

HDPE PLUMBING  
SYSTEM

Revised on May 06, 2023

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## ABOUT RIIFO

RIIFO is a leading multinational corporation, providing onestop piping solutions applied in residential, commercial, agricultural, industrial, and infrastructural sectors. Persistently reinventing since 1996, with over 8,000 employees, 70 branches & subsidiaries, and 300,000 distributors, we have served customers in more than 100 countries and regions.

With an integrated value chain, from R&D to manufacturing and retail distribution, we strive to fulfill our mission of offering ideal piping products and services for all environments.

**8,000**

Employees

**300,000**

Distributors worldwide

**100+**

Serving over 100  
countries & regions

**70**

Branches & Subsidiaries



## INNOVATION

Believing that innovation is the key to go beyond the ordinary, RIIFO has founded one world-class labs recognized and certified by CNAS. Over 600 innovation talents have spared no effort to challenge industrial boundaries, achieving 923 patents and 20 technology awards.

And this innovative passion has perfectly presented on high quality products and outstanding services, we strive to offer ideal piping solutions to everyone.

## SCALE

We adopt highly automated production lines with the most rigorous and comprehensive production control, and management system to handle such a powerful production.

### Facility

**9**  
global production bases

**5,200+**  
production staffs

**200**  
hectares area totally

**4,000+**  
automated production lines

### Capacity

#### Production Capacity

- Pipe: **3.2 billion** m/yr
- Fitting: **1.3 billion** pcs/yr

#### Storage Capacity

- **1,735,000 m3** ≈ 61,950 TEU (20 GP Containers)

## RIIFO APPROVALS

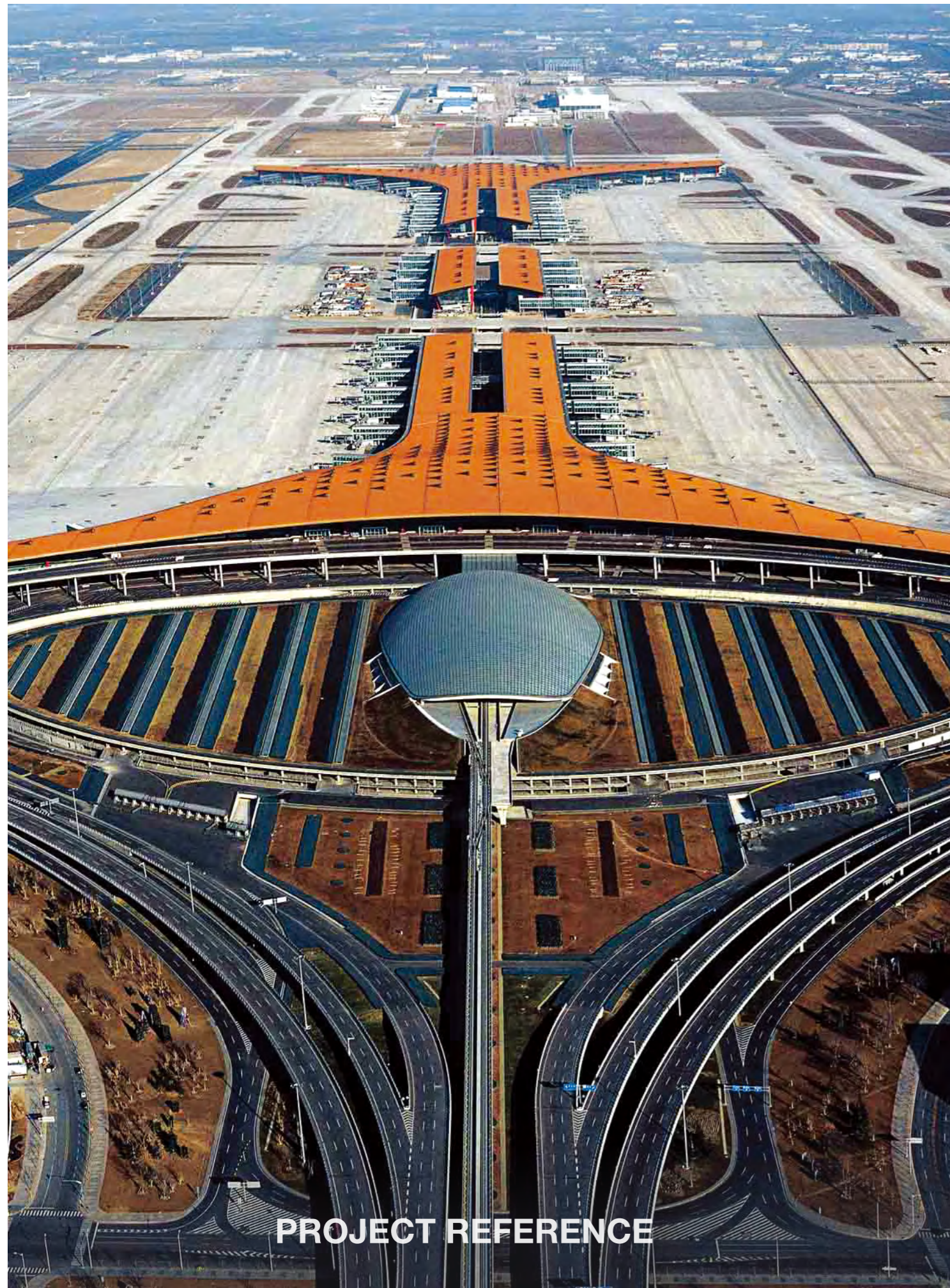
RIIFO adhere to the concept of quality priority, all RIIFO products are produced under rigorous quality control with excelsior manufacturing. Until now, RIIFO has gained over 50 certificates, such as NSF, DVGW, AENOR, WRAS Watermark, etc. These certificates worldwide underline our technical and quality know-how, and we can provide you with 25 years system warranty backed up by an international insurance company.

### Group Honor



### Certificates





## PROJECT REFERENCE



### Beijing, China

Project: Capital International Airport (T3)  
Type: Public Buildings  
Year: 2008  
Product: PPR plumbing system



### Jakarta, Indonesia

Project: Jakarta International Stadium  
Type: Stadium  
Years: 2021  
Product: PP-R Plumbing System

# PROJECT REFERENCE



## Nakhonsawon, Thailand

Project: 42C Hotel  
 Type: Hotels  
 Year: 2019  
 Product: PPR Plumbing System



## Cangzhou, China

Project: Cangzhou Museum  
 Type: Public Buildings  
 Year: 2010  
 Product: PPR plumbing system



## Bekasi, Indonesia

Project: Chadstone Sales Gallery  
 Cikarang  
 Type: Residential  
 Year: 2018  
 Product: PPR Plumbing System



## Nanyang, China

Project: Wanxi Pharmaceutical  
 Type: Commercial  
 Year: 2017  
 Product: PPR Plumbing System



