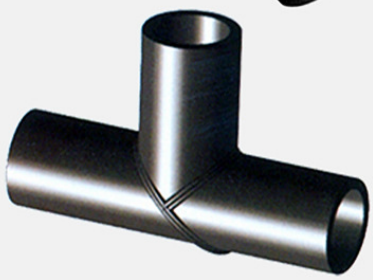
شركة الوسائل الصناعية

ALWASAIL Industrial Company

HDPE Pipes & Fittings



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INTRODUCTION

Polyethylene piping systems are used all over the world for the supply and conveying of several kinds of media, including liquid, gas and powders as well as in mining and quarry applications.

Polyethylene pipework systems have the main advantages over steel and ductile iron systems if lightness of weight and freedom from corrosion. The rapid growth in use of polyethylene is due in part to benefits over steel and iron systems, but possibly more to the development of several advanced and easy jointing techniques. Polyethylene has very good fatigue strength and special provision for surges frequently allowed when designing other thermoplastic pipework systems (as PVC) are not normally necessary.

In 1990 Alwasail Industrial Company started its production of High Density Polyethylene (HDPE) piping systems, Linear Low-Density Polyethylene (LLDPE) pipes and low-density Polyethylene (LDPE) piping systems.

Pipes (HDPE) are produced in size up to 1600mm in diameter, with nominal pressure rating PN4, PN6, PN10, up to PN16 (other pressure ratings also availble). All pipes and fittings are manufactured in accordance with current European standards, DIN 8074, ISO 9002, ISO 4427 / 1167 and SASO Draft No. 5208.

HDPE piping system are used worldwide for conveying of water as well as for the transportation of hazardous fluids. It offers the following advantages to the customer:

Advantages:

- Low specific Weight
- Excellent weldability
- Smooth inside surface, no deposits and no overgrowth
- Due to less frictional resistance, less pressure drop compared to metals
- Suitable for food and potable water
- Complies with the food stuff regulations
- Approved and registered for potable water supply
- Laying speed ease joining and reliability

Resistance to:

- Ultraviolet rays
- Weathering
- Chemicals
- Heat aging
- Abrasion
- Rodents
- Freezing
- Microbes freezing

Fields of Application

HDPE pipes have been in existence since the mid-50's. The experience shows that HDPE pipe is the solution to most pipe problems being recognized by clients and engineering consultants as the ideal pipe material for many pressure and non-pressure applications from water and gas distribution to gravity, sewers and surface water drainage for both new and rehabilitation projects. Alwasail polyethylene pipes is based on a polytholefin thermoplastic resin which is also a physiologically non-toxic material, therefore, it is suitable for a wide range of applications.

Suitable for:

Water supply. Alwasail PE pipes are made from material meeting the toxicity requirement of the HWO and this can be used for transportation of drinking water.

> Pipes & fittings with pressure ratings of PN 3.2, PN4, PN6, PN10, PN16 up to OD 1600mm of water mains as well as distribution piping systems and service lines.
> Drain pipes and fittings for spring water chamber Pipes.
> Ascending pipes for wells.

In contrast to pipes made of steel or ductile iron, HDPE piping systems are light weight and corrosion resistant. Neither sour soils nor "aggressive" water will affect the material. Additionally, corrosion products, which often impair the operability of the piping system, are avoided. In comparison to PVC pipes, HDPE Pipes are more flexible and offer high impact resistance even at sub-zero temperatures. The pipes may be adapted easily to the trench layout without employing additional fittings. On the other hand, fracture risks due to the extreme handling conditions on the construction site are minimized. HDPE piping systems (except spigot and socket joints) offer a range of longitudinal frictional connection methods. Thus, the installation of anchors or thrust blocks is not necessary and a leak proof piping system with a long life is guaranteed.

Highest drinking water quality. The suitability of the material for drinking water is ensured through independent tests. Neither the taste nor the smell of the drinking water is affected due to the contact with HDPE pipes. The smooth surface and the high abrasion resistance guarantee minimum deposits. Polyethylene is corrosion resistant, therefore, the drinking water cannot be contaminated with corrosion by-products like copper or heavy metals such as cadmium or lead, which happens frequently with older metal piping systems.

Evironmental friendly material for clean environment. The HDPE Pipes and fittings are exclusively made from environmentally friendly materials. For instance, the energy requirements for the HDPE pipes are lower in comparison to metallic pipes. Furthermore, no hazardous substances, which may endanger and pollute the environment, result from the production of the pipes or fittings made of polyethylene. At 100% leak proof supply system may be installed with simple welding methods. Additionally, water loss due to leaking piping systems are avoided. No other supply system offers these advantages.

For extreme conditions. HDPE piping systems are approved for installation in all types of soil. Polyethylene is a flexible and tough pipe material. Thus, these systems are especially suitable for installation in soils susceptible to ground material. The application of various jointing methods encases a leak proof supply system. Due to the light weight and the simple jointing methods, HDPE pipes are very well suitable for unfavorable conditions – for the installation in difficult terrain .

Drainage. Alwasail pipes are being used for underground drainage for buildings, waste lines for corrosive fluids and also plumbing material for house drainage. They can also be used for sewer works. Due to its very good chemical resistance, HDPE as a perfect material for the manufacture of large bore pipes for sewage systems. They are ideally suited for industrial waste disposal and are being used to an increasing extent as underground and sewer pipes.

Irrigation. Alwasail pipes are widely used as sprinkler and drip irrigation pipes in farms. There versatility extends to transporting fertilizers and pesticide solutions too.

Industry. Features like corrosion resistance, easy installation, light weight and flexibility make Alwasail pipes ideal for complicated plumbing in factories. They are ideal for corrosive chemicals.

Gas and Oil Pipeline Systems. PE pipes to line carbon steel pipes to transport oil & gases at higher pressure are available. The pipes are specially designed with a smooth surface and made easy to install. Thus gas lines can be installed at low costs. In drilling they are used as shot-hole casing as they are cheaper. Due to the excellent properties of HDPE, which exhibit a high impact strength and very good resistant aggressive soils. Combined with ease of handling and installation, the HDPE pipes are excellent for transporting material and other gas types including bio-gas.

Conduits. Alwasail pipes have been widely used conduits for electrical and telephone cables. They can be buried in corrosive soils or in concrete for concealed plumbing. Caution Tapes or warning Tapes used for Identifying buries cable ducts can also be supplied.

HDPE PRESSURE PIPE PE80= MRS 8 = SIGMA 5.0

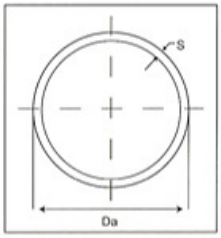
Dimensioning according to DIN 8074 - ISO 4427 / 1167

Material
High Density Polyethylene PE80
MRS = 8.0 Mpa
σs = 5.0 Mpa (MRS / c)
c = 1.6

Color Black
Dimensions DIN 8074 / 8075

Standard Length
Up to Da 125 = 100m Coil
Da 140-630 = 12m

Available on Request
* Other length
* Color
* Pipes in other PN/SDR classes according to DIN 8074 / 8075



$$PN = \frac{2 \times \sigma s \times s \times 10}{Da - s}$$

Pipe Series = σsx10 / PN

Note:
PN Nominal Pressure (Bar)
Wt Pipe weight (Kg/m)
S Wall thickness (mm)
Da Nominal Outside Diameter (mm)
SDR Standard dimensional ratio (Da/s)
MRS Minimum required strength (Mpa)
σs Hydrostatic Design stress@20c
C Design factor 1.6 for water

*** Weight may vary according to polymer density. The mass has been calculated taking average density as 0.95 g/cm3. For other densities, the mass shall be established by linear interpolation, taking the wall thickness as the nominal size plus half the tolerance specified.

