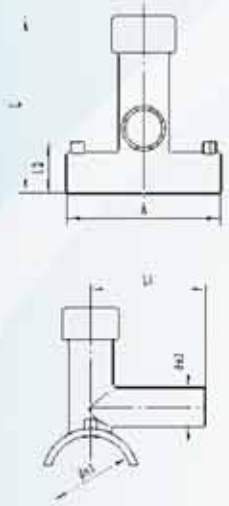
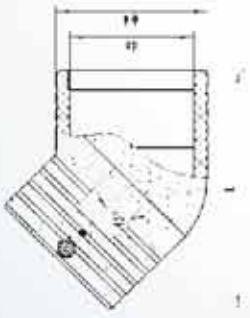


Electrofusion Tapping Saddle

Spe.Dn dn1xdn2(mm)	A	L	L1	L2
63x32	118	125	78	48
90x63	180	202	165	64
110x40	180	202	165	58
110x63	180	202	165	58
160x63	180	202	165	58
200x90	260	240	74	74
250x90	260	240	74	74
315x110	310	440	200	100

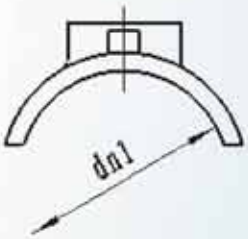
Electrofusion Elbow 45°

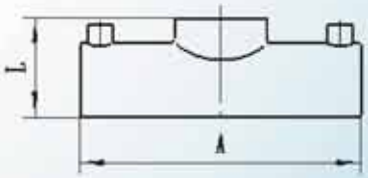
45°Electrofusion elbow dn	ΦA	L
63	80	170
90	112	200
110	134	220
160	195	281



Electrofusion Repair Saddle

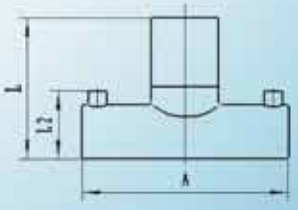
Spe. dn1(mm)	A	L
90	180	65
110	180	65
125	180	65
160	180	65
200	245	90
250	245	90
315	360	100

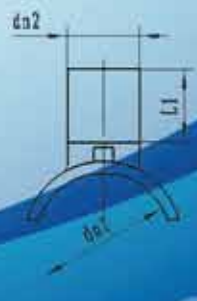




Electrofusion Saddle

Specification dn_1 x dn_2 (mm)	A	L	L1	L2
90x63	180	120	64	62
110x63	245	150	90	70
125x63	180	202	165	58
110x63	180	202	165	58
160x63	180	125	90	58
200x63	245	150	90	70
200x90	245	150	90	70
250x63	245	150	90	62
250x90	245	150	90	62
315x110	310	190	100	100
315x160	310	190	100	100



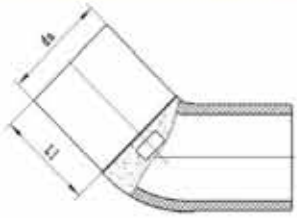


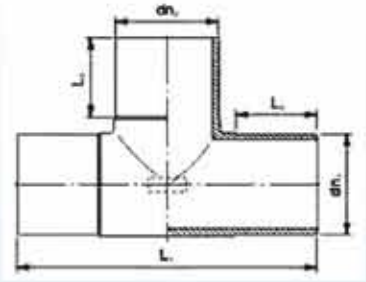
Buttfusion Tee

Dn1xDn2xDn1	L1	L2	L3
50x50x50	220	70	70
63x32x63	200	65	55
63x40x63	200	65	55
63x50x63	226	65	55
63x63x63	226	70	70
90x32x90	230	80	52
90x40x90	230	80	60
90x50x90	230	90	65
90x63x90	336	90	65
90x75x90	336	105	105
90x90x90	336	105	105
110x32x110	240	84	51
110x40x110	240	84	51
110x50x110	240	84	51
110x63x110	350	110	80
110x90x110	350	115	90
110x110x110	420	125	125
125x63x125	350	102	87
125x125x125	350	102	96
160x63x160	400	115	92
160x90x160	400	115	96
160x110x160	400	115	115
160x160x160	400	115	115
200x63x200	230	118	65
200x90x200	440	118	96
200x110x200	440	118	107
200x160x200	440	118	110
200x200x200	440	118	118
250x110x250	570	135	135
250x160x250	570	135	135
250x200x250	570	135	135
250x250x250	570	135	135
315x200x315	670	160	150
315x250x315	670	160	150
315x315x315	670	160	160
355x250x355	690	170	170
355x315x355	690	170	170
355x355x355	690	165	170
400x355x400	780	165	170
400x400x400	780	170	170
450x450x450	780	120	120
500x400x500	890	170	160
500x500x500	890	170	170

45° Buttfusion Elbow

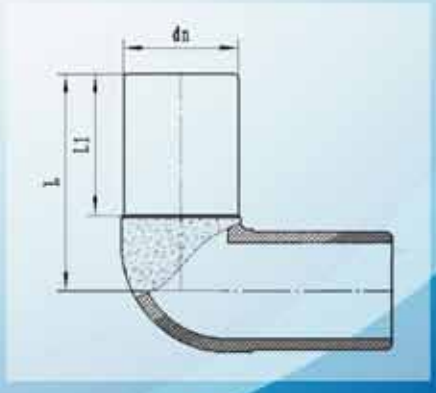
Spe. dn(mm)	L
50	63
63	64
90	80
110	90
160	110
200	120
250	125





90° Buttfusion Elbow

Spe. dn(mm)	L	L1
20	65	45
25	68	45
32	71	45
40	79	49
50	98	63
63	106	64
90	135	80
110	155	90
125	171	88
160	210	110
200	240	120
250	272	127
315	340	162
355	360	162
400	387	167
450	365	120
500	440	170



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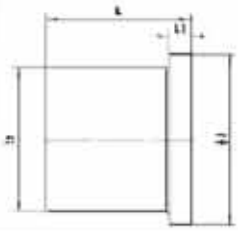
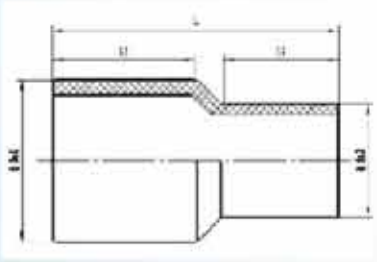
Stub End

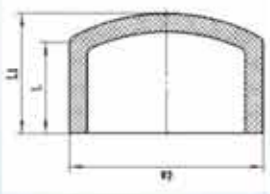
Spe. dn(mm)	A	L	L1
40	78	80	10
50	88	82	12
63	102	94	14
75	122	95	15
90	138	98	15
110	158	115	17
125	158	125	20
160	212	147	22
180	212	149	24
200	268	169	24
225	268	200	30
250	320	152	32
280	320	202	32
315	370	175	35
355	430	190	40
400	482	190	40
450	530	225	45
500	585	240	45
560	685	275	50
630	685	240	50
710	800	275	55
800	905	285	55
1000	1110	337	82
1200	1330	353	88





