



# PE PIPE FOR WATER SUPPLY

To Life [+] a Health

## PE PIPE FOR WATER SUPPLY

### Feature

A good pipeline, should not only have a good efficiency, but should also have stably reliable channel interface, and the material should have impact resistance, anti-crack, ageing resistance, corrosion resistance, and other advantages. Compared with the traditional pipe, HDPE pipeline system has the following advantages:

#### Reliable connection:

Polyethylene pipe systems use fusion connection, the joint strength of the pipeline is higher than the pipe body.

#### Good Low temperature impact resistance performance:

The polyethylene could bear extremely low temperature, it can be safely used in the temperature range of 60 degree below zero to 60 degree. When constructing in the winter, the pipe will not become brittle.

#### Good Anti-stress cracking performance:

HDPE has a low sensitivity to the gap, the higher shear strength and excellent ability of anti-scratch resistance, environmental stress cracking performance is also excellent.

#### Good chemical corrosion resistant performance:

HDPE pipe can be resistant to a variety of chemical corrosion, chemicals in the soil will not cause any degradation. Polyethylene is the electric insulators, it will not rot, rust, and other change, In addition it will not promote algae and bacteria growth.

#### Aging resistance, long service life:

Mix with 2-2.5% carbon black, the polyethylene pipe can use in the outdoors or storage in the open for 50 years, will not be damaged by the ultraviolet radiation.

#### Good wear resistant property:

The HDPE pipeline and the steel pipe wear resistant property contrast experiment indicated that, the HDPE pipe wear resistant property is 4 times than the steel pipe, this means that the HDPE pipeline has the longer service life and a better efficiency.

#### Fine flexibility:

The HDPE pipeline flexibility causes itself is easy to curve, in the engineering can bypass the barrier through changing the pipeline's tend, in many situations, the pipeline flexibility can reduce the volume of fittings and installation expense.

#### Small hydraulic resistance:

HDPE pipe has smooth surface, it's Manning coefficient is 0.009. Smooth surface and non-adhesion characteristic guaranteed that the HDPE pipe has a better transportation capacity compared to the traditional pipeline simultaneously it can reduce the pressure loss and the energy consumption.

#### Easy Transporting:

The HDPE pipeline is lighter than the concrete pipeline, the galvanized pipe and the steel pipe, it is easy to transport and install, and has the lower manpower and equipment request, that means the installation expense of the project can be reduced greatly.

#### Many kinds of construction methods:

The HDPE pipe with a variety of construction techniques, it can not only be used in traditional way of excavation works, but also can be used with a variety of new trenchless technology, such as pipe jacking, directional drilling, It is the only way for some projects that not allow to excavate.

### Applications

#### City and town Water Supply:

The HDPE pipe connection is safe, health, and convenient, it has become the ideal pipe for water supply.

#### Natural Gas Transmission:

Because of the good characteristics of the HDPE pipe, such as reliable connection, easily construction, anti-corrosive and so on, it becomes the wise choice for low-pressure natural gas transmission.

#### Food, Chemical Industry:

HDPE pipe has unique chemical corrosion resistant performance, it can apply to a variety of acidic, alkalic or saline solution transmission or emission, and it has long service life, low construction cost and maintenance cost.

#### Mine, Mud Transmission:

The wear resistance of HDPE pipeline is 4 times than the steel pipe, it may widely apply to the coal mine, the thermal power station and the river course silt mud transmission, and so on.

#### Replacement of Cement Pipe, Cast iron Pipe and Steel Pipe:

For the replacement of the old pipeline such as original cement pipe, cast iron pipe and steel pipe, they do not have take the large-scale excavation, the HDPE pipe can replacement them by inserting directly into the old pipeline, Use this method, the construction cost will be low and construction period will be short, Particularly, apply in the replacement of pipeline in the old city.

#### Greenbelts Irrigation:

Greenbelts Irrigation requires a large amount of water pipes, the HDPE pipe has low-cost, worth to popularize.

#### Other Applications:

The PE pipe can be widely used in other areas, such as power engineering, communications, farmland irrigation, siphon drainage, wall drainage, deep-sea farming, geothermal air-conditioning and so on.