Nominal Outside Diameter Da mm	Pipe Series S 16 / Standard Dimension Ratio SDR 33 / Norminal Pressure PN for σs = 5 Mpa PN 3.2			Pipe Series S 12.5 / SDR 26 / PN 4			Pipe Series S 8.3 / SDR 17.6 / PN 6			Pipe Series S 5 / SDR 11 / PN 10			Pipe Series S 4 / SDR 9 / PN 12.5			Pipe Series S 3.2 / SDR 7.4 / PN 16		
	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m
12																8.4	1.8	0.06
16													12.4	1.8	0.084	11.6	2.2	0.099
20							16.4	1.8	0.107	16.2	1.9	0.112	15.4	2.3	0.133	14.4	2.8	0.154
25							21.4	1.8	0.137	20.4	2.3	0.171	19.4	2.8	0.200	18.0	3.5	0.240
32							28.4	1.8	0.179	26.2	2.9	0.272	24.8	3.6	0.327	23.2	4.4	0.386
40				36.4	1.8	0.227	35.4	2.3	0.285	32.6	3.7	0.430	31.0	4.5	0.509	29.0	5.5	0.600
50	46.4	1.8	0.287	46.0	2.0	0.314	44.2	2.9	0.440	40.8	4.6	0.666	38.8	5.6	0.788	36.2	6.9	0.936
63	59.0	2.0	0.399	58.0	2.5	0.494	55.8	3.6	0.688	51.4	5.8	1.050	48.8	7.1	1.260	45.8	8.6	1.470
75	70.4	2.3	0.551	69.2	2.9	0.675	66.4	4.3	0.976	61.4	6.8	1.470	58.2	8.4	1.760	54.4	10.3	2.090
90	84.4	2.8	0.791	83.0	3.5	0.978	79.8	5.1	1.390	73.6	8.2	2.120	69.8	10.1	2.540	65.4	12.3	3.000
110	103.2	3.4	1.170	101.6	4.2	1.430	97.4	6.3	2.080	90.0	10.0	3.140	85.4	12.3	3.780	79.8	15.1	4.490
125	117.2	3.9	1.510	115.4	4.8	1.840	110.8	7.1	2.660	102.2	11.4	4.080	97.0	14.0	4.870	90.8	17.1	5.770
140	131.4	4.3	1.880	129.2	5.4	2.320	124.0	8.0	3.340	114.6	12.7	5.080	108.6	15.7	6.110	101.6	19.2	7.250
160	150.2	4.9	2.420	147.6	6.2	3.040	141.8	9.1	4.350	130.8	14.6	6.670	124.2	17.9	7.960	116.2	21.9	9.440
180	169.0	5.5	3.070	166.2	6.9	3.790	159.6	10.2	5.480	147.2	16.4	8.420	139.8	20.1	10.100	130.8	24.6	11.900
200	187.6	6.2	3.840	184.6	7.7	4.690	177.2	11.4	6.790	163.6	18.2	10.400	155.2	22.4	12.400	145.2	27.4	14.800
225	211.2	6.9	4.770	207.8	8.6	5.890	199.4	12.8	8.550	184.0	20.5	13.100	174.6	25.2	15.800	163.4	30.8	18.600
250	234.6	7.7	5.920	230.8	9.6	7.300	221.6	14.2	10.600	204.6	22.7	16.200	194.2	27.9	19.400	181.6	34.2	23.000
280	262.8	8.6	7.400	258.6	10.7	9.100	248.2	15.9	13.200	229.2	25.4	20.300	217.4	31.3	24.300	203.4	38.3	28.900
315	295.6	9.7	9.370	290.8	12.1	11.600	279.2	17.9	16.700	257.8	28.6	25.600	244.6	35.2	30.800	228.8	43.1	36.500
355	333.2	10.9	11.800	327.8	13.6	14.600	314.8	20.1	21.200	290.6	32.2	32.500	275.6	39.7	39.100	258.0	48.5	46.300
400	375.4	12.3	15.10	369.4	15.3	18.60	354.6	22.7	26.90	327.4	36.3	41.30	310.6	44.7	49.60	290.6	54.7	58.80
450	422.4	13.8	19.00	415.6	17.2	23.50	399.0	25.5	34.00	368.2	40.9	52.30	349.4	50.3	62.70	327.0	61.5	74.40
500	469.4	15.3	23.40	461.8	19.1	28.90	443.2	28.4	42.00	409.2	45.4	64.50	388.4	55.8	77.30	363.4	68.3	91.80
560	525.6	17.2	29.40	517.2	21.4	36.20	496.6	31.7	52.50	458.4	50.8	80.80	435.0	62.5	97.00			
630	591.4	19.3	37.10	581.8	24.1	45.90	558.6	35.7	66.50	515.6	57.2	102.00						
710	666.4	21.8	47.20	655.6	27.2	58.40	629.6	40.2	84.40	581.0	64.5	130.00						
800	751.0	24.5	59.70	738.8	30.6	73.90	709.4	45.3	107.00	654.4	72.8	166.77						
900	844.8	27.6	75.60	831.2	34.4	93.40	798.0	51.0	136.00									
1000	938.8	30.6	93.10	923.6	38.2	115.00	886.6	56.7	167.00									
1200	1126.6	36.7	134.00	1108.2	45.9	166.00	1064.0	68.0	241.00									
1400	1314.2	42.9	183.41	1292.0	53.8	229.59	1240.9	79.5	332.71									
1600	1502.0	49.0	239.42	1476.9	61.5	299.00	1418.0	90.9	434.54									

HDPE PRESSURE PIPE PE80 = MRS 8 = SIGMA 6.3

Dimensioning according to DIN 8074 - ISO 4427 / 1167

Material
High Density Polyethylene PE80
MRS = 8.0 Mpa
σs = 6.3 Mpa (MRS / c)
c = 1.25

Note:

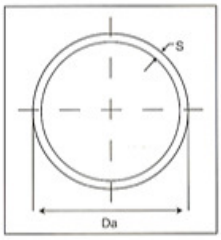
PN	Nominal Pressure (Bar)
Wt	Pipe weight (Kg/m)
S	Wall thickness (mm)
Da	Nominal Outside Diameter (mm)
SDR	Standard dimensional ratio (Da/s)
MRS	Minimum required strength (Mpa)
σs	Hydrostatic Design stress@20c
C	Design factor 1.25 for water

Color Black

Dimensions DIN 8074 / 8075

Standard Length
Up to Da 125 = 100m Coil
Da 140-630 = 12m

Available on Request
* Other length
* Color
* Pipes in other PN/SDR classes according to DIN 8074 / 8075



$$PN = \frac{2 \times \sigma s \times s \times 10}{Da - s}$$

Pipe Series = σsx10 / PN

*** Weight may vary according to polymer density. The mass has been calculated taking average density as 0.95 g/cm3. For other densities, the mass shall be established by linear interpolation, taking the wall thickness as the nominal size plus half the tolerance specified.

Nominal Outside Diameter Da mm	Pipe Series																	
	S 20			S 16			S 10.5			S 6.3			S 5			S 4		
	Standard Dimension Ratio																	
	SDR 41			SDR 33			SDR 22			SDR 13.6			SDR 11			SDR 9		
	Norminal Pressure PN for σs = 5 Mpa																	
	PN 3.2			PN 4			PN 6			PN 10			PN 12.5			PN 16		
	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m
12																		
16																12.4	1.8	0.084
20										16.4	1.8	0.107	16.2	1.9	0.112	15.4	2.3	0.133
25										21.2	1.9	0.144	20.4	2.3	0.171	19.4	2.8	0.200
32										27.2	2.4	0.232	26.2	2.9	0.272	24.8	3.6	0.327
40							36.2	1.9	0.238	34.0	3.0	0.356	32.6	3.7	0.430	31.0	4.5	0.509
50				46.4	1.8	0.287	45.4	2.3	0.361	42.6	3.7	0.549	40.8	4.6	0.666	38.8	5.6	0.788
63	59.4	1.8	0.364	59.0	2.0	0.399	57.2	2.9	0.563	53.6	4.7	0.873	51.4	5.8	1.050	48.8	7.1	1.260
75	71.2	1.9	0.457	70.4	2.3	0.551	68.0	3.5	0.807	63.8	5.6	1.240	61.4	6.8	1.470	58.2	8.4	1.760
90	85.6	2.2	0.643	84.4	2.8	0.791	81.8	4.1	1.140	76.6	6.7	1.770	73.6	8.2	2.120	69.8	10.1	2.540
110	104.6	2.7	0.943	103.2	3.4	1.170	100.0	5.0	1.670	93.8	8.1	2.620	90.0	10.0	3.140	85.4	12.3	3.780
125	118.8	3.1	1.230	117.2	3.9	1.510	113.6	5.7	2.160	106.6	9.2	3.370	102.2	11.4	4.080	97.0	14.0	4.870
140	133.0	3.5	1.540	131.4	4.3	1.880	127.2	6.4	2.720	119.4	10.3	4.220	114.6	12.7	5.080	108.6	15.7	6.110
160	152.0	4.0	2.000	150.2	4.9	2.420	145.4	7.3	3.540	136.4	11.8	5.500	130.8	14.6	6.670	124.2	17.9	7.960
180	171.2	4.4	2.490	169.0	5.5	3.070	163.6	8.2	4.470	153.4	13.3	6.980	147.2	16.4	8.420	139.8	20.1	10.100
200	190.2	4.9	3.050	187.6	6.2	3.840	181.8	9.1	5.510	170.6	14.7	8.560	163.6	18.2	10.400	155.2	22.4	12.400
225	214.0	5.5	3.860	211.2	6.9	4.770	204.4	10.3	7.000	191.8	16.6	10.900	184.0	20.5	13.100	174.6	25.2	15.800
250	237.6	6.2	4.830	234.6	7.7	5.920	227.2	11.4	8.590	213.2	18.4	13.400	204.6	22.7	16.200	194.2	27.9	19.400
280	266.2	6.9	5.980	262.8	8.6	7.400	254.4	12.8	10.800	238.8	20.6	16.800	229.2	25.4	20.300	217.4	31.3	24.300
315	299.6	7.7	7.520	295.6	9.7	9.370	286.2	14.4	13.600	268.6	23.2	21.200	257.8	28.6	25.600	244.6	35.2	30.800
355	337.6	8.7	9.550	333.2	10.9	11.800	322.6	16.2	17.300	302.8	26.1	26.900	290.6	32.2	32.500	275.6	39.7	39.100
400	380.4	9.8	12.10	375.4	12.3	15.10	363.6	18.2	21.90	341.2	29.4	34.10	327.4	36.3	41.30	310.6	44.7	49.60
450	428.0	11.0	15.30	422.4	13.8	19.00	409.0	20.5	27.70	383.8	33.1	43.20	368.2	40.9	52.30	349.4	50.3	62.70
500	475.4	12.3	19.00	469.4	15.3	23.40	454.4	22.8	34.20	426.4	36.8	53.30	409.2	45.4	64.50	388.4	55.8	77.30
560	532.6	13.7	23.60	525.6	17.2	29.40	509.0	25.5	42.80	477.6	41.2	66.90	458.4	50.8	80.80	435.0	62.5	97.00
630	599.2	15.4	29.90	591.4	19.3	37.10	572.6	28.7	54.10	537.4	46.3	84.60	515.6	57.2	102.00			
710	675.2	17.4	38.00	666.4	21.8	47.20	645.4	32.3	68.70	605.6	52.2	107.00	581.0	64.5	130.00			
800	760.8	19.6	48.10	751.0	24.5	59.70	727.2	36.4	87.20	682.4	58.8	136.00						
900	856.0	22.0	60.90	844.8	27.6	75.60	818.0	41.0	110.00	767.8	66.1	172.00						
1000	951.0	24.5	75.20	938.8	30.6	93.10	909.0	45.5	136.00	853.0	73.5	214.52						
1200	1141.2	29.4	108.00	1126.6	36.7	134.00	1090.8	54.6	196.00									
1400	133.1	34.3	147.57	1314.2	42.9	183.41	1272.7	63.6	269.20									
1600	1521.6	39.2	192.74	1502.0	49.0	239.42	1454.5	72.7	351.82									