PE CAP

Spe. dnxR°	D	L	L1	L2
25x3/4	42	185	23	100
32xR1	50	205	23	120
40xR1	60	205	23	120
40xR11/4	60	205	23	120
50xR1	70	205	23	120
50xR11/4	70	205	23	120
50xR11/2	70	205	23	120
50xR2	70	205	23	120
63xR11/4	82	205	23	120
63xR11/2	82	205	23	120
63xR2	82	205	23	120

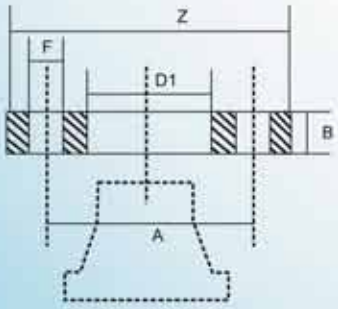


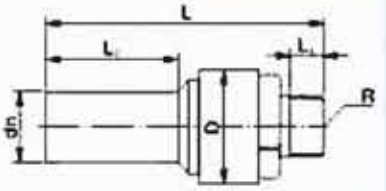
Buttfusion Reducer

Spe.Dn dn1xdn2 (mm)	L	L1	
50x25	120	67	40
50x32	140	67	62
50x40	145	68	65
63x32	140	65	55
63x40	140	65	61
63x50	140	65	67
75x63	150	68	65
90x50	150	69	72
90x63	160	69	72
110x40	220	110	90
110x50	210	115	92
110x63	210	120	95
110x90	205	135	111
125x110	200	100	86
160x63	200	90	63
160x90	220	90	79
160x110	220	90	78
160x125	220	90	107
180x160	230	100	110
200x63	265	110	95
200x90	265	110	109
200x110	265	110	98
200x160	265	110	114
200x180	265	110	118
250x110	285	140	88
250x160	285	140	91
250x200	285	140	111
280x250	285	150	120
315x200	265	130	97
315x250	265	130	129
315x280	265	130	132
355x315	355	148	130
400x200	345	148	170
400x250	345	148	180
400x315	345	148	180
450x400	365	160	170
500x200	340	160	160
500x355	420	40	130
500x400	220	40	140
500x450	340	160	160
560x500	200	140	40
630x500	500	200	40
630x560	280	200	40
710x630	210	40	120
800x630	470	60	120
800x710	260	60	140

G.I. Backing Ring

e mm	DN mm	A mm	Z mm	D1 mm	B mm	F mm	HOLES Ad.	Weight kgL2
25	3/4"	65	90	34		11	4	0,592
32	1"	85	110	42		11	4	0,747
40	11/4"	90	120	51		14	4	1,05
50	11/2"	110	150	62	16	18	4	1,88
63	2"	125	165	78	16	18	4	2,53
75	21/2"	145	185	92	16	18	4	3,06
90	3"	160	200	108	16	18	8	3,7
110	4"	180	220	125	16	18	8	4,62
125	4"	180	220	135	18	18	8	4,62
140	5"	210	250	158	18	18	8	6,3
160	6"	240	285	178	18	23	8	7,75
180	6"	240	285	188	18	23	8	7,75
200	8"	295	340	235	18	23	8	11,3
225	8"	295	340	238	20	23	8	11,3
250	10"	350	390	288	20	23	12	14,7
280	10"	350	395	294	20	23	12	14,7
315	12"	400	445	338	20	23	12	17,6
355	14"	460	505	376	22	30	16	21,4
400	16"	515	565	430	22	30	16	26,1
450	18"	620	670	517	28	30	20	34,7
500	18	620	670	533	28	30	20	34,7
560	22"	725	780	618	28	30	20	42,2
630	22"	725	780	645	28	30	20	42,2
710	28"	840	895	740	30	30	24	58,7
800	32"	950	1015	843	32	33	24	80
900	36"	1050	1115	947	34	33	28	95,6
1000	40"	1160	1230	1050	34	36	28	114
1200	48"	1380	1455	1260	38	39	32	182
1400	56"	1590	1675	1436	42	42	36	248
1600	64"	1890	1915	1640	46	48	40	347





PE /Steel Transition Threaded

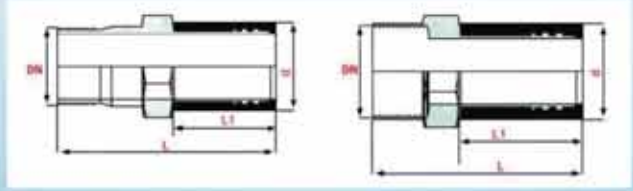
Spe. Dn(mm)	L	L1
20	45	55
25	45	58
32	45	62
40	46	66
50	50	75
63	53	85
75	70	108
90	70	115
110	85	140
125	90	138
160	100	162
200	105	186
250	90	195
315	130	190
355	180	200
400	160	215
450	165	240
500	170	260
560	170	310
630	170	345

PE-METAL TRANSITION ADAPTOR - SCREWED

d/DN	kg	L(mm)	L1(mm)
20-1/2"	0.14	70	35
25-3/4"	0.20	78	38
32-1"	0.27	80	38
32-1 1/4"	0.17	80	38
32-1 1/2"	0.14	80	38
40-1"	0.49	96	50
40-1 1/2"	0.57	96	50
40-1 1/4"	0.61	96	50
50-1"	0.74	108	55
50-1 1/4"	0.75	108	55
50-1 1/2"	0.76	108	55
63-1 1/4"	1.04	118	64
63-1 1/2"	1.25	118	64
63-2"	1.36	118	64

TYPES:

-ERKEK-CELIK	(MALE - STEEL)
-ERKEK-PIRINC	(MALE - BRASS)
-DISI-CELIK	(FEMALE - STEEL)
-DISI-PIRINC	(FEMALE - BRASS)



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Welding Tee

d1xd2xd1(mm)		d1xd2xd1(mm)	d1xd2xd1(mm)
200x25x200	355x160x355	560x110x560	800x280x800
200x32x200	355x200x355	560x160x560	800x315x800
200x40x200	355x250x355	560x200x560	800x355x800
200x50x200	400x63x400	560x250x560	800x400x800
200x63x200	400x90x400	560x560x560	800x500x800
250x32x250	400x110x400	630x110x630	800x800x800
250x40x250	400x160x400	630x160x630	1000x110x1000
250x50x250	400x200x400	630x200x630	1000x160x1000
250x63x250	400x355x400	630x250x630	1000x200x1000
250x90x250	450x63x450	630x315x630	1000x250x1000
250x110x250	450x90x450	630x630x630	1000x315x1000
250x160x250	450x110x450	710x710x710	1000x355x1000
315x40x315	450x160x450	710x160x710	100x400x1000
315x63x315	450x200x450	710x200x710	1000x450x1000
315x75x315	450x250x450	710x250x710	1000x500x1000
315x90x315	450x450x450	710x315x710	1000x1000x1000
315x110x315	500x63x500	710x355x710	
315x160x315	500x90x500	710x400x710	
355x50x355	500x110x500	710x710x710	
355x63x355	500x200x500	800x110x800	
355x75x355	500x250x500	800x160x800	
355x70x355	500x500x500	800x200x800	
355x110x355	560x90x560	800x250x800	

Welding 22.5 Deg. Elbow

Specification dn(mm)
90
110
125
160
200
225
250
315
355
400
450
500

Welded Fabricated Fittings

Welding 45Deg.Elbow
Specification dn(mm)
90
110
125
160
200
225
250
315
355
400
450
500