## Standard

ZHSU HDPE piping system produced in accordance with GB/T13663-2000 standard, and referenced from the relevant equivalent standards as follows:

prEN 12201	Plastic piping system: Polyethylene
ISO4427	Polyethylene pipe performance requirements for water supply
DIN 8074/75	Polyethylene pipe product specifications and performance requirements
DIN 16963	Polyethylene fitting specifications and performance requirements
ASTM D2321	Flexible plastic pipes for the installation and construction norms
GB/T 13663-2000	Polyethylene pipe for water supply
Q/ZWX 008-2001	Polyethylene fitting for water supply

## Pipes Performance

Item		Unit	Test Conditions			Index
Elongation Rate		%				≥ 350
Longitudinal Reversion		%	110°C			≤ 3
Oxidation Induction Time		min	200°C			≥ 20
Hydrostatic Pressure	PE80	MPa	20°C	100h	Stress 9.0MPa	No Crack No Leakage
			80°C	165h	Stress 4.6MPa	
			80°C	1000h	Stress 4.0MPa	
	PE100		20°C	100h	Stress 12.4MPa	
			80°C	165h	Stress 5.5MPa	
			80°C	1000h	Stress 5.0MPa	

## Pipe Specifications

Nominal Outside Diameter Dn Mm	Nominal Wall Thickness									
	PE80					PE100				
	SDR33	SDR21	SDR17	SDR13.6	SDR11	SDR26	SDR21	SDR17	SDR13.6	SDR11
	Pressure MPa					Pressure MPa				
	0.4	0.6	0.8	1.0	1.25	0.6	0.8	1.0	1.25	1.6
20										
25					2.3					
32					3.0					3.0
40					3.7					3.7
50					4.6					4.6
63				4.7	5.8				4.7	5.8
75			4.5	5.6	6.8			4.5	5.6	6.8
90		4.3	5.4	6.7	8.2		4.3	5.4	6.7	8.2
110		5.3	6.6	8.1	10.0	4.2	5.3	6.6	8.1	10.0
125		6.0	7.4	9.2	11.4	4.8	6.0	7.4	9.2	11.4
140	4.3	6.7	8.3	10.3	12.7	5.4	6.7	8.3	10.3	12.7
160	4.9	7.7	9.5	11.8	14.6	6.2	7.7	9.5	11.8	14.6
180	5.5	8.6	10.7	13.3	16.4	6.9	8.6	10.7	13.3	16.4
200	6.2	9.6	11.9	14.7	18.2	7.7	9.6	11.9	14.7	18.2
225	6.9	10.8	13.4	16.6	20.5	8.6	10.8	13.4	16.6	20.5
250	7.7	11.9	14.8	18.4	22.7	9.6	11.9	14.8	18.4	22.7
280	8.6	13.4	16.6	20.6	25.4	10.7	13.4	16.6	20.6	25.4
315	9.7	15.0	18.7	23.2	28.6	12.1	15.0	18.7	23.2	28.6
355	10.9	16.9	21.1	26.1	32.2	13.6	16.9	21.1	26.1	32.2
400	12.3	19.1	23.7	29.4	36.3	15.3	19.1	23.7	29.4	36.3
450	13.8	21.5	26.7	33.1	40.9	17.2	21.5	26.7	33.1	40.9
500	15.3	23.9	29.7	36.8	45.4	19.1	23.9	29.7	36.8	45.4
560	17.2	26.7	33.2	41.2	50.8	21.4	26.7	33.2	41.2	50.8
630	19.3	30.0	37.4	46.3	57.2	24.1	30.0	37.4	46.3	57.2
710	21.8	33.9	42.1	52.2		27.2	33.9	42.1	52.2	
800	24.5	38.1	47.4	58.8		30.6	38.1	47.4	58.8	

## Material Properties

Excellent physical and chemical properties and sorrosion resistance is one of the main key advantage of HDPE materials, so HDPE pipe is ideal for pressure pipelines, such as the municipal water supply. Its basic physical and chemical properties are as follows:

Item	Unit	Index	Test Method
Melt Flow Rate	G/10min(5gk,190)	0.03-0.07	GB/T3682
Density	g/cm <sup>3</sup>	0.950-0.965	GB/T1033
Stretching And Bending Intension	MPa	≥22.0	GB/T1040
Elongation Rate	%	≥350	GB/T1040
Oxidation Induction Time(200°C)	Min	≥20	GB/T17391
MRS	MPa	8.0/10.0*	GB/T6111