HDPE PRESSURE PIPE PE100 = MRS 10 = SIGMA

Dimensioning according to DIN 8074 - ISO 4427 / 1167

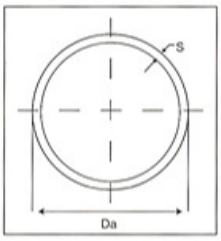
Material
High Density Polyethylene PE100
MRS = 10 Mpa
σs = 8 Mpa (MRS / c)
c = 1.25

Note:
PN Nominal Pressure (Bar)
Wt Pipe weight (Kg/m)
S Wall thickness (mm)
Da Nominal Outside Diameter (mm)
SDR Standard dimensional ratio (Da/s)
MRS Minimum required strength (Mpa)
σs Hydrostatic Design stress@20c
C Design factor 1.25 for water

Color Black
Dimensions DIN 8074 / 8075

Standard Length
Up to Da 125 = 100m Coil
Da 140-630 = 12m

Available on Request
* Other length
* Color
* Pipes in other PN/SDR classes according to DIN 8074 / 8075



$$PN = \frac{2 \times \sigma s \times s \times 10}{Da - s}$$

Pipe Series = σsx10 / PN

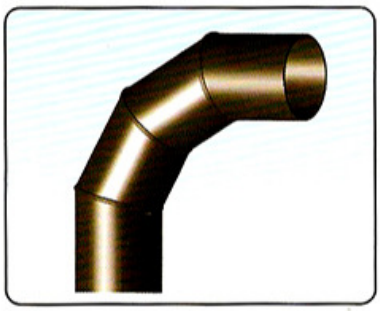
*** Weight may vary according to polymer density. The mass has been calculated taking average density as 0.95 g/cm3. For other densities, the mass shall be established by linear interpolation, taking the wall thickness as the nominal size plus half the tolerance specified.

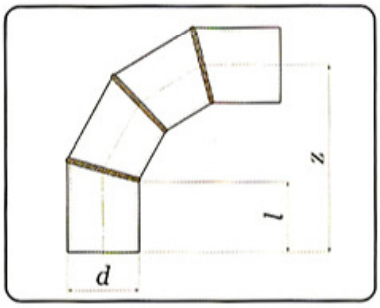
Nominal Outside Diameter Da mm	Pipe Series S 20 / Standard Dimension Ratio SDR 41 / Norminal Pressure PN for σs = 5 Mpa PN 4			Pipe Series S 12.5 / SDR 26 / PN 6.3			Pipe Series S 8 / SDR 17 / PN 10			Pipe Series S 6.3 / SDR 13.6 / PN 12.5			Pipe Series S 5 / SDR 11 / PN 16			Pipe Series S 4 / SDR 9 / PN 20		
	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m	Nominal Pipe I.D mm	Wall thickness mm	Approx. weight kg/m
12																		
16																12.4	1.8	0.084
20										16.4	1.8	0.107	16.2	1.9	0.112	15.4	2.3	0.133
25							21.4	1.8	0.137	21.2	1.9	0.144	20.4	2.3	0.171	19.4	2.8	0.200
32							28.2	1.9	0.187	27.2	2.4	0.232	26.2	2.9	0.272	24.8	3.6	0.327
40				36.4	1.8	0.227	35.2	2.4	0.295	34.0	3.0	0.356	32.6	3.7	0.430	31.0	4.5	0.509
50				46.4	2.0	0.314	44.0	3.0	0.453	42.6	3.7	0.549	40.8	4.6	0.666	38.8	5.6	0.788
63	59.4	1.8	0.364	58.0	2.5	0.494	55.4	3.8	0.721	53.6	4.7	0.873	51.4	5.8	1.050	48.8	7.1	1.260
75	71.2	1.9	0.457	69.2	2.9	0.675	66.0	4.5	1.020	63.8	5.6	1.240	61.4	6.8	1.470	58.2	8.4	1.760
90	85.6	2.2	0.643	83.0	3.5	0.978	79.2	5.4	1.460	76.6	6.7	1.770	73.6	8.2	2.120	69.8	10.1	2.540
110	104.6	2.7	0.943	101.6	4.2	1.430	96.8	6.6	2.170	93.8	8.1	2.620	90.0	10.0	3.140	85.4	12.3	3.780
125	118.8	3.1	1.230	115.4	4.8	1.840	110.2	7.4	2.760	106.6	9.2	3.370	102.2	11.4	4.080	97.0	14.0	4.870
140	133.0	3.5	1.540	129.2	5.4	2.320	123.4	8.3	3.460	119.4	10.3	4.220	114.6	12.7	5.080	108.6	15.7	6.110
160	152.0	4.0	2.000	147.6	6.2	3.040	141.0	9.5	4.520	136.4	11.8	5.500	130.8	14.6	6.670	124.2	17.9	7.960
180	171.2	4.4	2.490	166.2	6.9	3.790	158.6	10.7	5.710	153.4	13.3	6.980	147.2	16.4	8.420	139.8	20.1	10.100
200	190.2	4.9	3.050	184.6	7.7	4.690	176.2	11.9	7.050	170.6	14.7	8.560	163.6	18.2	10.400	155.2	22.4	12.400
225	214.0	5.5	3.860	207.8	8.6	5.890	198.2	13.4	8.930	191.8	16.6	10.900	184.0	20.5	13.100	174.6	25.2	15.800
250	237.6	6.2	4.830	230.8	9.6	7.300	220.4	14.8	11.000	213.2	18.4	13.400	204.6	22.7	16.200	194.2	27.9	19.400
280	266.2	6.9	5.980	258.6	10.7	9.100	246.8	16.6	13.700	238.8	20.6	16.800	229.2	25.4	20.300	217.4	31.3	24.300
315	299.6	7.7	7.520	290.8	12.1	11.600	277.6	18.7	17.400	268.6	23.2	21.200	257.8	28.6	25.600	244.6	35.2	30.800
355	337.6	8.7	9.550	327.8	13.6	14.600	312.8	21.1	22.100	302.8	26.1	26.900	290.6	32.2	32.500	275.6	39.7	39.100
400	380.4	9.8	12.10	369.4	15.3	18.60	352.6	23.7	28.00	341.2	29.4	34.10	327.4	36.3	41.30	310.6	44.7	49.60
450	428.0	11.0	15.30	415.6	17.2	23.50	396.6	26.7	35.40	383.8	33.1	43.20	368.2	40.9	52.30	349.4	50.3	62.70
500	475.4	12.3	19.00	461.8	19.1	28.90	440.6	29.7	43.80	426.4	36.8	53.30	409.2	45.4	64.50	388.4	55.8	77.30
560	532.6	13.7	23.60	517.2	21.4	36.20	493.6	33.2	54.80	477.6	41.2	66.90	458.4	50.8	80.80	435.0	62.5	97.00
630	599.2	15.4	29.90	581.8	24.1	45.90	555.2	37.4	69.40	537.4	46.3	84.60	515.6	57.2	102.00			
710	675.2	17.4	38.00	655.6	27.2	58.40	625.8	42.1	88.10	605.6	52.2	107.00	581.0	64.5	130.00			
800	760.8	19.6	48.10	738.8	30.6	73.90	705.2	47.4	112.00	682.4	58.8	136.00						
900	856.0	22.0	60.90	831.2	34.4	93.40	793.4	53.3	141.00	767.8	66.1	172.00						
1000	951.0	24.5	75.20	923.6	38.2	115.00	881.4	59.3	175.00									
1200	1141.2	29.4	108.00	1108.2	45.9	166.00	1058.8	70.6	251.19									
1400	1331.4	34.3	147.57	1298.6	50.7	215.51	1235.2	82.4	342.02									
1600	1521.6	39.2	192.74	1484.0	58.0	281.74	1411.8	94.1	446.41									

Note: Pipe specifications for PN25 and PN32 ratings are available upon request.