## GORO, Ethiopia

Project: Sunrise Luxury Apartment  
 Type: Residential  
 Year: 2017  
 Product: PPR Plumbing System+PVC

# PROJECT REFERENCE



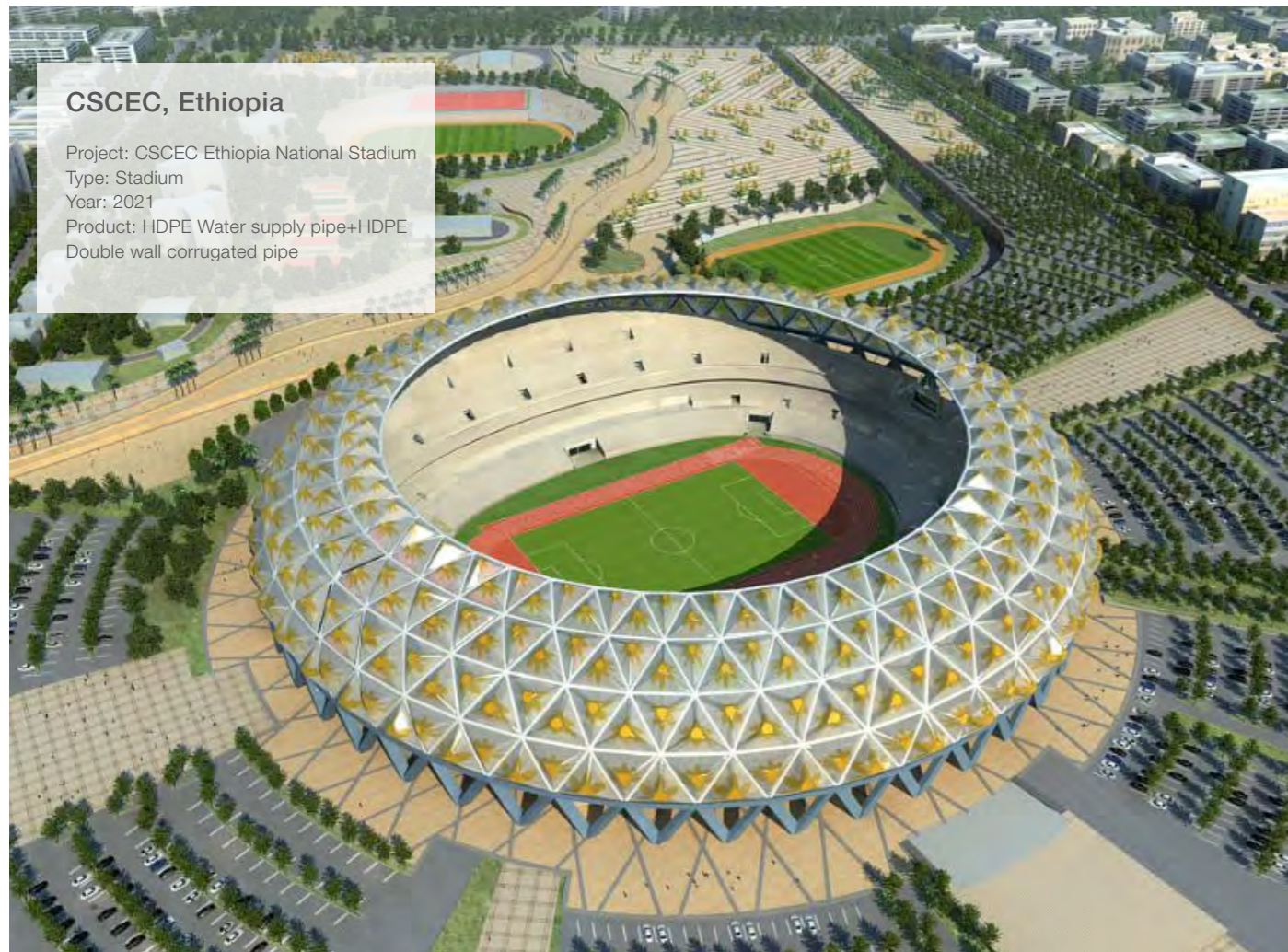
## Century Addis Real Estate, Ethiopia

Project: Century Addis Real Estate-  
Brass Apartment Project  
Type: Apartment  
Year: 2021  
Product: PVC System



## MDM, Ethiopia

Project: BOLE-RWANDA District Grand View Addis  
Project  
Type: Apartment  
Year: 2021  
Product: PVC System+Multilayer Plumbing System



## CSCEC, Ethiopia

Project: CSCEC Ethiopia National Stadium  
Type: Stadium  
Year: 2021  
Product: HDPE Water supply pipe+HDPE  
Double wall corrugated pipe



## Kidus Commercial Center, Ethiopia

Project: Kidus Commercial Center  
Type: Apartment  
Year: 2021  
Product: PVC System



# HDPE PLUMBING SYSTEM

RIIFO PE water supply pipe is a new plastic pipe material product made of high quality polyethylene resin as the main raw material, adding necessary antioxidants, ultraviolet absorbers and other additives, squeezed out and processed by extrusion machine.

The product has flexibility, corrosion resistance, light quality, excellent impact resistance and other characteristics.

Pipe fittings can be integrated by heat melting connection, heat melt connection and electric heat melting, etc. The system is safe and reliable, the construction cost is low, and it has been widely used in engineering.

## Applications

### Underground Water Transportation

Potable water systems  
Irrigation systems  
Fire water systems

### Distribution of Energy

Cooling water systems  
Geothermal pipe systems

### Discharging Waste Water

Deep sea discharge systems  
Sewage disposal units

## Standards

- ISO 4427
- GB/T 13663-2000
- GB/T 13663.2-2005

## Advantages



Service life 50 years



Non-toxic hygiene: no heavy metals, materials can be recycled



Excellent low temperature impact resistance performance: No brittle cracking occurs in the winter construction.

## Certificates



INDONESIA



EU



350% pipe elongation resist uneven settlement of foundation



Connecting is convenient and reliable with various construction methods



Aging resistance: the black pipe contains carbon black, which can reduce the ultraviolet light on the pipe aging

## Physical Performance Of Pipes

Number	Item			Consequence
1	Elongation at break			≥350%
2	Longitudinal retraction rate			≤3%
3	Oxidative induction time(200°C)			≥ 20mins
4	Melting mass flow rate			The change rate of pipe materials and raw materials shall not exceed 25%.
5	Static hydraulic strength	Condition	Ring stress,MPa	No rupture, No leakage.
		20°C, 100h	12.4	
		80°C, 165h	5.5	
		80°C, 1000h	5.0	

## Physical Performance Of Fittings

Number	Item			Consequence
1	Oxidative induction time(200 )			≥20mins
2	Melting mass flow rate			The change rate of pipe materials and raw materials shall not exceed 25%.
3	Melting strength of electro welding fittings			The percentage of brittle damage was 33.3%.
4	Melting strength of socket/butt-fusion welding fittings			The test is toughness.
5	Impact strength of the saddle type Antong			The change rate of pipe materials and raw materials shall not exceed 25%.
6	Static hydraulic strength	Condition	Ring stress,MPa	No damage, No leakage.
		20°C, 100h	12.4	
		80°C, 165h	5.4	
		80°C, 1000h	5.0	