\*Our company use both PE80 and PE100 materials, they are all belong to the high-density polyethylene material

Polyethylene material as a non-pole material, can resist most chemical corrosion, Detail resistance performance for HDPE in different temperature and media concentration is as follows:

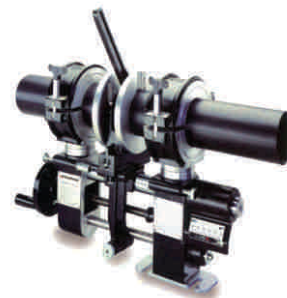
Medium	Concentration	Temperature		Medium	Concentration	Temperature	
		20°C	60°C			20°C	60°C
Acetaldehyde	100%	Good	Common	Benzene	100%	Common	-
Aether	100%	Common	-	Maletic Acid	Saturation	Good	Good
Acetic Acid	10%	Good	Good	Benzoic Acid	Unsaturation	Good	Good
Ethanol	40%	Good	Common	Hydrargyrum	10%	Good	Good
Acetone	100%	Common	Common	Calcium Nitrate	Saturation	Good	Good
Formaldehyde	40%	Good	Good	Methanol	100%	Good	Good
Glacial Acetic Acid	>96%	Good	Common	Carbon Bisulfide	100%	Common	No
Formic Acid	100%	Good	Good	Milk	-	Good	Good
Aluminum Sulfate	Unsaturation	Good	Good	Carbon Tetrachloride	100%	Common	No
Petrol	100%	Good	Common	Mineral Qi	-	Good	Common
Liquid Ammonia	100%	Good	Good	Chlorine Water	saturation	Common	No
Dextrose	Saturation	Good	Good	Nitric Acid	50%	Common	No
Ammonium Nitrate	Saturation	Good	Good	Chloroform	100%	No	No
Phenylamine	100%	Good	Common	Citric Acid	Saturation	Good	Good
Glycerin	100%	Good	Good	Oleic Acid	100%	Good	Good
Hdrogen Peroxide	90%	Good	No	Ozone	100%	Common	No
Aqua Fortis	-	No	No	Cyclohexanone	100%	Good	Common
Sulfuration Hydrocarbon	100%	Good	Good	Potassium Hydroxide	Unsaturation	Good	Good
Beer	-	Good	Good	Toluene	100%	Common	No
Lactic Acid	100%	Good	Good	Vitriol	98%	Good	No

## Connection Technology

HDPE pressure piping system use Butt Fusion to connect for big size, socket fusion for small size and flange for other material pipes.

### Butt Fusion:

Butt Fusion is using welding machine to heat pipe at both ends(the temperature is  $210 \pm 10^\circ$  ). Until the pipe end melted, it should adhesion the pipes end rapidly and to keep a certain pressure. Aftercooling, all the procedures have be finished. The following picture is the reference for the welding procedures.



Nominal Wall Thickness(mm)	Technology			
	First:Pre-heating	Second:Fusion	Third:Switch	Fourth:Connection
	Pre-heating Pressure:0.15MPa Pre-heating Temperature:210°C Pre-heating Overlapping high	Pressure:0.01MPa Pre-heating Temperature:210°C Heating Time(s)	Max.Switching Permission Time(s)	Welding Pressure:0.15MPa Cooling Time(s)
2 ~ 3.9	0.5	30 ~ 40	4	4 ~ 5
4.3 ~ 6.9	0.5	40 ~ 70	5	6 ~ 10
7.0 ~ 11.4	1.0	70 ~ 120	6	10 ~ 16
12.2 ~ 18.2	1.0	120 ~ 170	8	17 ~ 24
20.1 ~ 25.5	1.5	170 ~ 210	10	25 ~ 32
28.3 ~ 32.3	1.5	210 ~ 250	12	33 ~ 40

### Saddle tee connection:

In the projects application, the HDPE main pipeline frequently need the branch pipe. The traditional way is to cut the main pipe and connect with the tee to fabricate the branch, The saddle tee could use the butt fusion to connect with the pipe, then use the special tool to cut the main pipe, the installation is convenient.