Welding 90Deg Elbow
Specification dn(mm)
90
110
125
160
200
225
250
315
355
400
450
500

Welding Cross		
Specification dn×dn(mm)	Specification dn×dn	Specification dn×dn
90×90×90×90	450×200×450×200	710x250x710x250
110×110×110×110	450×250×450×250	710x315x710x315
125×125×125×125	450×450×450×450	710x355x710x355
160×160×160×160	500×110×500×110	710x710x710x710
180×180×180×180	500×160×500×160	800x250x800x250
200×200×200×200	500×200×500×200	800x315x800x350
250×250×250×250	500×250×500×250	800x355x800x355
280×280×280×280	500×500×500×500	800x400x800x400
315×315×315×315	560×560×560×560	800x800x800x800
355×355×355×355	630×160×630×160	1000x250x1000x250
400×160×400×160	630x200x630x200	1000x315x1000x315
400×200×400×200	630x250x630x250	1000x400x1000x400
400×400×400×400	630x315x630x315	1000x500x1000x500
450×110×450×110	630x630x630x630	1000×1000×1000×1000
450×160×450×160	710x200x710x200	

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FM Approval (USA)

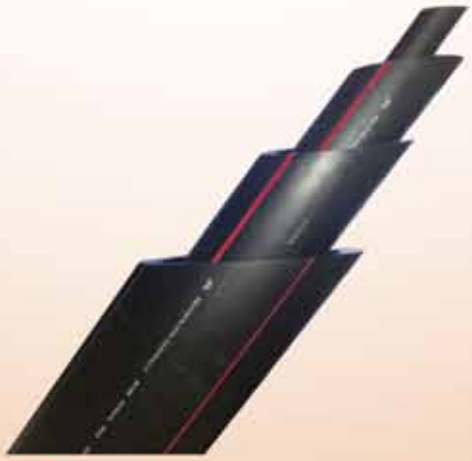
Industrial and commercial companies around the world rely on products and services that are FM Approved and specification tested to protect their properties from loss. The FM APPROVED mark, which is backed by scientific research and testing, tells customers your product conforms to the highest standards. FM Approvals is an international leader in third-party certification and approval of commercial and industrial products.

POLYFAB manufactures FM approved PE Pipes and Fittings conforming to ISO 4427 standards with pressure rating SDR9 and SDR 11 . Our range of FM approved fittings includes Elbows, Tee etc. as per EN 12201 standards. Under stringent quality control, our pipes and fittings are tested at each stage of production to comply with quality and standards.

FM APPROVED

HDPE Pipe Dimensions as per ISO 4427

Nominal OD (min) mm	Maximum OD mm	Ovality Max.	SDR 9 / PN 20 Wall Thickness (mm)			SDR 11 / PN 16 Wall Thickness (mm)		
			Min. Mm	Max. Mm	Weight (kg/m)	Min. Mm	Max. Mm	Weight (kg/m)
50	50.4	1.4	5.6	6.3	0.78	4.6	5.2	0.66
63	63.4	1.5	7.1	8	1.25	5.8	6.5	1.04
75	75.5	1.6	8.4	9.4	1.76	6.8	7.6	1.46
90	90.6	1.8	10.1	11.3	2.53	8.2	9.2	2.11
110	110.7	2.2	12.3	13.7	3.76	10	11.1	3.13
125	125.8	2.5	14	15.6	4.87	11.4	12.7	4.06
160	161	3.2	17.9	19.8	7.94	14.6	16.2	6.65
180	181.1	3.6	20.1	22.3	10.05	16.4	18.2	8.4
200	201.2	4	22.4	24.8	12.42	18.2	20.2	10.36
225	226.4	4.5	25.2	27.9	15.72	20.5	22.7	13.11
250	251.5	5	27.9	30.8	20.15	22.7	25.1	16.13
280	281.7	9.8	31.3	34.6	24.29	25.4	28.1	20.22
315	316.9	11.1	35.2	38.9	30.73	28.6	31.6	25.59



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HDPE Segmented Fittings as per EN 12201

Welding 22.5 Deg.Elbow
Specification dn(mm)
50
63
75
90
110
125
160
180
200
225
250
280
315

Welding 45 Deg.Elbow
Specification dn(mm)
50
63
75
90
110
125
160
180
200
225
250
280
315

Welding 90 Deg.Elbow
Specification dn(mm)
50
63
75
90
110
125
160
180
200
225
250
280
315

Welding TEE
Specification dn(mm)
50
63
75
90
110
125
160
180
200
225
250
280
315

HDPE Pipes PE100 as per AWWA C 906-99 (Inches)

Nominal OD (Inches)	Average Outer diameter (Inch)	Pressure Class			
		Class 150		Class 200	
		Min Wall thickness (Inch)	Average ID (Inch)	Min Wall thickness (Inch)	Average ID (Inch)
4"	4.500	0.409	3.633	0.500	3.440
6"	6.250	0.602	5.349	0.736	5.065
8"	8.625	0.784	6.963	0.958	6.594
10"	10.750	0.977	8.679	1.194	8.219

HDPE Pipes PE100 as per AWWA C906 - 99 (Metric Size)

Nominal OD (Inches)	Outside Diameter		Minimum Wall Thickness	
	Min Mm	Max Mm	SDR 11	SDR 9
110	110.0	111.0	10	12.200
160	160.0	161.4	14.5	17.8
200	200.0	201.8	18.2	22.2
250	250.0	252.3	22.7	27.8
280	280.0	282.5	25.5	31.1
315	315.0	317.8	28.6	35

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PE Pipe Dimension

HDPE Drainage Pipes PE100/PE80

Nominal size mm	Max O.D	Wall Thickness	kg/m
40	40.4	3.0 $^{+0.5}_{0}$	0.36
50	50.5	3.0 $^{+0.5}_{0}$	0.45
63	63.6	3.0 $^{+0.5}_{0}$	0.58
75	75.7	3.0 $^{+0.5}_{0}$	0.7
90	90.9	3.5 $^{+0.6}_{0}$	0.98
110	111	4.3 $^{+0.7}_{0}$	1.43
125	126.2	4.9 $^{+0.7}_{0}$	1.85
160	161.5	6.2 $^{+0.9}_{0}$	3.04
200	201.8	6.2 $^{+0.9}_{0}$	4.69
250	252.3	7.8 $^{+1.0}_{0}$	7.3
315	317.9	9.8 $^{+1.2}_{0}$	11.6
Pipe Length: 6.0mtr			

EN 1519

Material: Polyfab pipes are produced with high density polyethylene, the characteristics of which are in compliance with the EN 1519 Standards.

Colour: Black in colour or Black with cream stripe.

Soil & Waste Pipes: Pipes with S 16 series and marked with 'B' are intended to be used inside the building or else outside the building but attached to one of the walls.

Underground Pipes: Pipe with S 12.5 series and marked with 'BD' are intended to be used above and buried in ground within the building structure.