## SPECIFICATIONS

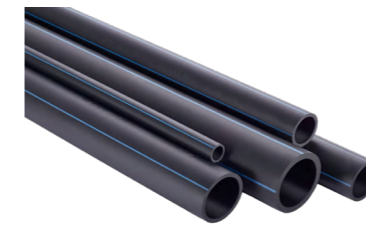
## HDPE Pipes

### PE100 pipes PN0.6



Description	Package m	Color
PE100-PN0.6-110X4.2-6	6	Black
PE100-PN0.6-125X4.8-6	6	Black
PE100-PN0.6-160X6.2-6	6	Black
PE100-PN0.6-180X6.9-6	6	Black
PE100-PN0.6-200X7.7-6	6	Black
PE100-PN0.6-225X8.6-6	6	Black
PE100-PN0.6-250X9.6-6	6	Black
PE100-PN0.6-280X10.7-6	6	Black
PE100-PN0.6-315X12.1-6	6	Black
PE100-PN0.6-355X13.6-6	6	Black
PE100-PN0.6-400X15.3-6	6	Black
PE100-PN0.6-450X17.2-6	6	Black
PE100-PN0.6-500X19.1-6	6	Black
PE100-PN0.6-560X21.4-6	6	Black
PE100-PN0.6-630X24.1-6	6	Black
PE100-PN0.6-710X27.2-6	6	Black
PE100-PN0.6-800X30.6-6	6	Black
PE100-PN0.6-900X34.4-6	6	Black
PE100-PN0.6-1000X38.2-6	6	Black
PE100-PN0.6-1200X45.9-6	6	Black

### PE100 pipes PN0.8



Description	Package m	Color
PE100-PN0.8-75X3.6-6	6	Black
PE100-PN0.8-90X4.3-6	6	Black
PE100-PN0.8-110X5.3-6	6	Black
PE100-PN0.8-125X6.0-6	6	Black
PE100-PN0.8-160X7.7-6	6	Black
PE100-PN0.8-180X8.6-6	6	Black
PE100-PN0.8-200X9.6-6	6	Black
PE100-PN0.8-225X10.8-6	6	Black
PE100-PN0.8-250X11.9-6	6	Black
PE100-PN0.8-280X13.4-6	6	Black
PE100-PN0.8-315X15.0-6	6	Black
PE100-PN0.8-355X16.9-6	6	Black
PE100-PN0.8-400X19.1-6	6	Black
PE100-PN0.8-450X21.5-6	6	Black
PE100-PN0.8-500X23.9-6	6	Black
PE100-PN0.8-560X26.7-6	6	Black
PE100-PN0.8-630X30.0-6	6	Black
PE100-PN0.8-710X33.9-6	6	Black
PE100-PN0.8-800X38.1-6	6	Black
PE100-PN0.8-900X42.9-6	6	Black
PE100-PN0.8-1000X47.7-6	6	Black
PE100-PN0.8-1200X57.2-6	6	Black

## PE100 pipes PN1.0



Description	Package m	Color
PE100-PN1.0-50X3.0-6	6	Black
PE100-PN1.0-63X3.8-6	6	Black
PE100-PN1.0-75X4.5-6	6	Black
PE100-PN1.0-90X5.4-6	6	Black
PE100-PN1.0-110X6.6-6	6	Black
PE100-PN1.0-125X7.4-6	6	Black
PE100-PN1.0-160X9.5-6	6	Black
PE100-PN1.0-180X10.7-6	6	Black
PE100-PN1.0-200X11.9-6	6	Black
PE100-PN1.0-225X13.4-6	6	Black
PE100-PN1.0-250X14.8-6	6	Black
PE100-PN1.0-280X16.6-6	6	Black
PE100-PN1.0-315X18.7-6	6	Black
PE100-PN1.0-355X21.1-6	6	Black
PE100-PN1.0-400X23.7-6	6	Black
PE100-PN1.0-450X26.7-6	6	Black
PE100-PN1.0-500X29.7-6	6	Black
PE100-PN1.0-560X33.2-6	6	Black
PE100-PN1.0-630X37.4-6	6	Black
PE100-PN1.0-710X42.1-6	6	Black
PE100-PN1.0-800X47.4-6	6	Black
PE100-PN1.0-900X53.3-6	6	Black
PE100-PN1.0-1000X59.3-6	6	Black

## PE100 pipes PN1.25



Description	Package m	Color
PE100-PN1.25-50X3.7-6	6	Black
PE100-PN1.25-64X4.7-6	6	Black
PE100-PN1.25-75X5.6-6	6	Black
PE100-PN1.25-90X6.7-6	6	Black
PE100-PN1.25-110X8.1-6	6	Black
PE100-PN1.25-125X9.2-6	6	Black
PE100-PN1.25-160X11.8-6	6	Black
PE100-PN1.25-180X13.3-6	6	Black
PE100-PN1.25-200X14.7-6	6	Black
PE100-PN1.25-225X16.6-6	6	Black
PE100-PN1.25-250X18.4-6	6	Black
PE100-PN1.25-280X20.6-6	6	Black
PE100-PN1.25-315X23.2-6	6	Black
PE100-PN1.25-355X26.1-6	6	Black
PE100-PN1.25-400X29.4-6	6	Black
PE100-PN1.25-450X33.1-6	6	Black
PE100-PN1.25-500X36.8-6	6	Black
PE100-PN1.25-630X46.3-6	6	Black
PE100-PN1.25-800X58.8-6	6	Black
PE100-PN0.6-1200X45.9-6	6	Black

## PE100 pipes PN1.6

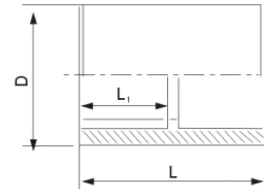


Description	Package m	Color
PE100-PN1.6-20X2.3-6	6	Black
PE100-PN1.6-25X2.3-6	6	Black
PE100-PN1.6-32X3.0-6	6	Black
PE100-PN1.6-40X3.7-6	6	Black
PE100-PN1.6-50X4.6-6	6	Black
PE100-PN1.6-63X5.8-6	6	Black
PE100-PN1.6-75X6.8-6	6	Black
PE100-PN1.6-90X8.2-6	6	Black
PE100-PN1.6-110X10.0-6	6	Black
PE100-PN1.6-125X11.4-6	6	Black
PE100-PN1.6-160X14.6-6	6	Black
PE100-PN1.6-180X16.4-6	6	Black
PE100-PN1.6-200X18.2-6	6	Black
PE100-PN1.6-225X20.5-6	6	Black
PE100-PN1.6-250X22.7-6	6	Black
PE100-PN1.6-280X25.4-6	6	Black
PE100-PN1.6-315X28.6-6	6	Black
PE100-PN1.6-355X32.2-6	6	Black
PE100-PN1.6-400X36.3-6	6	Black
PE100-PN1.6-450X40.9-6	6	Black
PE100-PN1.6-500X45.4-6	6	Black
PE100-PN1.6-560X50.8-6	6	Black
PE100-PN1.6-630X57.2-6	6	Black
PE100-PN1.6-20X2.3-100	100	Black
PE100-PN1.6-25X2.3-100	100	Black
PE100-PN1.6-32X3.0-100	100	Black
PE100-PN1.6-40X3.7-100	100	Black
PE100-PN1.6-50X4.6-100	100	Black
PE100-PN1.6-63X5.8-100	100	Black