90° Elbow

Butt Welding - Fabricated Fittings
Code: WS-BWFE-100-(Fitting Size)



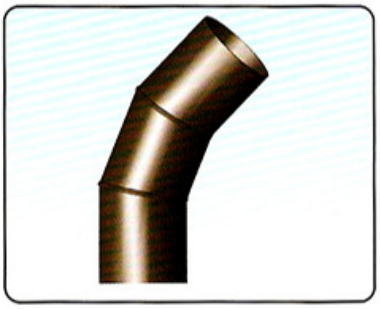


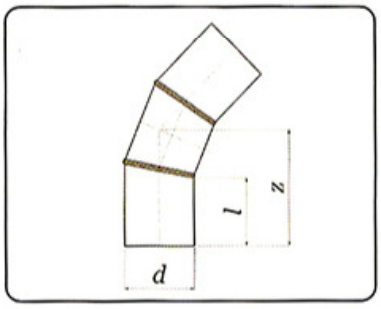
PE100, PN10/ PN16

d (mm)	l (mm)	z (mm)
125	87.0	362,0
140	92.0	374.0
160	98.0	390.0
180	105.0	407.0
200	112.0	424.0
225	120.0	445,0
250	129.0	466.0
280	139.0	491.0
315	150.0	520,0
355	164.0	554,0
400	179.0	591.0
450	195.0	632.0
500	212.0	674.0
560	235.0	727.0
630	255.0	782.0
710	255.0	822.0
800	255.0	867.0

45° Elbow

Butt Welding - Fabricated Fittings
Code: WS-BWFE45-100-(Fitting Size)



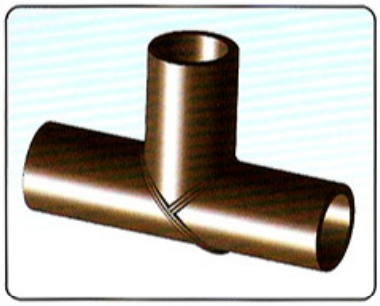


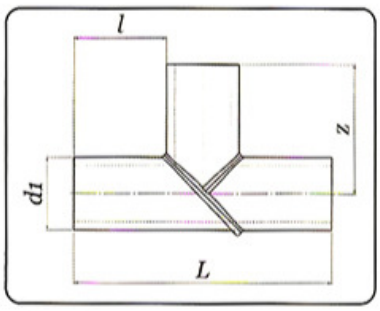
PE100, PN10/ PN16

d (mm)	l (mm)	z (mm)
125	87.0	185,0
140	92.0	192,0
160	98.0	200,0
180	105.0	210,0
200	112.0	220,0
225	120.0	231,0
250	129.0	243,0
280	139.0	257,0
315	150.0	273,0
355	164.0	318,0
400	179.0	339,0
450	195.0	362,0
500	212.0	411,0
560	235.0	442,0
630	255.0	471,0
710	255.0	505,0
800	255.0	513,0

Tee - Equal

Butt Welding - Fabricated Fittings
Code: WS-BWFT-100-(Fitting Size)



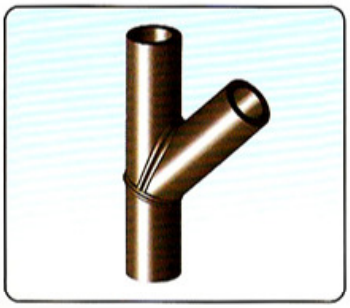


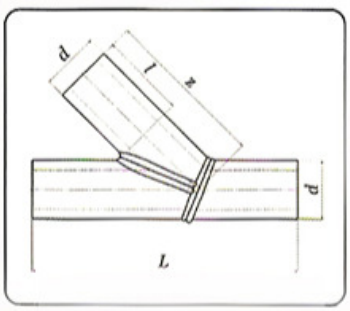
PE100, PN10/ PN16

d (mm)	l (mm)	z (mm)	L (mm)
125	87.0	150,0	299.0
140	92.0	162.0	324.0
160	98.0	178.0	356.0
180	105.0	195.0	390.0
200	112.0	212.0	424.0
225	120.0	233,0	465.0
250	129.0	254.0	508.0
280	139.0	279.0	558.0
315	150.0	308,0	615.0
355	164.0	342,0	683.0
400	179.0	379.0	758.0
450	195.0	420.0	840.0
500	212.0	462.0	924.0
560	235.0	515.0	1030.0
630	255.0	570.0	1140.0
710	255.0	610.0	1220.0
800	255.0	655.0	1310.0

Tee - 45°

Butt Welding - Fabricated Fittings
Code: WS-BWFY45-100-(Fitting Size)





PE100, PN10/ PN16

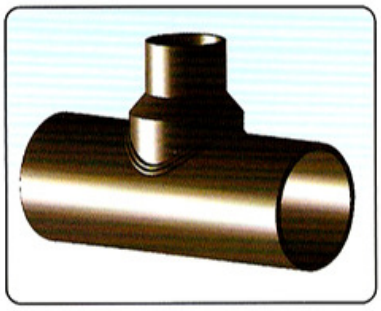
(n	l (mm)	z (mm)
90	79	268
110	82	294
125	87	319
140	92	344
160	98	376
180	105	410
200	112	444
225	120	485
250	129	528
280	139	578
315	150	635

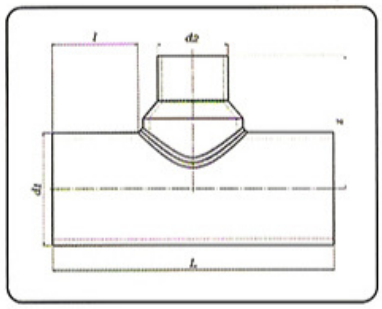
Note: Fittings also availabe in PE80 variant.

Tee - Reducer

Butt Welding - Fabricated Fittings
Code: WS-BWFTR-100-(Fitting Size)

PE100, PN10/ PN16





Note: Fittings also availabe in PE80 variant.

d1 (mm)	d2 (mm)	l (mm)	z (mm)	L (mm)
125	50	87	148	284
125	63	87	156	284
125	75	87	163	284
125	90	87	172	284
125	110	87	175	284
140	50	92	155	294
140	63	92	163	294
140	75	92	170	294
140	90	92	179	294
140	110	92	182	309
140	125	92	187	309
160	50	98	165	321
160	63	98	173	321
160	75	98	180	321
160	90	98	189	321
160	110	98	192	321
160	125	98	197	336
160	140	98	202	336
180	50	105	175	335
180	63	105	183	335
180	75	105	190	335
180	90	105	199	335
180	110	105	202	335
180	125	105	207	350
180	140	105	212	370
180	160	105	218	370
200	50	112	185	349
200	63	112	193	349
200	75	112	200	349
200	90	112	209	349
200	110	112	212	384
200	125	112	217	384
200	140	112	222	384
200	160	112	228	404
200	180	112	235	404
225	50	120	198	365
225	63	120	206	365
225	75	120	213	365
225	90	120	222	365
225	110	120	225	400
225	125	120	230	400
225	140	120	235	400
225	160	120	241	420
225	180	120	248	440
225	200	120	255	440
250	50	129	210	383
250	63	129	218	383
250	75	129	225	383
250	90	129	234	383
250	110	129	237	418
250	125	129	242	418
250	140	129	247	418
250	160	129	253	438
250	180	129	260	458
250	200	129	267	483

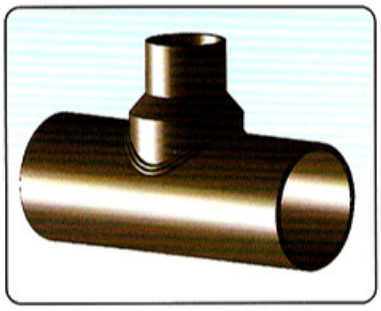
d1 (mm)	d2 (mm)	l (mm)	z (mm)	L (mm)
250	225	129	275	483
280	50	139	225	403
280	63	139	233	403
280	75	139	240	403
280	90	139	249	403
280	110	139	252	418
280	125	139	257	458
280	140	139	262	458
280	160	139	268	458
280	180	139	275	478
280	200	139	282	503
280	225	139	290	528
280	250	139	299	528
315	50	150	243	480
315	63	150	251	480
315	75	150	258	480
315	90	150	267	480
315	110	150	270	480
315	125	150	275	480
315	140	150	280	480
315	160	150	286	480
315	180	150	293	500
315	200	150	300	525
315	225	150	308	550
315	250	150	317	580
315	280	150	327	580
355	50	164	263	508
355	63	164	271	508
355	75	164	278	508
355	90	164	287	508
355	110	164	290	508
355	125	164	295	508
355	140	164	300	508
355	160	164	306	508
355	180	164	313	528
355	200	164	320	553
355	225	164	328	578
355	250	164	337	608
355	280	164	347	643
355	315	164	358	643
400	50	179	285	538
400	63	179	293	538
400	75	179	300	538
400	90	179	309	538
400	110	179	312	538
400	125	179	317	538
400	140	179	322	538
400	160	179	328	538
400	180	179	335	558
400	200	179	342	583
400	225	179	350	608
400	250	179	359	638
400	280	179	369	673
400	315	179	380	713
400	355	179	394	713

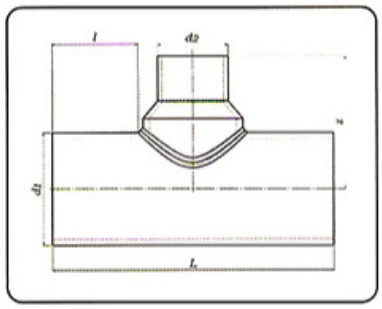
Tee - Reducer

Butt Welding - Fabricated Fittings

Code: WS-BWFTR-100-(Fitting Size)

PE100, PN10/ PN16





Note: Fittings also availabe in PE80 variant.