Polyethylene (PE) Pipe Colour Indentification

Power & Gas

Electrical Conduit
Orange

Communication Conduit
White

Gas
Black with yellow stripe

Fire Service
Black with Red stripe

Water

WATER PE100
Royal Blue Skin

WATER PE80/PE100
Black Skin

WATER PE100
Black with Royal Blue Stripe

RECYCLED WATER PE80/PE100
Black with Lilac Stripe

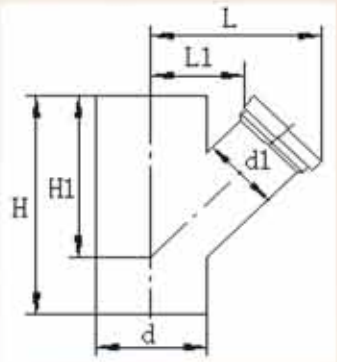
Sanitary

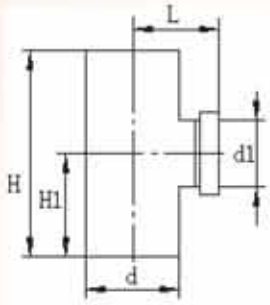
WASTE WATER PE80/PE100
Black Skin

PRESSURE SEWER PE100
Black with Cream Stripe

Access Fitting 45°(135°)

Dn (mm)	H (mm)	H1 (mm)	L (mm)	Pcs/Box
50×50×50	145	98	140	
75×75×75	190	130	190	
90×90×90	240	160	210	
110×110×110	270	178	214	16
125×90×125	205	135	90	
160×110×160	246	165	110	8
200×110×160	270	180	110	



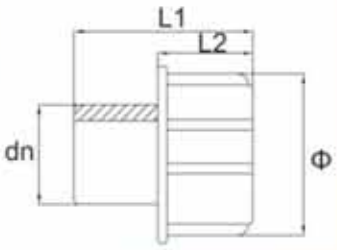


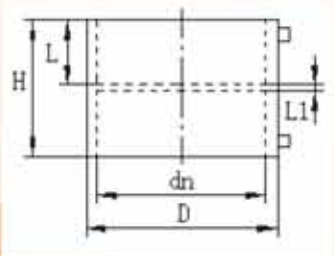
Access Fitting 90°

Dn (mm)	H (mm)	H1 (mm)	L (mm)	Pcs/Box
75×50×75	175	95	125	
90×50×90	105	97	125	
90×75×90	200	105	130	
110×90×110	225	125	145	

Access Plug

Dn (mm)	Φ (mm)	L1 (mm)	L2 (mm)	Pcs/Box
50	83	59.6	33.1	315
63	98.3	64	41.7	192
75	120.2	88.1	45	100
90	129.6	50.3	33.5	140
110	146.5	54.1	33	130





Electro-Fusion Coupler

Dn (mm)	H (mm)	L (mm)	L2 (mm)	Pcs/Box
50	53	26	1.5	540
56	53	26	1.5	477
63	53	26	1.5	279
75	53	26	1.5	290
90	53	26	1.5	216
110	58	27	2	120
125	63	31	2	90
160	63	31	2	50
200	121	60	3	16
250	131	65	4	9

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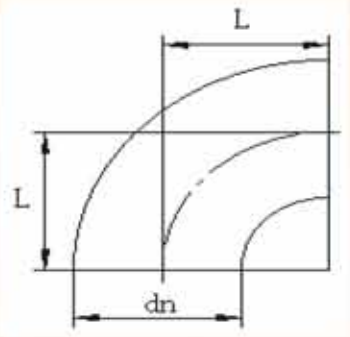
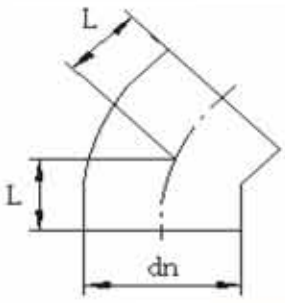


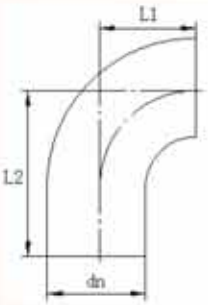
Bend 90°

Dn (mm)	L (mm)	Pcs/Box
160	219	15
125	115	30
110	95	40
90	90	75
75	70	150
50	45	500

Bend 45°

Dn (mm)	L (mm)	Pcs/Box
50	45	400
75	70	170
90	90	100
110	95	60
125	115	50
160	219	25



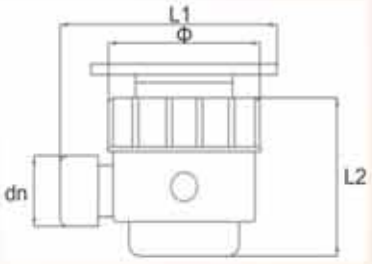


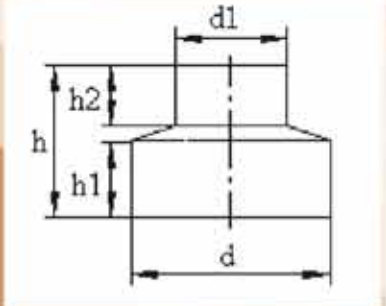
Bend 90° With Long Tail

Dn (mm)	L1 (mm)	L2 (mm)	Pcs/Box
50	40	180	
75	70	210	
90	90	240	
110	100	270	

Floor Drain

Dn (mm)	L1 (mm)	L2 (mm)	Pcs/Box
50	130	87.3	
50	130	87.3	



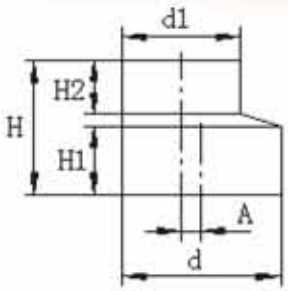


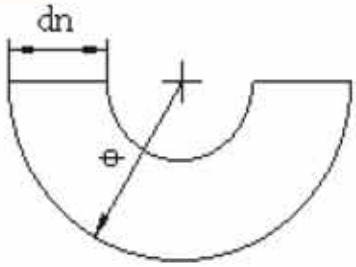
Concentric Reducer

Dn (mm)	L (mm)	L2 (mm)	H2 (mm)	Pcs/Box
200×160	22.1	90	80	
250×200	23.8	100	100	
315×200	302	150	100	
315×250	31.8	150	110	
355×315	20.8	70	100	
400×250	23.7	50	100	
400×315	25.9	60	150	

Short Eccentric Reducer

Dn (mm)	H (mm)	H1 (mm)	H2 (mm)	Pcs/Box
50×40	80	34	46	880
56×50	80	35	41	590
63×50	82	35	48	540
63×56	74	34	40	290
75×50	74	34	40	450
75×56	77	34	42	420
75×63	80	39	34	290
90×56	80	36	38	290
90×63	80	34	42	290
90×75	73	34	38	200
110×50	79	34	45	200
110×56	79	33	33	200
110×63	80	33	46	200
110×75	72	34	37	200
110×90	73	34	32	160
125×75	83	38	36	160
125×90	83	33	41	160
125×110	78	33	37	90
160×110	80	33	46	90
160×125	78	33	44	30
200×160	146	38	42	