## HDPE Fittings

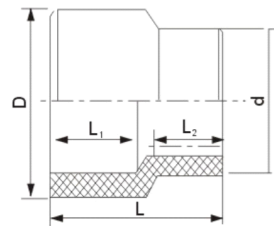
### Socket-welded fittings

#### Straight coupling



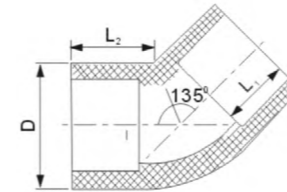
Code	Description EN	pcs/ctn	D	L	L1
020655	DN110	25	135	89	40
020647	DN20	1080	26.7	31.9	15
020648	DN25	600	32.1	36.6	16.33
020649	DN32	300	40	41.1	18.6
020650	DN40	210	49.1	48.26	21.92
020651	DN50	120	60.9	54.4	25
020652	DN63	75	77.6	61.43	28.58
020653	DN75	48	90.3	69	31.3
020654	DN90	45	108.4	75.2	34.86

#### Reducer



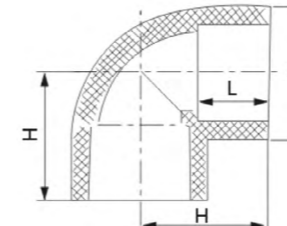
Code	Description EN	pcs/ctn	D	d	L	L1	L2
020697	DN110X40	24	132	49.31	94.5	37.69	24
020698	DN110X50	24	134	62.17	92	37.8	24.23
020699	DN110X63	24	132.26	77.59	104	39.17	29.73
020700	DN110X75	24	134.5	93.4	87	38.5	30.3
020701	DN110X90	24	132.6	109.15	83.9	38.13	33.3
020674	DN25X20	550	32	27.3	36.47	18.1	15.11
020675	DN32X20	500	39.8	27.4	40.8	21	15.5
020676	DN32X25	500	40	32.1	41.4	21.3	16.1
020677	DN40X20	300	49.5	27.5	48.8	22.2	15.6
020678	DN40X25	300	49.86	32.06	52.9	22.8	17.7
020679	DN40X32	300	51.8	41.9	49.7	21.83	19.7
020680	DN50X20	160	61.75	25.1	64.3	25.6	15.62
020681	DN50X25	200	61	31.4	62.68	25.9	17.51
020682	DN50X32	200	60.95	40	58	25.5	19.8
020683	DN50X40	180	61.8	49.6	56.3	26.2	21.5
020684	DN63X20	130	77.3	26.95	70	29.5	15.95
020685	DN63X25	100	77	31.76	76	29.46	17.8
020686	DN63X32	110	77.3	40.5	72.3	29.5	19.73
020687	DN63X40	110	77.4	49.7	69.5	29.4	22.3
020688	DN63X50	88	76.8	61.7	66.6	28.8	24.3
020689	DN75X32	84	91.63	48.17	74	30.86	18.3
020690	DN75X40	84	91.56	50.33	67.6	30.5	20.51
020691	DN75X50	84	91	61.4	68	30.5	23.5
020692	DN75X63	70	88.32	75.45	68.9	30.12	27.3
020693	DN90X40	48	108.6	50.5	80	34.8	20.65
020694	DN90X50	48	108	62	78	33.56	23.56
020695	DN90X63	48	108.3	77.2	77.5	33.4	29.9
020696	DN90X75	45	109.1	91.2	73.9	33.6	30.1

#### Elbow 90°



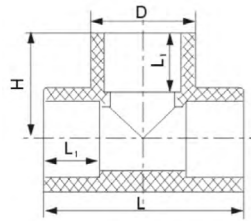
Code	Description EN	pcs/ctn	D	L1	L2
020664	DN110X45°	8	133.3	37.15	38.96
020656	DN20X45°	800	27.69	16	17.5
020657	DN25X45°	450	33.9	17.9	22
020658	DN32X45°	180	42	20.12	21.49
020659	DN40X45°	180	53	22	23.8
020660	DN50X45°	100	66.57	25	26
020661	DN63X45°	40	83.51	29.15	25.8
020662	DN75X45°	24	98	32.44	27
020663	DN90X45°	22	117.84	35.8	29.6

#### Elbow 90°



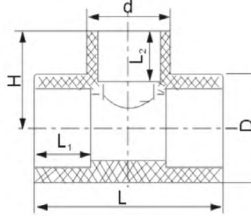
Code	Description EN	pcs/ctn	D	H	L
020673	DN110X90°	6	135.56	102.5	41.55
020665	DN20X90°	500	26.3	25.79	14.85
020666	DN25X90°	360	32	30.35	16.3
020667	DN32X90°	180	40	36.54	19.7
020668	DN40X90°	120			
020669	DN50X90°	57	62.18	55.5	24.43
020670	DN63X90°	44	77.3	64.34	28.4
020671	DN75X90°	24	90.9	68.7	32
020672	DN90X90°	18	109.4	80.85	32.45

## Tee



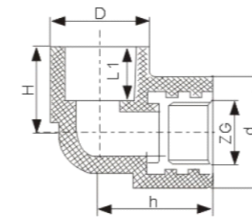
Code	Description EN	pcs/ctn	D	L	L1	H
020804	DN110	6	137.1	190.85	37.16	94.82
020796	DN20	360	26.7	53.5	15.7	26.23
020797	DN25	200	32.2	62	16.6	30.56
020798	DN32	120	40.26	80.77	20.12	40.7
020799	DN40	92	48.65	94.59	22.1	46.51
020800	DN50	54	61.64	115	25.5	57.12
020801	DN63	30	77.96	137.16	28.76	67.89
020802	DN75	14	92.47	141.62	29.94	70.55
020803	DN90	12	111.3	164.74	33.4	81.9