### Flange connection:

It is suitable uses the steel to model the flange connection when connect the HDPE pipeline and the steel pipe as well as the valve: Between the HDPE pipe-end and the corresponding plastic flange adaptor may use the way of hot-melt butt fusion to carry on the connection, the connection between steel pipe end and the metal flange, should conform to the stipulation which the corresponding steel pipe welds; The using the flange plate namely to be completed the HDPE pipeline and the steel pipe connection.



Hydrostatic Pressure Performance

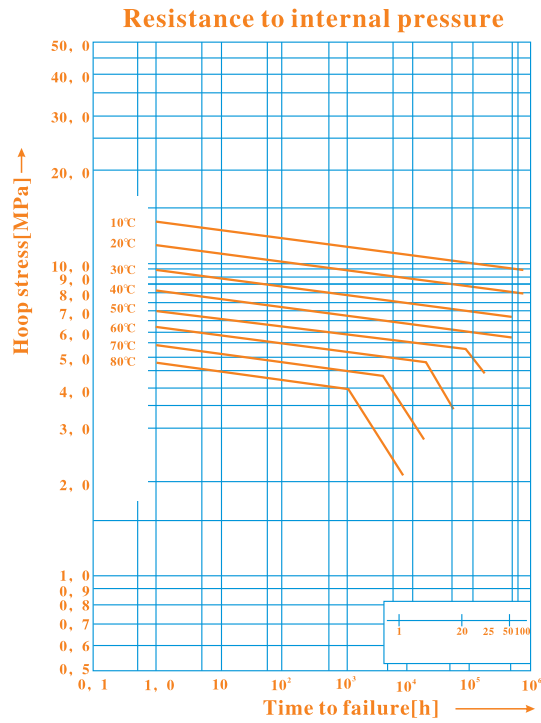


Table 3

PE Pipe Fitting



Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
25×20×25	SDR11/PN16	63×50×63	SDR11/PN16
32×20×32	SDR11/PN16	75×32×75	SDR11/PN16
32×25×32	SDR11/PN16	75×40×75	SDR11/PN16
40×20×40	SDR11/PN16	75×50×75	SDR11/PN16
40×25×40	SDR11/PN16	75×63×75	SDR11/PN16
40×32×40	SDR11/PN16	90×40×90	SDR11/PN16
50×20×50	SDR11/PN16	90×50×90	SDR11/PN16
50×25×50	SDR11/PN16	90×63×90	SDR11/PN16
50×32×50	SDR11/PN16	90×75×90	SDR11/PN16
50×40×50	SDR11/PN16	110×40×110	SDR11/PN16
63×20×63	SDR11/PN16	110×50×110	SDR11/PN16
63×25×63	SDR11/PN16	110×63×110	SDR11/PN16
63×32×63	SDR11/PN16	110×75×110	SDR11/PN16
63×40×63	SDR11/PN16	110×90×110	SDR11/PN16



Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
25×20	SDR11/PN16	75×32	SDR11/PN16
32×20	SDR11/PN16	75×40	SDR11/PN16
32×25	SDR11/PN16	75×50	SDR11/PN16
40×20	SDR11/PN16	75×63	SDR11/PN16
40×25	SDR11/PN16	90×40	SDR11/PN16
40×32	SDR11/PN16	90×50	SDR11/PN16
50×20	SDR11/PN16	90×63	SDR11/PN16
50×25	SDR11/PN16	90×75	SDR11/PN16
50×32	SDR11/PN16	110×40	SDR11/PN16
50×40	SDR11/PN16	110×50	SDR11/PN16
63×25	SDR11/PN16	110×63	SDR11/PN16
63×32	SDR11/PN16	110×75	SDR11/PN16
63×40	SDR11/PN16	110×90	SDR11/PN16
63×50	SDR11/PN16		

## PE Pipe Fitting



Socket Fusion 90° Elbow

Specification Dn(mm)	Pressure Grade
20	SDR11/PN16
25	SDR11/PN16
32	SDR11/PN16
40	SDR11/PN16
50	SDR11/PN16
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
100	SDR11/PN16