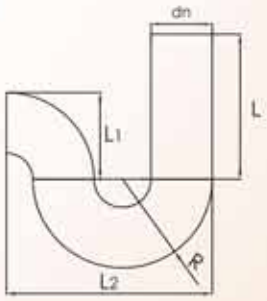


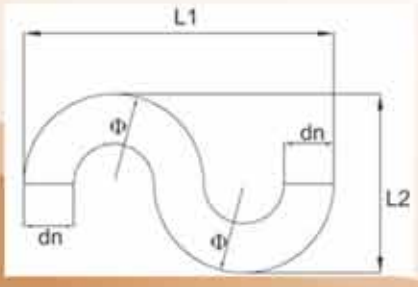
U-Trap

Dn (mm)	Φ (mm)	Pcs/Box
50	75	260
75	110	100
90	140	75
110	160	16

P-Trap

Dn (mm)	L (mm)	L1 (mm)	L2 (mm)	R	Pcs/Box
50	180	70	170	75	
75	180	108	253	110	
90	180	135	325	140	
110	180	150	360	160	





S-Trap

Dn (mm)	L1 (mm)	L2 (mm)	Pcs/Box
50	250	150	170
75	373	224	253
90	442	266	325
110	530	320	360

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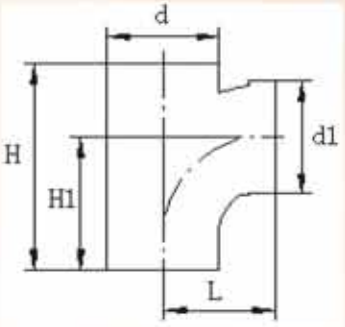
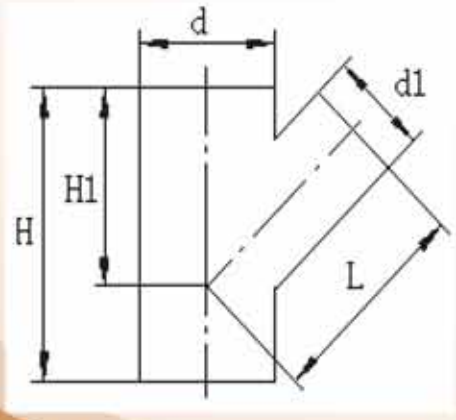
Branch 91.5°(88.5°)

Dn (mm)	H (mm)	H1 (mm)	L (mm)	Pcs/Box
50×50×50	148	91	73	210
75×75×75	194	114	82	75
110×50×110	221	135	94	30
110×75×110	226	138	120	25
110×110×110	226	138	120	25





Y-branch 45°(135°)

Dn (mm)	H (mm)	H1 (mm)	L (mm)	Pcs/Box
200×125×200	275	275	280	170
200×110×200	275	270	275	64
200×90×200	275	276	280	36
200×75×200	275	252	255	36
160×110×160	375	246	250	36
160×90×160	375	261	260	36
160×75×160	310	256	260	27
160×63×160	310	270	272	27
160×56×160	310	243	250	25
125×90×125	280	205	206	25
125×75×125	280	205	208	25
125×63×125	280	212	215	20
110×110×110	270	178	180	18
110×90×110	270	182	185	18
110×75×110	270	188	190	18
110×63×110	270	194	190	10
110×50×110	270	194	194	10
90×90×90	240	160	180	10
90×75×90	240	160	180	10
90×63×90	240	160	180	9
90×56×90	240	160	180	9
90×50×90	240	160	180	9
75×75×75	190	130	140	8
50×50×50	145	98	110	8

Pressure Rating and Flow Characteristics

When a restrained Polyethylene pipeline is subjected to internal pressure and/or a temperature change, longitudinal stress will cause a simple contraction or expansion of the pipeline.

Pressurization

The relationship between circumferential hoop stress and internal pressure is as follows:

$$\text{Hoop Stress(MPa)} = \frac{\text{Internal Pressure (bar)} \times (\text{Pipe SDR} - 1)}{20}$$

The associated longitudinal stress generated in a restrained polyethylene pipeline is the product of the circumferential hoop stress and Poisson's ratio (0.48 for PE). This stress acts over the pipe cross sectional area to produce a tensile end load which is independent of the pipe length.

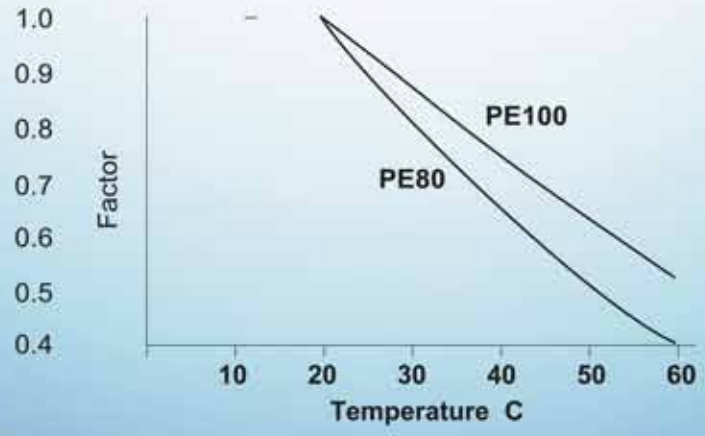
Temperature Change

The thermal strain resulting from a change in temperature is the product of the linear coefficient of expansion and the temperature change.

The resultant longitudinal thermally induced stress in a fully end restrained pipeline, is the product of the thermal strain and the elasticity modulus of the pipe (which is time/temperature dependant). This longitudinal thermal stress acts over the pipe cross sectional area resulting in either a tensile or compressive end load depending on the nature of the temperature change.

In an unrestrained pipeline, the change in length arising from a change in temperature, is the product of the thermal strain and the original pipe length.

For water applications, recommended derating pressure rating of large diameter metered bends to 0.8 x the pipe rating from which they are made. Bends incorporating 30° meters should also be de-rated in sizes below 355mm. Thus 10 bar 30° meters made into a metered bend would be rated at 8 bar, and 16 bar 30° meters would make a 12.8 bar fitting and so on. The fittings are fabricated from pipe complying with BS EN 12201-2 or BS EN 13244 or WIS 4-32-17. The graph below shows the reduction factor, which should be applied to the recommended maximum continuous working pressure at 20°C to obtain appropriate working pressures for elevated temperatures. The reduction graph has been calculated to give normal factors of safety after 50 years. It refers only to the conveyance of fluids to which the pipe material is completely resistant. At temperatures lower than 20°C, polyethylene becomes stiffer and stronger,with strength increasing by 1.3% per °C reduction.