## Reducing tee



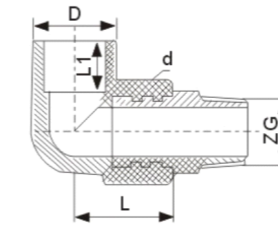
Code	Description EN	pcs/ctn	D	d	L	L1	L2	H
040183	DN110X40X110	10						
026444	DN110X50X110	24	135	63.35	134.37	37.7	24.26	66.3
026418	DN110X63X110	8	135.15	80.27	158.65	39.6	29.13	107.34
026419	DN110X75X110	12						
023452	DN110X90X110	6	133.8	110.5	172.3	38.21	33.46	76.63
020775	DN25X20X25	240	31.8	27.34	58.42	17.3	15.74	29.3
020776	DN32X20X32	120	40	25	67.14	20.23	16.3	36.66
020777	DN32X25X32	120	39.55	31.94	71.87	20.26	17.6	39.82
020778	DN40X20X40	120	50.85	25	70.3	22.1	15.93	35.45
020779	DN40X25X40	160	50	31	77.7	21.7	17.8	37.31
020780	DN40X32X40	130	49.9	40.7	84.9	21.8	20	40.2
020781	DN50X20X50	88	62.43	27.64	76.35	25.2	16.33	40.76
020782	DN50X25X50	80	62	33	82.5	24.8	18	42.48
020783	DN50X32X50	80	62.3	40.9	90	25.1	19.9	44.45
020784	DN50X40X50	70	61.7	50.8	99	25	22.3	52
026443	DN63X20X63	70						
020785	DN63X25X63	45	77.3	33.16	90.2	29.14	18.3	57.35
020786	DN63X32X63	48	78.4	42.5	98.3	29.6	20.57	50.8
020787	DN63X40X63	48	78.2	51.7	108.1	29	21.85	52.8
020788	DN63X50X63	36	78	62.5	121.1	28.8	25.3	56.6
020789	DN75X32X75	45	91.5	41	99.5	29.8	18.5	49.74
020790	DN75X40X75	24	91.5	51.44	107.7	29.4	20.8	49.96
020791	DN75X50X75	35	90.9	62.3	116.9	29	25.2	53.88
020792	DN75X63X75	30	91.5	78.5	130.4	29.3	27.7	57.06
020793	DN90X40X90	12	110.2	51.5	115.5	34.6	21.5	56.6
023556	DN90X50X90	12	111	62.7	125.8	33.6	24.6	60.08
020794	DN90X63X90	12	111.6	79.4	137.35	32.3	27	62.4
020795	DN90X75X90	12	110.3	51.43	115.7	33.66	21.67	56.37

## Female elbow



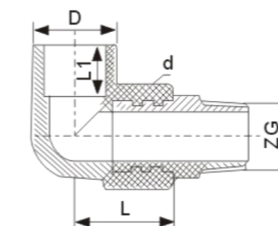
Code	Description EN	pcs/ctn	D	d	H	h	L1
020805	DN20X1/2F	350	27.87	35.8	26.67	31.4	15.4
020807	DN25X1/2F	200	33.4	39.31	29.5	33.76	18.12
020808	DN25X3/4F	200	33.89	44.14	27.5	39.87	18.15
020809	DN32X1/2F	180	41.3	41.25	32	33.92	19.9
020811	DN32X1F	100	42.6	55.4	34.67	38.45	20.5
020810	DN32X3/4F	180	42.3	44	37.86	35.54	19.3
043784	DN50X1.1/2F	30					
020813	DN63X2F	50	78	87.45	56.13	58	30

## Male elbow



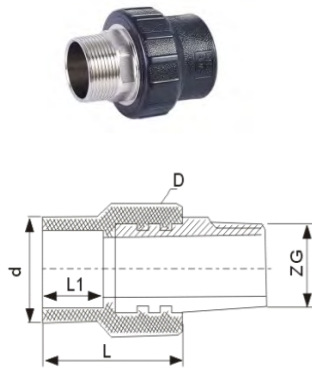
Code	Description EN	pcs/ctn	D	d	L	L1
020815	DN20X1/2M	350	27.76	35.34	34.88	15.52
020817	DN25X1/2M	250	33.21	39.07	41.14	18.2
020818	DN25X3/4M	180	33.48	44.1	34.8	18.3
035732	DN32X1/2M	144				
020821	DN32X1M	60	42.4	56.4	44.2	20.23
020820	DN32X3/4M	140	42.75	43.9	42.18	19.81
020823	DN50X1 1/2M	30				
020824	DN63X2M	30	76.9	87	59	29.74

## Female coupling



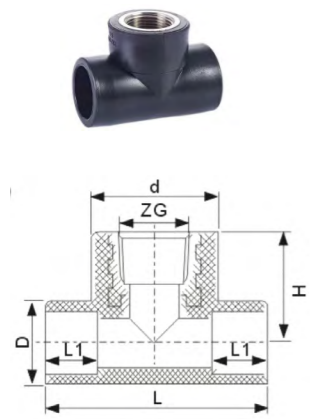
Code	Description	pcs/ctn	D	d	L	L1
020715	DN20X1/2F	400	36.8	27.7	41.4	18.31
020716	DN20X3/4F	450	36.8	27.7	41.4	18.3
020717	DN25X1/2F	300	40	33.3	41.5	18
020718	DN25X3/4F	300	42.3	33.4	44.5	19.9
020719	DN32X1/2F	240	45.6	41.3	44.86	20.27
020721	DN32X1F	120	56.6	42	56.8	20
020720	DN32X3/4F	300	45.2	41.2	44.9	20.4
020723	DN40X1 1/4F	80	71.1	52.17	66.34	21.9
020725	DN50X1 1/2F	60	79	62.4	68.9	25.4
020726	DN63X2F	40	95	78.43	74.5	29.6
040186	DN75X2 1/2F	40				

## Male coupling



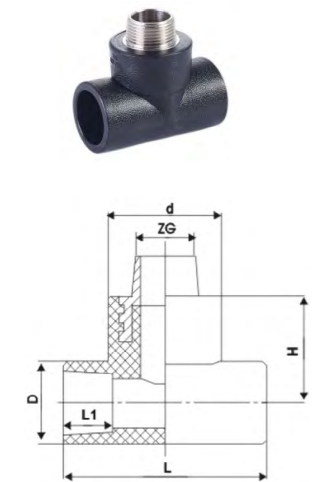
Code	Description	pcs/ctn	D	d	L	L1
020728	DN20X1/2M	350				
020729	DN20X3/4M	360				
020730	DN25X1/2M	360	40.48	33.13	40.8	18.25
020731	DN25X3/4M	300	43.85	33.6	44.3	18.2
020732	DN32X1/2M	250	45.2	41.38	45	20.2
020734	DN32X1M	120	56	41.95	46	20.27
020733	DN32X3/4M	200	22.83	41.24	44.4	24.5
020736	DN40X1 1/4M	70	70.04	52.19	55.3	21.87
020738	DN50X1 1/2M	50	79.7	62.5	56.35	25.4
040192	DN63X1 1/2M	24	91.46	78.26	59.13	29.1
020739	DN63X2M	48	91.46	78.26	59.13	29.1
027613	DN75X2 1/2M	16	116.8	96.3	74	35.4