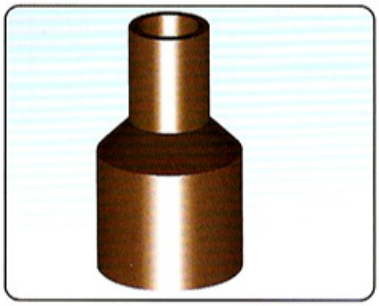
d1 (mm)	d2 (mm)	l (mm)	z (mm)	L (mm)
450	50	195	310	590
450	63	195	318	590
450	75	195	325	590
450	90	195	334	590
450	110	195	337	590
450	125	195	342	590
450	140	195	347	590
450	160	195	353	590
450	180	195	360	590
450	200	195	367	615
450	225	195	375	640
450	250	195	384	670
450	280	195	394	705
450	315	195	405	745
450	355	195	419	790
450	400	195	434	790
500	50	212	335	624
500	63	212	343	624
500	75	212	350	624
500	90	212	359	624
500	110	212	362	624
500	125	212	367	624
500	140	212	372	624
500	160	212	378	624
500	180	212	385	624
500	200	212	392	649
500	225	212	400	674
500	250	212	409	704
500	280	212	419	739
500	315	212	430	779
500	355	212	444	824
500	400	212	459	874
500	450	212	475	874
560	50	235	365	670
560	63	235	373	670
560	75	235	380	670
560	90	235	389	670
560	110	235	392	670
560	125	235	397	670
560	140	235	402	670
560	160	235	408	670
560	180	235	415	670
560	200	235	422	720
560	225	235	430	750
560	250	235	439	750
560	280	235	449	785
560	315	235	460	825
560	355	235	474	870
560	400	235	489	920
560	450	235	505	970
560	500	235	522	970
630	90	255	424	735
630	110	255	427	735
630	125	255	432	735
630	140	255	437	735

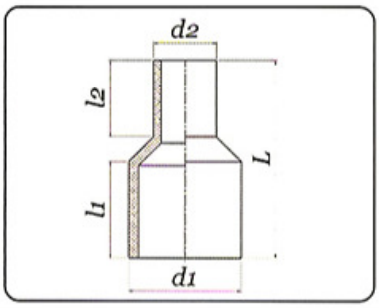
d1 (mm)	d2 (mm)	l (mm)	z (mm)	L (mm)
630	160	255	443	735
630	180	255	450	735
630	200	255	457	760
630	225	255	465	790
630	250	255	474	825
630	280	255	484	825
630	315	255	495	865
630	355	255	509	910
630	400	255	524	960
630	450	255	540	1010
630	500	255	557	1070
630	560	255	580	1070
710	90	255	464	735
710	110	255	467	735
710	125	255	472	735
710	140	255	477	735
710	160	255	483	735
710	180	255	490	735
710	200	255	497	760
710	225	255	505	790
710	250	255	514	825
710	280	255	524	865
710	315	255	535	865
710	355	255	549	910
710	400	255	564	960
710	450	255	580	1010
710	500	255	597	1070
710	560	255	620	1140
710	630	255	640	1140
800	90	255	509	735
800	110	255	512	735
800	125	255	517	735
800	140	255	522	735
800	160	255	528	735
800	180	255	535	735
800	200	255	542	790
800	225	255	550	825
800	250	255	559	825
800	280	255	569	865
800	315	255	580	910
800	355	255	594	910
800	400	255	609	960
800	450	255	625	1010
800	500	255	642	1070
800	560	255	665	1140
800	630	255	685	1220
800	710	255	685	1220

Reducer

Butt Welding - Fabricated Fittings
Code: WS-BWFR-100-(Fitting Size)

PE100, PN10/ PN16



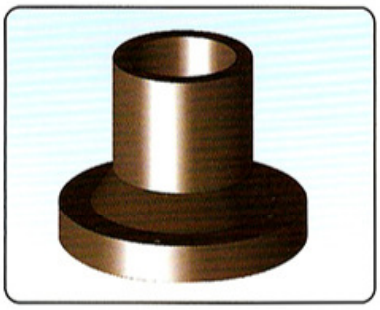


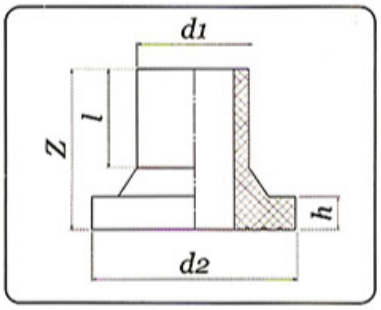
d1 (mm)	d2 (mm)	l1 (mm)	l2 (mm)	L (mm)
140	90	92	79	201
140	110	92	82	204
140	125	92	87	209
160	90	98	79	207
160	110	98	82	210
160	125	98	87	215
160	140	98	92	220
180	110	105	82	217
180	125	105	87	222
180	140	105	92	227
180	160	105	98	233
200	125	112	87	229
200	140	112	92	234
200	160	112	98	240
200	180	112	105	247
225	140	120	92	242
225	160	120	98	248
225	180	120	105	255
225	200	120	112	262
250	180	129	105	264
250	200	129	112	271
250	225	129	120	279
280	200	139	112	281
280	225	139	120	289
280	250	139	129	298
315	200	150	112	292

d1 (mm)	d2 (mm)	l1 (mm)	l2 (mm)	L (mm)
315	225	150	120	300
315	250	150	129	309
315	280	150	139	319
355	250	164	129	323
355	280	164	139	333
355	315	164	150	344
400	280	179	139	348
400	315	179	150	359
400	355	179	164	373
450	315	195	150	375
450	355	195	164	389
450	400	195	179	404
500	355	212	164	406
500	400	212	179	421
500	450	212	195	437
560	400	235	179	444
560	450	235	195	460
560	500	235	212	477
630	450	255	195	480
630	500	255	212	497
630	560	255	235	520
710	500	255	212	497
710	560	255	235	520
710	630	255	255	540
800	630	255	255	540
800	710	255	255	540

Flange Adaptor (Stub Flange)

Butt Welding - Fabricated Fittings
Code: WS-FSE-100-(Fitting Size)





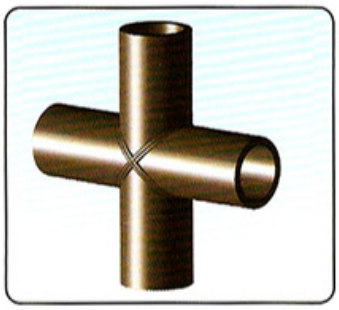
PE100, PN10/ PN16

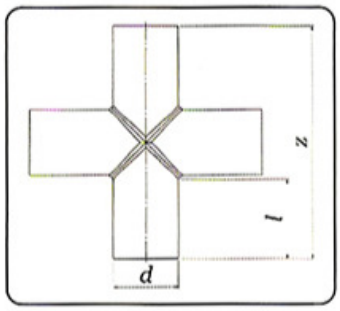
d1 (mm)	l (mm)	d2 (mm)	h (mm)	L (mm)
355	164	425	40	234
400	179	480	45	254
450	195	585	50	275
500	212	585	50	292
560	235	690	55	320
630	255	690	55	340
710	255	800	60	345
800	255	900	60	345

Note: Fittings also availabe in PE80 variant.

Tee Cross

Butt Welding - Fabricated Fittings
Code: WS-BWFCT-100-(Fitting Size)



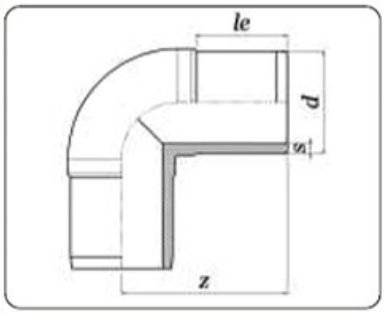


PE100, PN10/ PN16

d (mm)	l (mm)	z (mm)
110	82	294
125	87	319
140	92	344
160	98	376
180	105	410
200	112	444
225	120	485
250	129	528
280	139	578
315	150	635
355	164	703
400	179	778
450	195	860
500	212	944
560	235	1050
630	255	1160

90° Elbow

Butt Welding - Injection Molded Fittings
Code: WS-BWIE90-100-(Fitting Size)



PE100, PN16, SDR11, S5

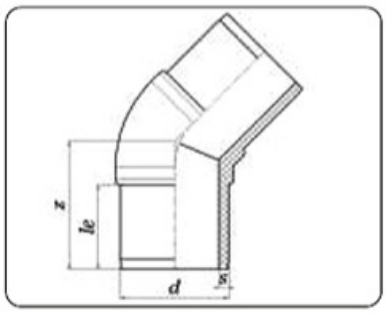
d mm	le mm	z mm	s mm	weight kg
90	81,0	150,0	8,2	0.658
110	86,0	165,0	10,0	1.153
125	93,0	180,0	11,4	1.540
140	97,0	190,0	12,7	2.160
160	103,0	210,0	14,6	2.920
180	110,0	232,0	16,4	3.900
200	117,0	253,0	18,2	5.530
225	125,0	270,0	20,5	7.440
250	136,0	307,0	22,7	9.860
280	145,0	340,0	25,4	13.520
315	155,0	370,0	28,6	20.060

PE100, PN10, SDR17, S8

d mm	le mm	z mm	s mm	weight kg
90	81,0	150,0	5.4	0.790
110	86,0	165,0	6,6	0.829
125	93,0	180,0	7,4	1.108
140	97,0	190,0	8,3	1.554
160	103,0	210,0	9,5	2.101
180	110,0	232,0	10,7	2.806
200	117,0	253,0	11,9	3.978
225	125,0	270,0	13,4	5.353
250	136,0	307,0	14,8	7.094
280	145,0	340,0	16,6	9.727
315	158,0	370,0	18,7	14.432

45° Elbow

Butt Welding - Injection Molded Fittings
Code: WS-BWIE45-100-(Fitting Size)