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Pressure Losses and Flows in Polyethylene Water Pipelines

Flow Calculations for Water

Pressure drop due to friction can be determined for practical purposes using a Head Loss Diagram. This diagram is based on the Colebrook White formula for water at 10°C using the following values of hydraulic roughness factor k for PE pipework:
for pipe sizes up to 200mm, k=0.01mm
for pipe sizes above 200mm, k = 0.05mm

Pressure Drop Through Fittings

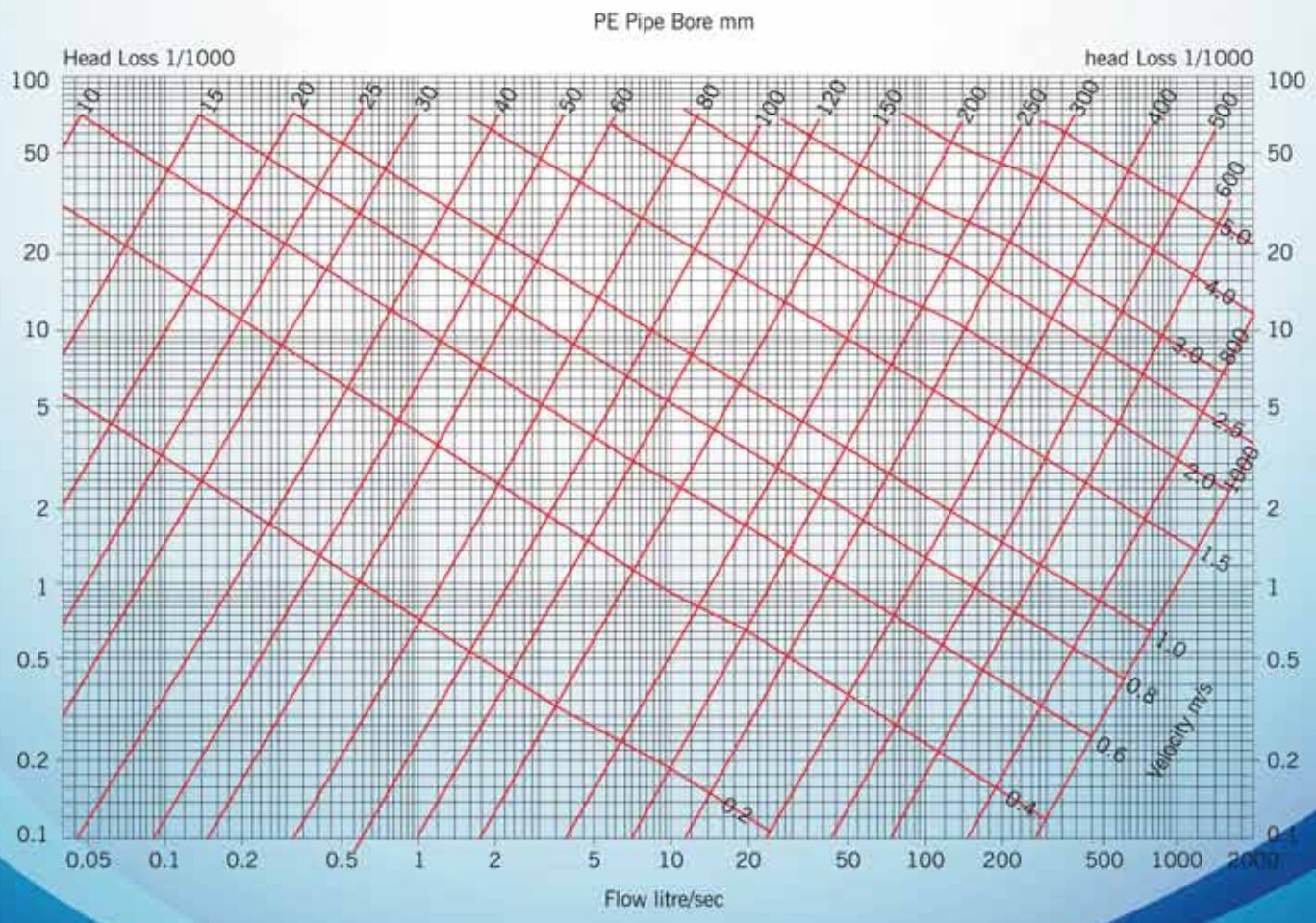
The head loss caused by flow through fittings and valves is approximately proportional to the square of the velocity and can be derived from the following formula:

$$H = \frac{K \times V2}{2 \times G}$$

Where H = Head loss
v = Fluid velocity
g = Acceleration due to gravity
K = Fittings coefficient

Fitting Type	K value
90° Elbow	1
45° Elbow	0.4
22.5° Elbow	0.2
90° Tee (in line)	0.35
90° Tee (through branch)	1.2
90° Bend	0.2
45° Bend	0.4
22.5° Elbow	0.2
Gate Valve (open)	0.12
Gate Valve (3/4 closed)	24

Head Loss Diagram



Pipe Installation Instructions

Conventionally Buried Pipelines

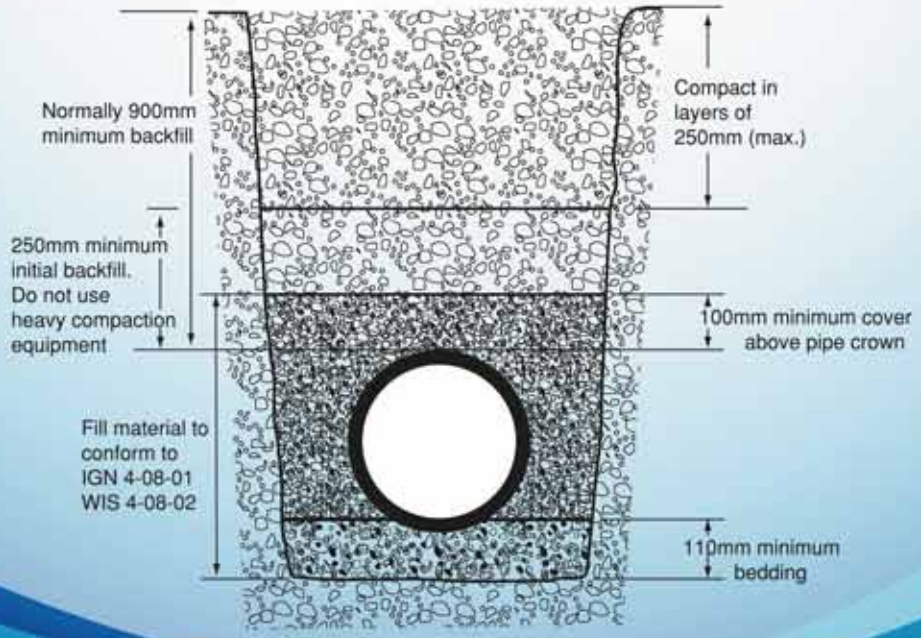
The dimensions of a trench line opening are normally governed by the pipe diameter, method of jointing and site conditions. Normal minimum depth of cover for mains should be 900mm from ground level to the crown of the pipe. Trench width should not normally be less than the outside diameter of the pipe plus 250mm to allow for adequate compaction of side fill unless specialized narrow trenching techniques are used and/or specially free flowing and easily compacted side materials are employed.

Considerable savings in the costs of imported backfill, reinstatement and waste spoil disposal can be made where needed if trench width is minimized. In many instances it may be acceptable to lay PE pipe directly on the bottom of the trench - especially where the soil is uniform, and there are no large flints, stones, or other large hard objects present. In rocky ground, the trench should be cut to a depth in isolation which will allow for the necessary thickness of selected bedding material below the bottom of the pipe. Where the finished top surface will subsequently be trafficked, and spoil from the excavation is unlikely to give the degree of ground stability required.

The above requirements generally apply when the PE pipe is buried in ground that will subsequently be trafficked, with or without a road pavement. The stated side fill and backfill materials are required to give a stable top surface - the PE pipe itself will not be harmed if laid in much poorer surround provided there are no large sharp stones pressing against it, that are not surrounded by smaller stones.