## Female tee



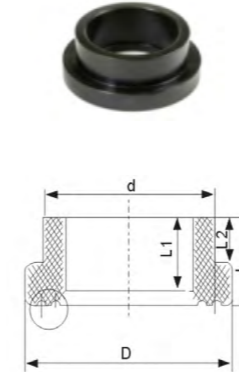
Code	Description	pcs/ctn	D	d	H	L	L1
020825	DN20X1/2FX20	250	26.9	36.65	30.35	66.2	15.79
020827	DN25X1/2FX25	200	32.7	36.28	33.08	70	17.59
020828	DN25X3/4FX25	150	36.68	41.7	35.15	70	17.57
020829	DN32X1/2FX32	120	41.7	36.72	35.41	61.6	19.98
020831	DN32X1FX32	80	43.4	53.8	40.25	93.14	19.9
020830	DN32X3/4FX32	120	41.6	43.08	35.05	74.6	20.1
040184	DN40X1FX40	50					
026439	DN50X1/2FX50	50					
026440	DN50X3/4FX50	50					
027614	DN63X1/2FX63	60					
040185	DN63X1FX63	40					
026441	DN63X3/4FX63	40					

## Male tee



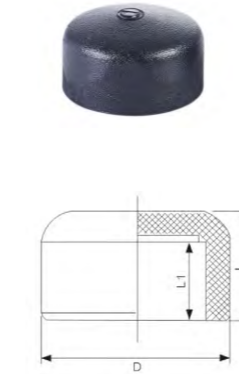
Code	Description	pcs/ctn	D	d	H	L	L1
020835	DN20X1/2MX20	250	26.53	36.3	32.94	65.75	15.91
020837	DN25X1/2MX25	180	32.47	36	36.7	69.51	17.16
020838	DN25X3/4MX25	180	32.47	41.45	38.31	70.15	17.64
020839	DN32X1/2MX32	150	42.3	42.73	34.88	74.3	19.73
020841	DN32X1MX32	60	42.3	42.7	34.9	74.3	19.8
020840	DN32X3/4MX32	100	42.3	42.7	34.8	74.3	19.7
040187	DN40X1MX40	50					
040188	DN50X1/2MX50	40					
040189	DN50X3/4MX50	40					
040190	DN63X1/2MX63	20					
040191	DN63X3/4MX63	20					

## Flange



Code	Description	pcs/ctn	D	d	L	L1	L2
032417	DN110	50	152.40	132.10	42.68	39.60	29.73
037023	DN40	150	63.37	49.85	27.37	22.18	16.07
020766	DN50	108	72.90	61.35	29.45	25.10	19.00
020767	DN63	140	90.60	76.20	32.17	28.20	20.35
020768	DN75	80	112.60	91.50	37.56	32.53	24.76
023557	DN90	65					

## End cap



Code	Description	pcs/ctn	D	L	L1
027612	DN110	35			
020769	DN20	1,500.00	26.8	21.3	17
020770	DN25	1,100.00	31.24	21.55	17.24
020771	DN32	600	39.65	25.1	19.3
020772	DN40	325	51.3	27.8	20.5
020773	DN50	220	62.3	34.1	23.95
020774	DN63	90	76.56	37.7	28.2
023558	DN75	72	91.6	43.17	31.3
023559	DN90	45	110.8	49.45	34.16

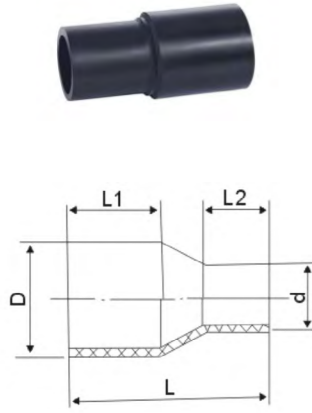
## Stop valve



Code	Description	pcs/ctn
020757	DN20	150
020758	DN25	100
020759	DN32	75
020760	DN40	50
020761	DN50	50
020762	DN63	25
032418	DN75	12

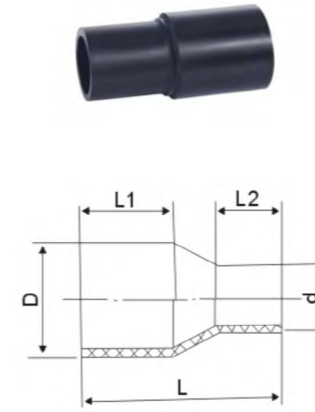
## Butt-fusion fittings

### Reducer PN1.0



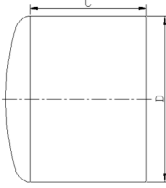
Code	Description	pcs/ctn	D	d	L	L1	L2
045664	DN75X50-PN1.0	150	75	50	148	75	54
045658	DN90X75-PN1.0	80	90	75	162	79	70
045665	DN110X50-PN1.0	80	110	50	180	82	55
037020	DN110X63-PN1.0	50	110	63	180	82	63
045659	DN110X75-PN1.0	50	110	75	178	82	70
026456	DN110X90-PN1.0	40	110	90	178	82	79
040222	DN125X90-PN1.0	15	125	90	198	105	79
023302	DN125X110-PN1.0	30	125	110	200	102	81
037021	DN160X63-PN1.0	30	160	63	218	114	66
045660	DN160X75-PN1.0	30	160	75	218	112	72
026457	DN160X90-PN1.0	30	160	90	220	110	79
023315	DN160X110-PN1.0	25	160	110	218	110	82
023316	DN160X125-PN1.0	25	160	125	220	112	87
023317	DN180X160-PN1.0	10	180	160	235	108	98
037022	DN200X63-PN1.0	12	200	63	255	128	70
026458	DN200X90-PN1.0	12	200	90	260	128	80
026459	DN200X110-PN1.0	12	200	110	250	128	79
023322	DN200X125-PN1.0	12	200	125	265	128	90
023323	DN200X160-PN1.0	10	200	160	265	130	98
023324	DN200X180-PN1.0	8	200	180	260	125	115
023326	DN225X110-PN1.0	8	225	110	270	126	98
023328	DN225X125-PN1.0	8	225	125	285	134	110
023329	DN225X160-PN1.0	8	225	160	282	136	112
023330	DN225X200-PN1.0	6	225	200	285	140	112
023331	DN250X110-PN1.0	6	250	110	280	129	102
023333	DN250X125-PN1.0	6	250	125	280	129	115
023334	DN250X160-PN1.0	6	250	160	275	129	108
023335	DN250X200-PN1.0	6	250	200	275	129	112
023336	DN250X225-PN1.0	6	250	225	275	129	135
023338	DN315X160-PN1.0	4	315	160	312	150	110
023340	DN315X200-PN1.0	1	315	200	312	150	115
023342	DN315X225-PN1.0	4	315	225	312	150	120
023344	DN315X250-PN1.0	4	315	250	312	150	129
023346	DN315X280-PN1.0	3	315	280	305	150	139
020916	DN355X250-PN1.0	1	355	250	323	165	120
020917	DN355X315-PN1.0	1	355	315	325	165	140
040223	DN400X160-PN1.0	1	400	160	310	128	137
020918	DN400X200-PN1.0	1	400	200	310	130	138
020919	DN400X250-PN1.0	1	400	250	310	130	140
020920	DN400X315-PN1.0	1	400	315	310	130	140
040224	DN400X355-PN1.0	1	400	355	310	130	138
040224a	DN450X250-PN1.0	1	450	250	360	180	145
040224b	DN450X400-PN1.0	1	450	400	400	180	185
047080	DN500X250-PN1.0	1	500	250	380	200	145
047079	DN500X315-PN1.0	1	500	315	400	200	160
047079a	DN500X450-PN1.0	1	500	450	420	200	180
047071	DN630X400-PN1.0	1	630	400	420	200	185
047070	DN630X500-PN1.0	1	630	500	420	200	180
047168	DN800X400-PN1.0	1					
047169	DN800X500-PN1.0	1					
047169a	DN800X560-PN1.0	1					
047170	DN800X630-PN1.0	1					