Socket Fusion 45° Elbow

Specification Dn(mm)	Pressure Grade
20	SDR11/PN16
25	SDR11/PN16
32	SDR11/PN16
40	SDR11/PN16
50	SDR11/PN16
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
100	SDR11/PN16



Socket fusion End Cap

Specification Dn(mm)	Pressure Grade
20	SDR11/PN16
25	SDR11/PN16
32	SDR11/PN16
40	SDR11/PN16
50	SDR11/PN16
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
100	SDR11/PN16



Socket Fusion Straight Tee

Specification Dn(mm)	Pressure Grade
20	SDR11/PN16
25	SDR11/PN16
32	SDR11/PN16
40	SDR11/PN16
50	SDR11/PN16
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
100	SDR11/PN16



Socket Fusion Coupling

Specification Dn(mm)	Pressure Grade
20	SDR11/PN16
25	SDR11/PN16
32	SDR11/PN16
40	SDR11/PN16
50	SDR11/PN16
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
100	SDR11/PN16



Socket Fusion Stub End

Specification Dn(mm)	Pressure Grade
40	SDR11/PN16
50	SDR11/PN16
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
110	SDR11/PN16



Female Threaded Tee

Specification Dn(mm)	Pressure Grade
20×1/2"	SDR11/PN16
25×1/2"	SDR11/PN16
25×3/4"	SDR11/PN16
32×3/4"	SDR11/PN16
32×1"	SDR11/PN16
40×1"	SDR11/PN16
50×1/2"	SDR11/PN16
50×3/4"	SDR11/PN16
63×1/2"	SDR11/PN16
63×1/2"	SDR11/PN16
63×1"	SDR11/PN16



Male Threaded Tee

Specification Dn(mm)	Pressure Grade
20×1/2"	SDR11/PN16
25×1/2"	SDR11/PN16
25×3/4"	SDR11/PN16
32×1/2"	SDR11/PN16
32×3/4"	SDR11/PN16
32×1"	SDR11/PN16
40×1"	SDR11/PN16
50×1/2"	SDR11/PN16
50×3/4"	SDR11/PN16
63×1/2"	SDR11/PN16
63×3/4"	SDR11/PN16

## PE Pipe Fitting



Specification Dn(mm)	Pressure Grade
20×1/2"	SDR11/PN16
20×3/4"	SDR11/PN16
25×1/2"	SDR11/PN16
25×3/4"	SDR11/PN16
32×1/2"	SDR11/PN16
32×3/4"	SDR11/PN16
32×1"	SDR11/PN16
40×1 1/4"	SDR11/PN16
50×1 1/2"	SDR11/PN16
63×1"	SDR11/PN16
63×2"	SDR11/PN16
75×2 1/2"	SDR11/PN16



Specification Dn(mm)	Pressure Grade
20×1/2"	SDR11/PN16
20×3/4"	SDR11/PN16
25×1/2"	SDR11/PN16
25×3/4"	SDR11/PN16
32×1/2"	SDR11/PN16
32×3/4"	SDR11/PN16
32×1"	SDR11/PN16
40×1 1/4"	SDR11/PN16
50×1 1/2"	SDR11/PN16
63×1 1/2"	SDR11/PN16
63×2"	SDR11/PN16
75×2 1/2"	SDR11/PN16



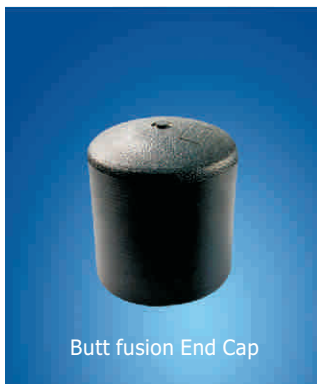
Specification Dn(mm)	Pressure Grade
20×1/2"	SDR11/PN16
25×1/2"	SDR11/PN16
25×3/4"	SDR11/PN16
32×3/4"	SDR11/PN16
32×1"	SDR11/PN16
63×2"	SDR11/PN16



Specification Dn(mm)	Pressure Grade
20×1/2"	SDR11/PN16
25×1/2"	SDR11/PN16
25×3/4"	SDR11/PN16
32×3/4"	SDR11/PN16
32×1"	SDR11/PN16
63×2"	SDR11/PN16



Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
50	SDR11/PN16	250	SDR13.6/PN12.5
63	SDR11/PN16	280	SDR11/PN16
75	SDR11/PN16	315	SDR11/PN16
90	SDR11/PN16	315	SDR13.6/PN12.5
110	SDR11/PN16	355	SDR17/PN10
125	SDR11/PN16	400	SDR13.6/PN12.5
140	SDR11/PN16	450	SDR17/PN10
160	SDR11/PN16	500	SDR17/PN10
160	SDR13.6/PN12.5	630	SDR17/PN10
180	SDR11/PN16	710	SDR17/PN10
200	SDR11/PN16	800	SDR17/PN10
200	SDR13.6/PN12.5	900	SDR17/PN10
225	SDR11/PN16	1000	SDR17/PN10
250	SDR11/PN16		



Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
75	SDR11/PN16	250	SDR11/PN16
90	SDR11/PN16	280	SDR13.6/PN12.5
110	SDR11/PN16	315	SDR11/PN16
125	SDR11/PN16	355	SDR17/PN10
140	SDR11/PN16	400	SDR13.6/PN12.5
160	SDR11/PN16	450	SDR17/PN10
180	SDR11/PN16	500	SDR17/PN10
200	SDR11/PN16	630	SDR17/PN10
225	SDR11/PN16		



## PE Pipe Fitting



Butt Fusion Reducing Tee

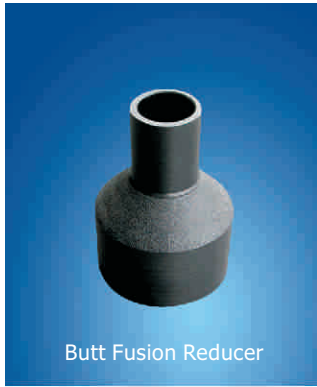
Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
63×50×63	SDR11/PN16	250×110×250	SDR11/PN16
75×63×75	SDR11/PN16	250×160×250	SDR11/PN16
90×50×90	SDR11/PN16	250×200×250	SDR11/PN16
90×63×90	SDR11/PN16	250×110×250	SDR13.6/PN12.5
90×75×90	SDR11/PN16	315×160×315	SDR11/PN16
110×50×110	SDR11/PN16	315×200×315	SDR11/PN16
110×63×110	SDR11/PN16	315×225×315	SDR13.6/PN12.5
110×75×110	SDR11/PN16	315×250×315	SDR11/PN16
110×90×110	SDR11/PN16	315×110×315	SDR13.6/PN12.5
125×50×125	SDR11/PN16	315×160×315	SDR13.6/PN12.5
125×63×125	SDR11/PN16	315×200×315	SDR13.6/PN12.5
125×75×125	SDR11/PN16	315×250×315	SDR13.6/PN12.5
125×90×125	SDR11/PN16	355×160×355	SDR13.6/PN12.5
125×110×125	SDR11/PN16	355×200×355	SDR13.6/PN12.5
140×63×140	SDR11/PN16	355×250×355	SDR13.6/PN12.5
140×75×140	SDR11/PN16	355×280×355	SDR13.6/PN12.5
140×90×140	SDR11/PN16	355×315×355	SDR13.6/PN12.5
140×110×140	SDR11/PN16	400×110×400	SDR17/PN10
140×125×140	SDR11/PN16	400×160×400	SDR17/PN10
160×50×160	SDR11/PN16	400×200×400	SDR17/PN10
160×63×160	SDR11/PN16	400×250×400	SDR17/PN10
160×75×160	SDR11/PN16	400×315×400	SDR17/PN10
160×90×160	SDR11/PN16	450×315×450	SDR17/PN10
160×110×160	SDR11/PN16	450×400×450	SDR17/PN10
180×110×180	SDR11/PN16	500×315×500	SDR17/PN10
180×125×180	SDR11/PN16	500×400×500	SDR17/PN10
180×140×180	SDR11/PN16	630×315×630	SDR17/PN10
180×160×180	SDR11/PN16	630×400×630	SDR17/PN10
200×63×200	SDR11/PN16	630×500×630	SDR17/PN10
200×90×200	SDR11/PN16	250×160×250	SDR13.6/PN12.5
200×110×200	SDR11/PN16	250×200×250	SDR13.6/PN12.5
200×160×200	SDR11/PN16	280×110×280	SDR13.6/PN12.5
200×90×200	SDR13.6/PN12.5	280×160×280	SDR13.6/PN12.5
200×110×200	SDR13.6/PN12.5	280×200×280	SDR13.6/PN12.5
200×160×200	SDR13.6/PN12.5	280×250×280	SDR13.6/PN12.5
225×110×225	SDR11/PN16	315×110×315	SDR11/PN16
225×160×225	SDR11/PN16		
225×200×225	SDR11/PN16		