Normal Side Fill & Backfill Requirements

For minor roads, excavated material can often be returned to the trench and compacted in layer thickness. When PE pipes are laid in fields, it is preferable and most cost effective to use the originally excavated material all around the pipe provided that there are no large sharp isolated stones positioned underneath it. Large clay masses should be kept as dry as possible after excavation and broken up by rotovating (particle sizes should be no larger than 10% of pipe diameter). By using as-dug material for bedding, surround and backfill, the drainage characteristics of the land are not altered, and any slight future soil movement as the ground re-stabilizes is easily accommodated by the flexible and ductile nature of the PE pipes. It can rarely be justified to import granular fill in such cases and there are no particular benefits from using a geotextile wrap around the fill area.



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HDPE Joining Systems

The joining technical, for Polyethylene pipes and fittings can be classified as;

A) Fixed System (Thermic welding)
B) Removable System (Mechanical welding)

A) Fixed System

Fixed and permanent pipe joints can be achieved through Buttfusion, Electrofusion and Socket fusion techniques

Electro Fusion

Electrofusion is a widespread welding technique in PE pipe construction.Electrofusion joints the pipe and fittings together using embedded electric heating elements. Electrofusion couplers are specialized fittings for these purposes and meet the needs of most demanding on-site applications.

Typical Electro fusion Joint

Buttfusion

Butt welding is a very economical and reliable jointing technique for a wide dimension range. The fusion areas of the pipes and fittings are heated to fusion temperature and joined by means of mechanical pressure, without using additional materials.

Socket Fusion

Welding process which uses special fittings shaped to contain the pipe end to be welded.Pipes and fittings are heated by heating elements and specific for each diameter.This is the most economical type of welding and mostly used for small sizes of pipes.

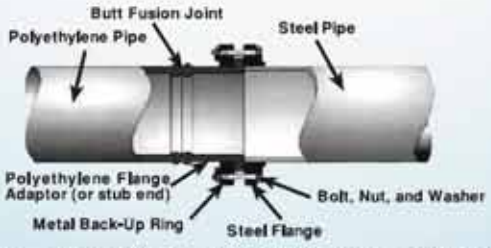
B) Removable System

In this system all connections are made with Stub End and Backing Ring Flange as well as compression fittings.These systems allow to connect different materials (PE, PVC, D.I.,GRP etc) and also to connect special products such as valves.This can also be chosen for a temporary joining of two PE pipelines.

Stub End and Backing Flange

The jointing with Stub End, Backing Flange and Gasket is normally used to connect PE pipes with other of different material or to access to valves and branches.

The Stub End must be welded to the PE pipe and forms the support base for the Flange. The connection is made by bolts.



Typical Application of Polyethylene Flange Adapter or Stub End

Compression Fittings

Compression Fittings are used to connect pipes in a quick and easy manner. A pressure chamber contains a sealing ring screwing in the fittings causes the sealing ring to be clamped against the pipe.NBR O-rings are used to connect the PE pipes.

Inspection of Welded Jointings

Either for the buttfusion jointing or for the electrofusion process, by end of the cooling time the joint quality must be checked according to the standards UNI 10520 and UNI 10521, through:
Non destructive controls: mainly consist on the visual control and on the dimensional control of the ring;
Destructive controls: consist in the mechanical resistance identifi cation of the jointing through testings carried out according to the reference standards.

Non Destructive Testings

Buttfusion Welding Uni 10520

Visual Control

The Visual Control is Relative to the Following Checks:

- The carving by the center of the ring must be above the external diameter of the welded elements, as too deep carvings trace back to temperature or welding pressure values lower than those foreseen;
- On the external surface of the ring there cannot be porosity, dust inclusions or other contaminations, as these are indicative of unsuitable cleaning of the elements to be welded;
- After cooling, the external surface of the ring cannot be excessively bright, as this is index of overheating of the welded material.

Dimensional Control Of The Bead

The dimensional control of the bead foresees the following checks:

- The width B of the bead must be uniform on the whole area of the welding. At any point of the welding, the width B of the bead cannot vary more than ±10% with respect to the average value Bm:

$$Bm = (Bmin + Bmax) / 2$$

Where B_{min} e B_{max} respectively are the minimum and maximum measured value;

- The width B of the bead must be uniform on the whole area of the welding. At any point of the welding, the width B of the bead cannot vary more than ±10% with respect to the average value Bm:

The width B of the bead must be uniform on the whole area of the welding. At any point of the welding, the width B of the bead cannot vary more than ±10% with respect to the average value Bm:

thickness of welded elements [mm]	width of the bead B [mm]	thickness of welded elements [mm]	width of the bead B [mm]
3	4 - 6	29	15 - 21
4	4 - 7	30	15 - 21
5	5 - 8	31	15 - 21
6	6 - 9	32	15 - 22
7	7 - 10	33	16 - 22
8	7 - 10	34	16 - 22
9	8 - 11	35	16 - 22
10	8 - 12	36	16 - 23
11	9 - 13	37	17 - 23
12	9 - 13	38	17 - 23
13	10 - 14	39	17 - 23
14	10 - 15	40	17 - 24
15	10 - 15	41	18 - 24
16	11 - 16	42	18 - 24
17	11 - 16	43	18 - 25
18	12 - 17	44	19 - 25
19	12 - 17	45	19 - 25
20	12 - 18	46	19 - 25
21	13 - 18	47	20 - 26
22	13 - 18	48	20 - 26
23	13 - 19	49	20 - 26
24	13 - 19	50	21 - 27
25	14 - 20	55	23 - 29
26	14 - 20	60	26 - 32
27	14 - 20	65	29 - 36
28	14 - 21		

Non Perfectly Connected Bead

If the bead is not perfectly connected to the plain surface of the pipe, the welding is anyway considered acceptable.
In case of welding of pipes and/or fittings with thickness lower or equal to 10 mm, if the bead is not connected with the typical form at "gull wings", the welding cycle must be modified working on the phase 3 and 4 in the following way:

- Phase 3: the time t3 cannot be higher than 4 seconds;
- Phase 4: the time t4 cannot be higher than 6 seconds.

Non Perfectly Connected Bead

Bead "at gull wings"

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Welding Errors

The following pictures report several jointings performed without respecting the welding instructions defined by the standards UNI 10520 and UNI 10521. The experience developed in the years on trench sites, in the testing laboratories and at the Technical Training Center allowed the characterization and filing of the most common welding error types:

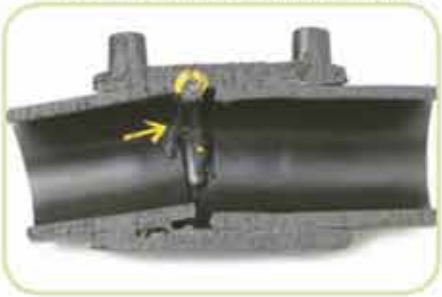
Irregular Welding Bead

Buttfusion Off- Centering of the Elements

Wrong Centering of the Pipes

Incomplete Insertion of the Pipes

Off-Centering of the Pipe on the Left Side



Off-Centering of the Pipe on the Left Side and Wrong Welding Parameters Setting

Incorrect Pipe Cut

Incorrect Pipe Cut and Uncomplete Insertion

Irregular Scraping (carried out with unproper tool)

Lack of Scraping

Pipe Boring Before Cooling

Wrong Welding Parameters Setting

Service :

Customer focus is considered to be one of the key to our success which lies in the commitment we pledge, to provide the highest quality service and support to them and industry end users as well. We ensure unrivaled quality services to all of our customers. Our professionally managed customer service and operation team extends highest level of services on delivery, technical queries etc. as and when required.