### Reducer PN1.6



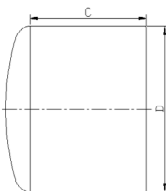
Code	Description	pcs/ctn	D	d	L	L1	L2
027629	DN63X32-PN1.6	250	63	32	128	63	44
027630	DN63X40-PN1.6	250	63	40	130	63	50
027631	DN63X50-PN1.6	150	63	50	130	63	55
027632	DN75X50-PN1.6	150	75	50	148	75	54
020881	DN75X63-PN1.6	100	75	63	148	75	63
027633	DN90X32-PN1.6	80	90	32	175	86	63
027634	DN90X40-PN1.6	80	90	40	174	86	60
027635	DN90X50-PN1.6	80	90	50	165	79	55
020882	DN90X63-PN1.6	80	90	63	162	79	63
020883	DN90X75-PN1.6	80	90	75	162	79	70
027636	DN110X40-PN1.6	50	110	40	180	82	49
020884	DN110X50-PN1.6	50	110	50	180	82	55
020885	DN110X63-PN1.6	80	110	63	180	82	63
020886	DN110X75-PN1.6	50	110	75	178	82	70
020887	DN110X90-PN1.6	40	110	90	178	82	79
020888	DN125X63-PN1.6	30	125	75	200	103	70
023301	DN125X75-PN1.6	30	125	90	198	105	79
020889	DN125X90-PN1.6	30	125	110	200	102	81
020890	DN125X110-PN1.6	30	125	63	195	103	72
023303	DN160X63-PN1.6	30	160	63	218	114	66
023304	DN160X75-PN1.6	30	160	75	218	112	72
020891	DN160X90-PN1.6	30	160	90	220	110	79
020892	DN160X110-PN1.6	25	160	110	218	110	82
020893	DN160X125-PN1.6	25	160	125	220	112	87
020896	DN180X160-PN1.6	10	180	160	235	108	98
023318	DN200X63-PN1.6	12	200	63	255	128	70
023320	DN200X90-PN1.6	12	200	90	260	128	80
020897	DN200X110-PN1.6	12	200	110	250	128	79
023321	DN200X125-PN1.6	12	200	125	265	128	90
020898	DN200X160-PN1.6	10	200	160	265	130	98
020899	DN200X180-PN1.6	8	200	180	260	125	115
023325	DN225X110-PN1.6	8	225	110	270	126	98
023327	DN225X125-PN1.6	8	225	125	285	134	110
020900	DN225X160-PN1.6	8	225	160	282	136	112
020901	DN225X200-PN1.6	6	225	200	285	140	112
020902	DN250X110-PN1.6	6	250	110	280	129	102
023332	DN250X125-PN1.6	6	250	125	280	129	115
020903	DN250X160-PN1.6	6	250	160	275	129	108
020904	DN250X200-PN1.6	6	250	200	275	129	112
020905	DN250X225-PN1.6	6	250	225	275	129	135
026469	DN280X160-PN1.6	4	280	160	260	125	110
026448	DN315X110-PN1.6	1	315	110	330	150	82
023337	DN315X160-PN1.6	1	315	160	312	150	110
023339	DN315X200-PN1.6	1	315	200	312	150	115
023341	DN315X225-PN1.6	1	315	225	312	150	120
023343	DN315X250-PN1.6	1	315	250	312	150	129
023345	DN315X280-PN1.6	1	315	280	305	150	139
023500	DN355X250-PN1.6	1	355	250	323	165	120
023501	DN355X315-PN1.6	1	355	315	325	165	140
046083	DN400X160-PN1.6	1	400	160	370	130	110
023502	DN400X200-PN1.6	1	400	200	370	130	115
023503	DN400X315-PN1.6	1	400	315	310	130	140
026425	DN400X355-PN1.6	1	400	355	435	210	185
026425a	DN450X250-PN1.6	1	450	250	360	180	145
026425b	DN450X400-PN1.6	1	450	400	400	180	185
026425c	DN500X450-PN1.6	1	500	450	420	200	180
026425d	DN800X560-PN1.6	1					

## End cap PN1.0



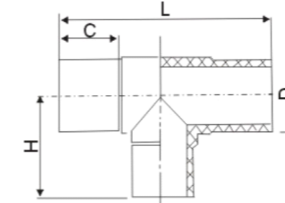
Code	Description	pcs/ctn	D	C
Code	Description	pcs/ctn	D	C
040204	DN90-PN1.0	80	90	82
023415	DN110-PN1.0	80	110	83
023416	DN125-PN1.0	50	125	87
023416a	DN140-PN1.0	40	140	90
023417	DN160-PN1.0	25	160	105
023418	DN180-PN1.0	16	180	125
023419	DN200-PN1.0	16	200	113
023420	DN225-PN1.0	8	225	120
023421	DN250-PN1.0	6	250	132
023422	DN280-PN1.0	6	280	135
023423	DN315-PN1.0	4	315	152
021066	DN355-PN1.0	1	355	164
040205	DN400-PN1.0	1	400	225
040206	DN450-PN1.0	1	450	195
040207	DN500-PN1.0	1	500	220
040207a	DN560-PN1.0	1	560	220
040207b	DN630-PN1.0	1	630	220