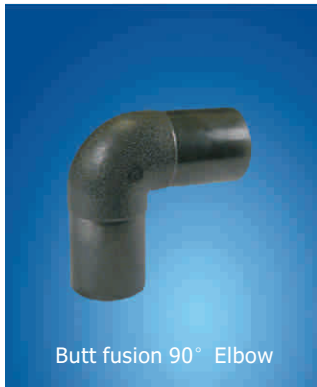
Butt Fusion Straight Tee

Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
63	SDR11/PN16	250	SDR11/PN16
75	SDR11/PN16	250	SDR13.6/PN12.5
90	SDR11/PN16	280	SDR11/PN16
110	SDR11/PN16	315	SDR11/PN16
125	SDR11/PN16	315	SDR13.6/PN12.5
140	SDR11/PN16	355	SDR13.6/PN12.5
160	SDR13.6/PN12.5	400	SDR17/PN10
180	SDR11/PN16	450	SDR17/PN10
200	SDR11/PN16	500	SDR17/PN10
200	SDR13.6/PN12.5	630	SDR17/PN10
225	SDR11/PN16		

## PE Pipe Fitting



Specification Dn(mm)	Pressure Grade	Specification Dn(mm)	Pressure Grade
75×63	SDR11/PN16	200×160	SDR11/PN16
90×50	SDR11/PN16	225×110	SDR11/PN16
90×63	SDR11/PN16	225×160	SDR11/PN16
90×75	SDR11/PN16	250×160	SDR11/PN16
110×50	SDR11/PN16	250×200	SDR11/PN16
110×63	SDR11/PN16	315×110	SDR11/PN16
110×75	SDR11/PN16	315×160	SDR11/PN16
110×90	SDR11/PN16	315×200	SDR11/PN16
125×110	SDR11/PN16	315×250	SDR11/PN16
160×63	SDR11/PN16	400×315	SDR17/PN10
160×75	SDR11/PN16	500×400	SDR17/PN10
160×90	SDR11/PN16	630×500	SDR17/PN10
160×110	SDR11/PN16		
200×110	SDR11/PN16		



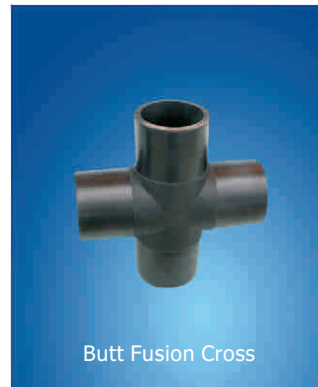
Specification Dn(mm)	Pressure Grade
63	SDR11/PN16
75	SDR11/PN16
90	SDR11/PN16
110	SDR11/PN16
125	SDR11/PN16
140	SDR11/PN16
160	SDR13.6/PN12.6
180	SDR11/PN16
200	SDR11/PN16
200	SDR13.6/PN12.5
225	SDR11/PN16
250	SDR11/PN16
315	SDR11/PN16
400	SDR17/PN10
500	SDR17/PN10



Specification Dn(mm)	Pressure Grade
75	SDR11/PN16
90	SDR11/PN16
110	SDR11/PN16
125	SDR11/PN16
160	SDR13.6/PN12.5
200	SDR11/PN16
225	SDR11/PN16
250	SDR11/PN16
315	SDR11/PN16



Specification Dn(mm)	Pressure Grade
63	SDR11/PN16
75	SDR11/PN16
110	SDR11/PN16



Specification Dn(mm)	Pressure Grade
110	SDR11/PN16
160	SDR11/PN16
200	SDR11/PN16