PE100, PN16, SDR11, S5

d mm	le mm	z mm	s mm	weight kg
90	81,0	120,0	8,2	0.539
110	86,0	130,0	10,0	0.945
125	93,0	140,0	11,4	1.262
140	97,0	150,0	12,7	1.770
160	103,0	160,0	14,6	2.393
180	110,0	170,0	16,4	3.197
200	117,0	185,0	18,2	4.533
225	125,0	200,0	20,5	6.098
250	136,0	217,0	22,7	8.082
280	145,0	238,0	25,4	11.082
315	155,0	256,0	28,6	16.443

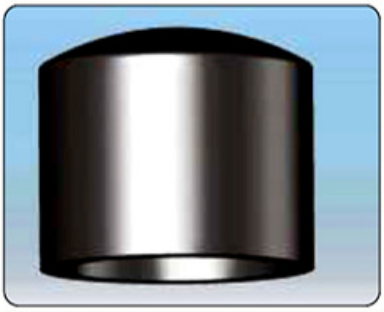
PE100, PN10, SDR17, S8

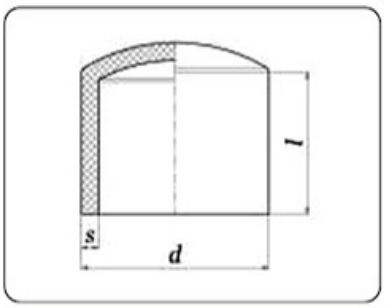
d mm	le mm	z mm	s mm	weight kg
90	81,0	120,0	5,4	0.570
110	86,0	130,0	6.6	0.680
125	93,0	140,0	7.4	0.908
140	97,0	150,0	8.3	1.274
160	103,0	160,0	9.5	1.722
180	110,0	170,0	10.7	2.300
200	117,0	185,0	11.9	3.261
225	125,0	200,0	13.4	4.387
250	136,0	217,0	14.8	5.814
280	145,0	238,0	16.6	7.973
315	155,0	256,0	18.7	11.829

Note: Fittings also availabe in PE80 variant.

End Cap

Butt Welding - Injection Molded Fittings
Code: WS-BWIEC-100-(Fitting Size)



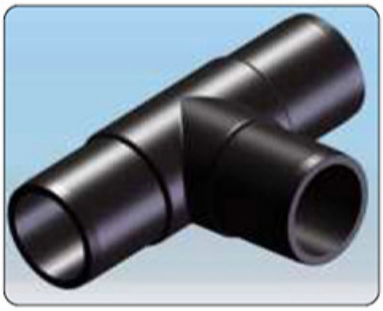


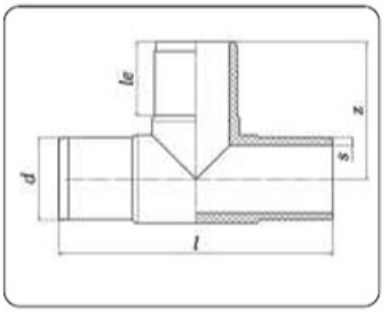
PE100, PN16, SDR11, S5

d	l	s	weight
mm	mm	mm	kg
50	57,0	4,6	0.048
63	65,0	5,8	0.084
75	72,0	6,8	0.131
90	81,0	8,2	0.218
110	86,0	10,0	0.333
125	93,0	11,4	0.485
140	97,0	12,7	0.674
160	103,0	14,6	0.953
180	110,0	16,4	1.330
200	117,0	18,2	1.760
225	125,0	20,5	2.440
250	136,0	22,7	3.260
280	145,0	25,4	4.460
315	155,0	28,6	6.170

Tee

Butt Welding - Injection Molded Fittings
Code: WS-BWIT-100-(Fitting Size)





PE100, PN16, SDR11, S5

d	l	le	z	s	weight
mm	mm	mm	mm	mm	kg
50	230,0	57,0	114,0	4,6	0.230
63	230,0	65,0	115,0	5,8	0.370
75	264,0	72,0	132,0	6,8	0.550
90	301,0	81,0	150,0	8,2	0.900
110	330,0	86,0	165,0	10,0	1.480
125	366,0	93,0	183,0	11,4	2.200
140	380,0	97,0	190,0	12,7	3.020
160	420,0	103,0	210,0	14,6	3.890
180	460,0	110,0	230,0	16,4	5.770
200	500,0	117,0	250,0	18,2	7.460
225	540,0	125,0	270,0	20,5	10.070
250	620,0	136,0	312,0	22,7	14.040
280	690,0	145,0	346,0	25,4	21.880
315	748,0	155,0	375,0	28,6	28.770

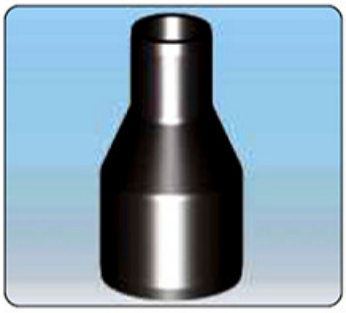
PE100, PN10, SDR17, S8

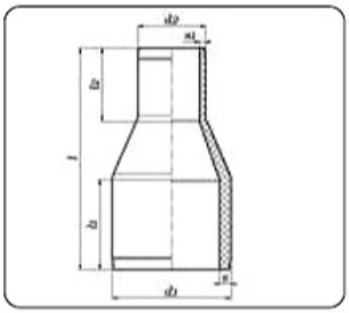
d	l	le	z	s	weight
mm	mm	mm	mm	mm	kg
90	301,0	81,0	150,0	5,4	0.710
110	330,0	86,0	165,0	6.6	1.035
125	366,0	93,0	183,0	7.4	1.538
140	380,0	97,0	190,0	8.3	2.112
160	420,0	103,0	210,0	9.5	2.720
180	460,0	110,0	230,0	10.7	4.035
200	500,0	117,0	250,0	11.9	5.217
225	540,0	125,0	270,0	13.4	7.042
250	620,0	136,0	312,0	14.8	9.818
280	690,0	145,0	346,0	16.6	15.301
315	748,0	155,0	375,0	18.7	20.119

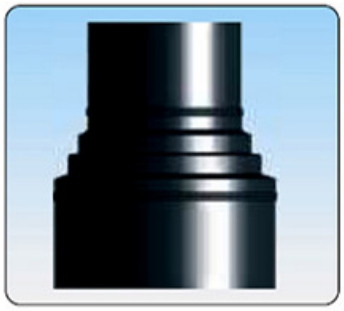
Note: Fittings also availabe in PE80 variant.

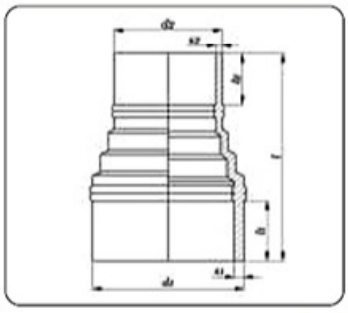
Reducer

Butt Welding - Injection Molded Fittings
Code: WS-BWIR-100-(Fitting Size)









PE100, PN16, SDR11, S5

d1-d2	l	l1	l2	s1	s2	weight
mm	mm	mm	mm	mm	mm	kg
250-225	299,0	139,0	130,0	14,8	13,4	3,686
250-200	291,0	139,0	122,0	14,8	11,9	3,385
250-180	284,0	139,0	115,0	14,8	10,7	3,181
250-160	277,0	139,0	108,0	14,8	9,5	3,011
280-250	318,0	149,0	139,0	16,6	14,8	4,577
280-225	309,0	149,0	130,0	16,6	13,4	4,213
280-200	301,0	149,0	122,0	16,6	11,9	3,912
280-180	294,0	149,0	115,0	16,6	10,7	3,708
315-280	339,0	160,0	149,0	18,7	16,6	6,344
315-250	329,0	160,0	139,0	18,7	14,8	5,817
315-225	320,0	160,0	130,0	18,7	13,4	5,453
355-315	364,0	174,0	160,0	21,1	18,7	8,153
355-280	353,0	174,0	149,0	21,1	16,6	7,413
355-250	343,0	174,0	139,0	21,1	14,8	6,886
400-355	393,0	189,0	174,0	23,7	21,1	10,670
400-315	379,0	189,0	160,0	23,7	18,7	9,601
400-280	368,0	189,0	149,0	23,7	16,6	8,861
450-400	424,0	205,0	189,0	26,7	23,7	14,607
450-355	409,0	205,0	174,0	26,7	21,1	13,159
450-315	395,0	205,0	160,0	26,7	18,7	12,090
500-450	457,0	222,0	205,0	29,7	26,7	19,066
500-400	441,0	222,0	189,0	29,7	23,7	17,077
500-355	426,0	222,0	174,0	29,7	21,1	15,629
560-500	497,0	245,0	222,0	33,2	29,7	25,268
560-450	480,0	245,0	205,0	33,2	26,7	22,798
560-400	464,0	245,0	189,0	33,2	23,7	20,809
630-560	540,0	265,0	245,0	37,4	33,2	34,002
630-500	517,0	265,0	222,0	37,4	29,7	30,270
630-450	500,0	265,0	205,0	37,4	26,7	27,800

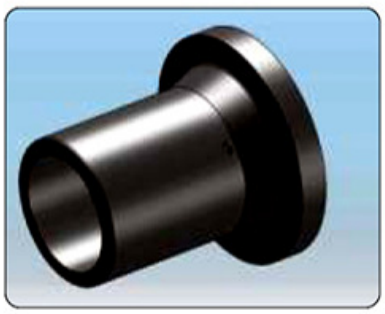
Note: Fittings also availabe in PE80 variant.