Our P.E Pipe Line System Division Offers:

1. HDPE pipeline installation services
2. HDPE Fusion machine sale
3. HDPE Fusion machine and Technician on hire basis

FUSION MACHINES

CNC Butt Fusion Machine SHD500/200

- **Welding Ranges: Plastic Pipes: 250mm-500mm**

(250mm-280mm-315mm-355mm-400mm-450mm-500mm)

- Ranges of application: PE "PP and PVDF
- Working voltage: 380 V±10% 50 Hz

Total power: 9.5 kw, including: planing tool 1.5 kw, heating plate 6.5 kw, hydraulic unit motor: 1.5kw

Electrical planing tool (milling cutting) with safety limit switch

- PTFE coated heating plate, adjustable knob for temperature control, difference in heating plate surface temperature 0±5 e
- Environment temperature: 10° 45° :
- Electronic count-down timer for heating and cooling time ;

Whole machine consists of basic frame, heating plate, planing tool, hydraulic unit and support (for planing tool & heating plate)

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Electrofusion Machine 3.5 KW

Dimension	LxWxH (mm)	330x200x270
Input voltage	Input voltage	48V 10%, 220V 20% or 380V 20%
	Input frequency	40～65Hz
Output power supply	Output voltage	Refer to type definition
	Output power	Refer to type definition
	Ambient temperature	-15℃～45℃
	Storage temperature	-30℃～70℃
	Control mode	Constant volt/Constant current/Constant power
	Recording number of data	500
	Electrical amperage constant precision	≤±0.5%
Main control characteristics	Overload capability	1.5Ie, 1min
	Time control precision	≤±0.01%
	Temperature measuring precision	±0.5℃
	Duty cycle	60%
	Data output port	RS232
	Protection	Refer to failure list
	Running condition of administrative software	Windows 2000/XP

Buttfusion Machine SHD315/90

- **Welding Ranges: Plastic Pipes: 90mm-315mm**
  (90mm-110mm-125mm-140mm-160mm-180mm-200mm-225mm-250mm-280mm-315mm)
- **Ranges of application: PE, PP and PVDF**
- Working voltage:~220 V±10% 50 Hz

Total power: 4.95 kw, including: planing tool 1.1 kw, heating plate 3.1 kw, hydraulic unit motor: 0.75kw:

- Working voltage:~240 V±10% 50 Hz

Total power: 4.35 kw, including: planing tool 1.1 kw, heating plate 3.1 kw, hydraulic unit motor: 0.75kw:

- PTFE coated heating plate, adjustable knob for temperature control, difference in heating plate surface temperature ≤±5°
- Environment temperature: −10° ~ 45°
- Electronic count-down timer for heating and cooling time
- Whole machine consists of basic frame, heating plate, planing tool, hydraulic unit and support (for planing tool & heating plate)

FM450 FM450C FM630 FM630CBUTT FUSION MACHINE

FM450C&FM630C
Equipped with crane to lift up the heater and facer.

Base machine with 4 sets of clamp and different sizes inserts, 2 hydraulic cylinders. It can realize pipe to pipe and pipe to fitting welding easily.

Facer drivedby hydraulic to mill the pipe ends. It can be placed in the storage shelf when it is free

Flange stub holder to clamp the flange stub

FM450C&FM630C
Equipped with wheels
Easy for transportation.

Heater coated with Teflon which guarantee the high quality fusion. Intelligence Temperature Controller on heater head can control the temperature precisely. It can be placed in the storage shelf when it is free.

Storage Shelf and Electric Control Box which has voltmeter, emergency stopper, sockets for facer, heater and hydraulic unit.

Hydraulic unit with clamp moving control, pressure release button, pressure regulation valve, manometer and accumulator. It can control the pressure in each phase precisely.

PACKING INFORMATION

Item	FM-450	FM-450C	FM-630	FM-630C
Standard Insert	Φ400、Φ355、Φ315、Φ250		Φ560、Φ500、Φ450、Φ400、Φ355、Φ315	
Optional Insert	Φ280			
Components	Base Machine、Facer、Hydraulic Unit Heater、Storage Shelf &Electric Control Box、Insert、Flange Stub Holder		Base Machine、Facer、Hydraulic Unit Heater、Storage Shelf &Electric Control Box、Insert and Flange Stub Holder	
Packing Size	1560*1425*1080		2750*1590*1820	
Total G.W	607KG		1100KG	

TECHNICAL PARAMETER

Item	FM-450	FM-450C	FM-630	FM-630C
Pipe Range	Φ450-Φ250		Φ630-Φ315	
Power Supply	3-Phase 220V or 380V		3-Phase 220V or 380V	
Heater Power	4.5KW		6.6KW	
Hydraulic Power	1.5KW		2.2KW	
Total Power	6KW		8.8KW	
Environ. Temp.	-10℃~45℃		-10℃~45℃	
Heater Temp. Rise	20-30Min		20-30Min	
Pressure Range	0-8Mpa		0-8Mpa	
Hydraulic Surface	2002mm²		2770mm²	

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Storage Handling and Transport

Storage

High Density Polyethylene pipe being tough resilient material practically unbreakable and elestic they can stand the roughest handling. However, because it is softer than metals it is more prone to damage by abrasion and by objects with a cutting edge.

The following procedures are recommended to prevent damage to the pipe;

1. Store the pipe at the site in bundles, preferably under shade to avoid direct sunlight.
2. When bundles are stacked, ensure that the weight of upper bundles does not cause deformation to pipe in lower bundles.
3. Support pipe bundles at 2.4 mtr (8 ft) intervals (1.2 mtr (4ft) from each end) on wood blocking to prevent camage to the bottom surfaces during storage..
4. Store lubricant in tightly sealed containers under cover.
5. When the bundles are stacked, ensure that the stack remains stable.
6. When pipe/fittings are being stored for a prolonged period, the bundles should be covered awith a translucent cover, to protect against exposure to direct sunlight.

Handling

The following procedures are recommended :

1. When using mechanical equipment, exercise care to prevent damage to the pipes/fittings.
2. Lower pipes/fittings carefully from trucks and into trenches. Do not drop pipes/ fittings. Dropped pipe/ fittings can be damaged and should not be used.
3. When distributing the pipe along a trench (Stringing), place pipe on the opposite side of the trench from the excavated earth.

Transport:

A flatbed vehicle, free from sharp objects and projections, should be used for the transportation of pipe systems. When lifting pipe bundles by crane, wideband slings should be used for lengths of over 6 meters, load distributing beams should be inserted, spaced at equal distances. Allow for a certain amount of deflection or slight bending of pipe bundles when loading or unloading.

It is preferable to cover the pipes while transporting them over long distances involving exposure to the sun especially in the Arabian Gulf countries. Because of the irregular heat distribution on the pipe circumference may result in kinking or distortion.

Coils of 100mtrs, if necessary to transport them vertically, care should be taken to avoid any overloading or excess movement which may result in the deformation of the pipe.

Polyfab
Plastic Industry LLC

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لصناعة البلاستيك ذ.م.م.

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