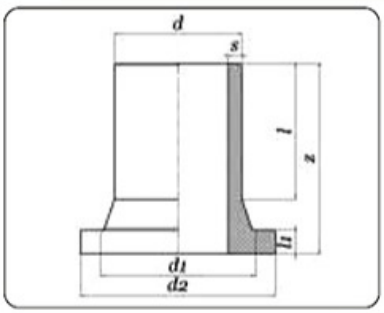
PE100, PN16, SDR11, S5

d1-d2	l	l1	l2	s1	s2	weight
mm	mm	mm	mm	mm	mm	kg
25-20	120,0	52,0	52,0	3,0	3,0	0,019
32-25	130,0	53,0	52,0	3,0	3,0	0,032
40-32	130,0	57,0	53,0	3,7	3,0	0,050
40-25	130,0	57,0	52,0	3,7	3,0	0,043
50-40	140,0	63,0	57,0	4,6	3,7	0,085
50-32	140,0	63,0	53,0	4,6	3,0	0,073
50-25	140,0	63,0	52,0	4,6	3,0	0,065
63-50	150,0	65,0	63,0	5,8	4,6	0,142
63-40	150,0	65,0	57,0	5,8	3,7	0,122
63-32	150,0	65,0	53,0	5,8	3,0	0,110
63-25	150,0	65,0	52,0	5,8	3,0	0,100
75-63	170,0	72,0	65,0	6,8	5,8	0,230
75-50	170,0	72,0	63,0	6,8	4,6	0,190
75-40	170,0	72,0	57,0	6,8	3,7	0,178
75-32	170,0	72,0	53,0	6,8	3,0	0,165
90-75	190,0	81,0	70,0	8,2	6,8	0,360
90-63	190,0	81,0	65,0	8,2	5,8	0,320
90-50	190,0	81,0	63,0	8,2	4,6	0,292
110-90	205,0	86,0	81,0	10,0	8,2	0,593
110-75	205,0	86,0	70,0	10,0	6,8	0,520
110-63	205,0	86,0	65,0	10,0	5,8	0,470
125-110	215,0	92,0	86,0	11,4	10,0	0,760
125-90	215,0	92,0	81,0	11,4	8,2	0,680
125-75	215,0	92,0	70,0	11,4	6,8	0,650
125-63	215,0	92,0	65,0	11,4	5,8	0,530
140-125	225,0	96,0	92,0	12,7	11,4	1,130
140-110	225,0	96,0	86,0	12,7	10,0	1,020
140-90	225,0	96,0	81,0	12,7	8,2	0,890
140-75	225,0	96,0	72,0	12,7	6,8	0,820
160-140	245,0	102,0	96,0	14,6	12,7	1,590
160-125	245,0	102,0	92,0	14,6	11,4	1,440
160-110	245,0	102,0	86,0	14,6	10,0	1,320
160-90	245,0	102,0	81,0	14,6	8,2	1,180
180-160	255,0	107,0	102,0	16,4	14,6	2,120
180-140	255,0	107,0	96,0	16,4	12,7	1,900
180-125	255,0	107,0	92,0	16,4	11,4	1,750
200-180	275,0	120,0	107,0	18,2	16,4	2,850
200-160	275,0	120,0	102,0	18,2	14,6	2,580
200-140	275,0	120,0	96,0	18,2	12,7	2,350
225-200	285,0	128,0	120,0	20,5	18,2	3,680
225-180	285,0	128,0	107,0	20,5	16,4	3,370
225-160	285,0	128,0	102,0	20,5	14,6	3,100
250-225	293,0	155,0	128,0	22,7	20,5	3,210
250-200	314,0	155,0	120,0	22,7	18,2	3,120
250-180	314,0	155,0	107,0	22,7	16,4	2,880
250-160	314,0	155,0	102,0	22,7	14,6	2,680
280-250	330,0	165,0	155,0	25,4	22,7	4,500
280-225	348,0	165,0	128,0	25,4	20,5	4,360
280-200	380,0	165,0	120,0	25,4	18,2	4,360
280-180	420,0	165,0	107,0	25,4	16,4	4,510
315-280	345,0	170,0	165,0	28,6	25,4	5,930
315-250	390,0	170,0	155,0	28,6	22,7	6,105
315-225	435,0	170,0	128,0	28,6	20,5	6,330

Flange Adaptor (Stub Flange)

Butt Welding - Injection Molded Fittings
Code: WS-BWISE-100-(Fitting Size)





PE100, PN10, SDR17, S8

d mm	d1 mm	d2 mm	l mm	l1 mm	z mm	s mm	*weight* kg
90	106,0	138,0	99,0	17,0	132,0	8,2	0.426
110	126,0	158,0	120,0	18,0	157,0	10,0	0.691
125	132,0	158,0	123,0	25,0	170,0	11,4	0.874
140	155,0	188,0	130,0	25,0	175,0	12,7	1.294
160	176,0	212,0	133,0	25,0	180,0	14,6	1.614
180	180,0	212,0	140,0	30,0	190,0	16,4	1.870
200	234,0	268,0	145,0	32,0	200,0	18,2	3.190
225	235,0	268,0	145,0	32,0	200,0	20,5	3.352
250	285,0	320,0	150,0	35,0	210,0	22,7	5.830
280	291,0	320,0	160,0	35,0	215,0	25,4	5.900
315	335,0	370,0	165,0	35,0	220,0	28,6	8.220

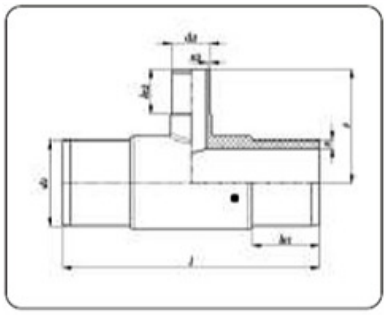
Note: Fittings also availabe in PE80 variant.

PE100, PN16, SDR11, S5

d mm	d1 mm	d2 mm	l mm	l1 mm	z mm	s mm	*weight* kg
90	106,0	138	101	17	140	5,4	0.450
110	126,0	158,0	120.0	18,0	157,0	6.6	0.532
125	132,0	158,0	123.0	18,0	170,0	7.4	0.672
140	155,0	188,0	130.0	18,0	191,0	8.3	0.995
160	176,0	212,0	133.0	18,0	180,0	9.5	1.242
180	180,0	212,0	140.0	20,0	190,0	10.7	1.438
200	234,0	268,0	145.0	24,0	200,0	11.9	2.454
225	235,0	268,0	145.0	24,0	200,0	13.4	2.578
250	285,0	320,0	150.0	25,0	210,0	14.8	4.485
280	291,0	320,0	160.0	25,0	215,0	16.6	4.538
315	335,0	370,0	165.0	25,0	220,0	18.7	5.960
355	370,0	430,0	175.0	30,0	225,0	21.1	6.514
400	423,0	480,0	190.0	33,0	240,0	23.7	8.380
450	514,0	585,0	205.0	46,0	290,0	26.7	13.800
500	530,0	585,0	225.0	46,0	320,0	29.7	15.200
560	615,0	685,0	250.0	50,0	350,0	33.2	16.580
630	642,0	685,0	270.0	50,0	375,0	38.1	22.170

Tee - Reducer

Butt Welding - Injection Molded Fittings
Code: WS-BWTR-10-(Fitting Size)



PE100, PN16, SDR11, S5

d1-d2 mm	l mm	le1 mm	le2 mm	z mm	s1 mm	s2 mm	weight kg
50-40	230,0	57,0	52,0	109,0	4,6	3,7	0,222
50-32	230,0	57,0	48,0	99,0	4,6	3,0	0,211
50-25	230,0	57,0	42,0	93,0	4,6	3,0	0,201
63-50	230,0	65,0	57,0	108,0	5,8	4,6	0,340
63-40	230,0	65,0	52,0	103,0	5,8	3,7	0,320
63-32	230,0	65,0	48,0	98,0	5,8	3,0	0,300
75-63	264,0	72,0	65,0	125,0	6,8	5,8	0,518
75-50	264,0	72,0	57,0	117,0	6,8	4,6	0,508
75-40	264,0	72,0	52,0	112,0	6,8	3,7	0,498
75-32	264,0	72,0	48,0	108,0	6,8	3,0	0,490
90-75	301,0	81,0	72,0	141,0	8,2	6,8	0,840
90-63	301,0	81,0	65,0	134,0	8,2	5,8	0,810
90-50	301,0	81,0	57,0	126,0	8,2	4,6	0,800
110-90	330,0	86,0	81,0	160,0	10,0	8,2	1,390
110-75	330,0	86,0	72,0	151,0	10,0	6,8	1,290
110-63	330,0	86,0	65,0	144,0	10,0	5,8	1,246
110-50	330,0	86,0	57,0	136,0	10,0	4,6	1,236
125-110	366,0	93,0	86,0	176,0	11,4	10,0	2,090
125-90	366,0	93,0	81,0	168,0	11,4	8,2	1,980
140-125	380,0	97,0	93,0	183,0	12,7	11,4	2,990
140-110	380,0	97,0	86,0	179,0	12,7	10,0	2,890
160-125	420,0	103,0	93,0	199,0	14,6	11,4	3,380
160-110	420,0	103,0	86,0	193,0	14,6	10,0	3,290
160-90	420,0	103,0	81,0	188,0	14,6	8,2	3,180
160-75	420,0	103,0	72,0	179,0	14,6	6,8	3,090
160-63	420,0	103,0	65,0	172,0	14,6	5,8	3,040
180-160	460,0	110,0	103,0	223,0	16,4	14,6	5,530
180-125	460,0	110,0	93,0	213,0	16,4	11,4	4,840
180-110	460,0	110,0	86,0	206,0	16,4	10,0	4,730
200-160	500,0	117,0	103,0	243,0	18,2	14,6	6,247
200-110	500,0	117,0	86,0	226,0	18,2	10,0	5,878
200-63	500,0	117,0	65,0	207,0	18,2	5,8	5,682
225-160	540,0	125,0	103,0	263,0	20,5	14,6	8,383
225-110	540,0	125,0	86,0	246,0	20,5	10,0	8,003
225-90	540,0	125,0	65,0	227,0	20,5	5,8	7,953

PE100, PN10, SDR17, S8

d1-d2 mm	l mm	le1 mm	le2 mm	z mm	s1 mm	s2 mm	weight kg
110-90	330,0	86,0	81,0	160,0	10,0	8,2	1,390
110-75	330,0	86,0	72,0	151,0	10,0	6,8	1,290
110-63	330,0	86,0	65,0	144,0	10,0	5,8	1,246
110-50	330,0	86,0	57,0	136,0	10,0	4,6	1,236
125-110	366,0	93,0	86,0	176,0	11,4	10,0	2,090
125-90	366,0	93,0	81,0	168,0	11,4	8,2	1,980
140-125	380,0	97,0	93,0	183,0	12,7	11,4	2,990
140-110	380,0	97,0	86,0	179,0	12,7	10,0	2,890
160-125	420,0	103,0	93,0	199,0	14,6	11,4	3,380
160-110	420,0	103,0	86,0	193,0	14,6	10,0	3,290
160-90	420,0	103,0	81,0	188,0	14,6	8,2	3,180
160-75	420,0	103,0	72,0	179,0	14,6	6,8	3,090
160-63	420,0	103,0	65,0	172,0	14,6	5,8	3,040
180-160	460,0	110,0	103,0	223,0	16,4	14,6	6,247
180-125	460,0	110,0	93,0	213,0	16,4	11,4	4,840
180-110	460,0	110,0	86,0	206,0	16,4	10,0	4,730
200-160	500,0	117,0	103,0	243,0	18,2	14,6	6,247
200-110	500,0	117,0	86,0	226,0	18,2	10,0	5,878
200-63	500,0	117,0	65,0	207,0	18,2	5,8	5,682
225-160	540,0	125,0	103,0	263,0	20,5	14,6	8,383
225-110	540,0	125,0	86,0	246,0	20,5	10,0	8,003
225-90	540,0	125,0	65,0	227,0	20,5	5,8	7,953

Note: Fittings also availabe in PE80 variant.

فروع المبيعات (العربية السعودية)

الموقع	ص.ب	هاتف	جوال	فاكس
بريدة (المكتب الرئيسي)	١٢٤	٠٦ ٣٨٢ ١٧٨٥/١٩٠١		٠٦ ٣٨١ ١٢٠٣
بريدة (فرع الرئيسي)	١٢٤	٠٦ ٣٨١ ٦٦٥٨/٣٩١٤	٠٥٠ ٦٣٧ ٥٦٨٥/٠٥٠ ٦٣٩ ٥٨٣٣	٠٦ ٣٨١ ١٣٠٦/١٢٠٣
بريدة (الموطاء)	١٢٤	٠٦ ٣٢٤ ٩٤١٩	٠٥٠ ٦٣٩ ٠٢٩٧	٠٦ ٣٢٥ ٧٠٦٧
بكيريه		٠٦ ٣٣٠ ٠٢٧٧/٠٣٣٦ ١٥٥٣		٠٦ ٣٣٥ ١١١٨
الدمام	٨٨٩٣	٠٣ ٨١٧ ١٣٧٥	٠٥٠ ٦٤٣ ٧٣١٧	٠٣ ٨١٧ ٦٣٤٧
حائل	٢٣٩٣	٠٦ ٥٤٣ ٥٢١٩	٠٥٠ ٦١٣ ٧٢٥٦	٠٦ ٥٣٢ ٢١٣٨
الهفوف		٠٣ ٥٨٢ ٥٥٣٤	٠٥٠ ٦٣١ ٤٠٢١	٠٣ ٥٨٢ ٥٦٣٤
جدة (واحد)	٦٩٦٣	٠٢ ٦٦٥ ٧٤٧٣/٤٥٣٦	٠٥٠ ٦٤٢ ٠٩١٤	٠٢ ٦٦٥ ٧٤٧٣
جدة (اثنين)	٦٩٦٣	٠٢ ٢٢٧ ٥٧٣٤/٥٧٣٥	٠٥٠ ٦٤٣ ٧٩٠٧/٠٥٠ ٦٤٢ ٣٥٩٨	٠٢ ٢٢٧ ٤٦٥٩
جيزان	١١٢	٠٧ ٣٢٧ ٤٨٨٠	٠٥٠ ٦٣٤ ٦٤٥٦	٠٧ ٣٢٧ ٤٨٨٣
الجوف	١٠٨٣	٠٤ ٦٢٤ ٤٠٧٦	٠٥٠ ٦٣٦ ٧٩٢٥	٠٤ ٦٢٤ ٦٨٤٠
الخرج	١٦٠٦	٠١ ٥٥٠ ١٦١٦	٠٥٠ ٦٤٠ ٤٣١٧	٠١ ٥٥١ ٠٤٥٨
المدينة	٢٥٠	٠٤ ٨٤٦ ١٤٩٣ (٠٤)	٠٥٠ ٦٤١ ٥٦١٠	٠٤ ٨٤٦ ١٤٩٣/٨٤٥ ٧٢٧٧
نجران	١٣١٧	٠٧ ٥٤٤ ١٩٨٦	٠٥٠ ٦٣٤ ٨٩٤٧	٠٧ ٥٤٤ ١٩٨٦
عنيزه	١٥٠٩	٠٦ ٣٦١ ٠١٢٨	٠٥٠ ٦٤١ ٨٧٦٣	٠٦ ٣٦١ ٠١٢٨/٣٦٢ ٤٧٥٨
الرياض (فرع الرئيسي)	٢١٥٩٩	٠١ ٤٥٠ ٨٤٣١/٣٢/٣٣/٣٤	٠٥٠ ٦٣٥ ٩١٤٥/٠٥٠ ٦٣٥ ٤٢١٥	٠١ ٤٥٠ ٨٤٣٥/٨٤٢٢/٨١٦٦
الرياض (شارع سلام)	٢١٥٩٩	٠١ ٤١١ ٤٦٧٩	٠٥٠ ٦٤٠ ٢٤٩١	٠١ ٤١١ ١٩١٤
تبوك	٢٠٠٨	٠٤ ٤٢٨ ٨٣٧٤	٠٥٠ ٦٣٥ ٨٧٥٣	٠٤ ٤٢٣ ٢١٩٠/٤٢٨ ٨٣٧٤
الطائف	٧٠٤٢	٠٢ ٧٤٠ ٢١٧٩	٠٥٠ ٦٤٠ ٣٩٦٧	٠٢ ٧٤٠ ٢١٧٩
وادي الدواسر	٥٢٥	٠١ ٧٨٦ ٢٠٨١	٠٥٠ ٦٤١ ٩٦٤٣	٠١ ٧٨٦ ٢٠٨١
الزلفي	٧٢٥	٠٦ ٤٢٢ ٤٩٢٧	٠٥٠ ٦٣٥ ١٩٠٣	٠٦ ٤٢٣ ٢٤٢١

SALES BRANCHES (SAUDI ARABIA)

Location	P.O.Box	Tel.No.	Mobile No.	Fax No.
Buraidah (Head Office)	124	(06) 3821785/1901		(06) 381-1203
Buraidah (Main Branch)	124	(06) 381 6658/3914	050 639 5833/050 637 5685	06 381 1203/1306
Buraidah (Al-Muwatha)	124	06 324 9419	050 639 0297	06 325 7067
Bukariah		06 330 0277/0336 1553		06 335 1118
Dammam	8893	03 817 1375	050 643 7317	03 817 6347
Hail	2393	06 543 5219	050 613 7256	06 532 2138
Hofuf		03 582 5534	050 6314021	03 582 5634
Jeddah (One)	6963	02 665 7473/4536	050 642 0914	02 665 7473
Jeddah (Two)	6963	02 227 5734/5735	050 642 3598/050 643 7907	02 227 4659
Jizan (Sabia)	112	07 327 4880	050 634 6456	07 327 4883
Jouf	1083	04 624 4076	050 636 7925	04 624 6840
Kharj	1606	01 550 1616	050 640 4317	01 551 0458
Madina	250	04 846 1493	050 641 5610	04 846 1493/8457277
Najran	1317	07 544 1986	050 634 8947	07 544 1986
Onaizah	1509	06 361 0128	050 641 8763	06 361 0128/362 4758
Riyadh-Main Br.	21599	01 450 84 31/32//33/34	050 635 4215/050 635 9145	01 450 8435/8422/8166
Riyadh-Salam Street	21599	01 411 4679	050 640 2491	01 411 1914
Tabuk	2008	04 428 8374	050 635 8753	04 423 2190/428 8374
Taif	7042	02 740 2179	050 640 3967	02 740 2179
Wadi Al-Dwasir	525	01 786 2081	050 641 9643	01 786 2081
Zulfi	725	06 422 4927	050 635 1903	06 423 2421

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The Irrigation Association

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