## End cap PN1.6



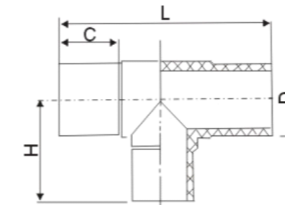
Code	Description	pcs/ctn	D	C
023414	DN63-PN1.6	250	63	63
021055	DN75-PN1.6	200	75	76
021056	DN90-PN1.6	80	90	82
021057	DN110-PN1.6	80	110	83
021058	DN125-PN1.6	50	125	87
026462	DN140-PN1.6	40	140	96
021059	DN160-PN1.6	25	160	105
021060	DN180-PN1.6	16	180	125
021061	DN200-PN1.6	16	200	113
021062	DN225-PN1.6	8	225	120
021063	DN250-PN1.6	6	250	132
026463	DN280-PN1.6	6	280	135
021065	DN315-PN1.6	4	315	152
023555	DN355-PN1.6	1	355	164
021067	DN400-PN1.6	1	400	225
026464	DN450-PN1.6	1	450	195
026465	DN500-PN1.6	1	500	220
026466	DN560-PN1.6	1	560	220
026467	DN630-PN1.6	1	630	220

## Tee PN1.0



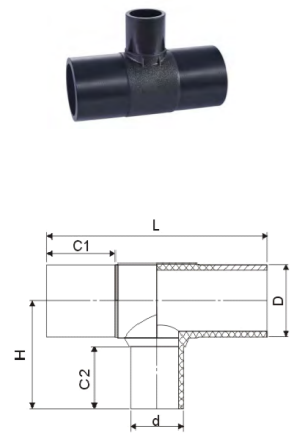
Code	Description	pcs/ctn	D	L	C	H
040195	DN90-PN1.0	20	90	268	79	140
023360	DN110-PN1.0	20	110	300	82	150
023361	DN125-PN1.0	9	125	320	87	181
023214	DN160-PN1.0	5	160	396	98	197
023362	DN180-PN1.0	4	180	370	85	205
023363	DN200-PN1.0	4	200	440	107	235
020990	DN225-PN1.0	2	225	508	125	247
020992	DN250-PN1.0	2	250	565	129	283
020994	DN280-PN1.0	1	280	602	139	304
020996	DN315-PN1.0	1	315	670	150	335
020999	DN355-PN1.0	1	355	720	164	360
021000	DN400-PN1.0	1	400	720	140	380
040196	DN450-PN1.0	1	450	775	130	445
040197	DN500-PN1.0	1	500	835	130	510
046904	DN630-PN1.0	1	630	995	140	600
046905	DN800-PN1.0	1	800	1260	230	630

## Tee PN1.6



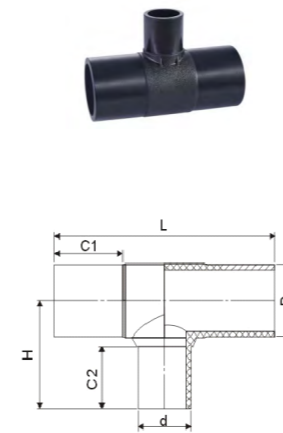
Code	Description	pcs/ctn	D	L	C	H
023359	DN63-PN1.6	50	63	240	63	118
020983	DN75-PN1.6	50	75	245	70	118
020984	DN90-PN1.6	25	90	268	79	140
020985	DN110-PN1.6	20	110	300	82	150
020986	DN125-PN1.6	12	125	320	87	181
020987	DN160-PN1.6	5	160	396	98	197
020988	DN180-PN1.6	4	180	370	85	205
020989	DN200-PN1.6	4	200	440	107	235
020991	DN225-PN1.6	2	225	508	125	247
020993	DN250-PN1.6	2	250	565	129	283
020995	DN280-PN1.6	1	280	602	139	304
020997	DN315-PN1.6	1	315	670	150	335
023560	DN355-PN1.6	1	355	720	164	360
026430	DN400-PN1.6	1	400	720	140	380
026431	DN450-PN1.6	1	450	750	135	405
026432	DN500-PN1.6	1	500	800	135	455
026432a	DN800-PN1.6	1				

Reducing tee PN1.0



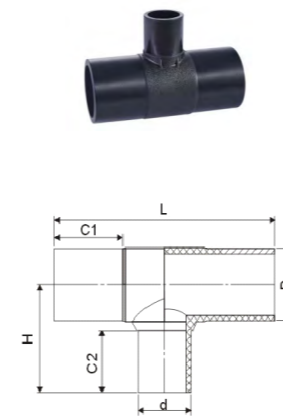
Code	Description	pcs/ctn	D	d	L	C1	C2	H
037014	DN110X40X110-PN1.0	35	110	40	230	82	49	120
037014a	DN110X50X110-PN1.0	30	110	50	235	82	55	126
037015	DN110X63X110-PN1.0	30	110	63	250	82	63	134
037016	DN110X75X110-PN1.0	25	110	75	260	82	70	141
037017	DN110X90X110-PN1.0	20	110	90	280	82	79	150
040212	DN125X90X125-PN1.0	20	125	90	299	87	80	165
023369	DN125X110X125-PN1.0	15	125	110	319	87	88	166
037018	DN160X63X160-PN1.0	10	160	63	290	98	66	161
037018a	DN160X75X160-PN1.0	10	160	75	308	98	70	166
023220	DN160X90X160-PN1.0	10	160	90	320	98	79	176
023293	DN160X110X160-PN1.0	9	160	110	340	98	82	180
023371	DN160X125X160-PN1.0	9	160	125	330	90	93	192
023373	DN180X110X180-PN1.0	4	180	110	370	110	105	213
023375	DN180X160X180-PN1.0	4	180	160	370	87	105	213
037019	DN200X63X200-PN1.0	6	200	63	310	105	64	185
045661	DN200X75X200-PN1.0	5	200	75	338	112	70	190
023219	DN200X90X200-PN1.0	5	200	90	335	105	79	202
021007	DN200X110X200-PN1.0	4	200	110	385	112	88	213
023379	DN200X125X200-PN1.0	4	200	125	390	110	94	215
021009	DN200X160X200-PN1.0	4	200	160	390	95	90	210
040213	DN225X90X225-PN1.0	3	225	90	413	143	104	248
023382	DN225X110X225-PN1.0	3	225	110	413	128	100	235
023384	DN225X160X225-PN1.0	3	225	160	410	110	120	252
023386	DN225X200X225-PN1.0	2	225	200	413	90	130	257
045666	DN250X75X250-PN1.0	5	250	75	400	129	70	300
040214	DN250X90X250-PN1.0	2	250	90	400	129	79	232
021011	DN250X110X250-PN1.0	2	250	110	420	129	82	234
021011a	DN250X125X250-PN1.0	2	250	125	435	129	87	239
021013	DN250X160X250-PN1.0	2	250	160	470	129	98	250
023391	DN250X200X250-PN1.0	2	250	200	510	129	112	265
023393	DN250X225X250-PN1.0	2	250	225	540	129	120	275
023395	DN280X110X280-PN1.0	2	280	110	420	135	82	245
023397	DN280X160X280-PN1.0	2	280	160	475	137	98	260
023399	DN280X200X280-PN1.0	1	280	200	486	125	120	278
023401	DN280X225X280-PN1.0	1	280	225	533	139	120	284
045663	DN315X90X315-PN1.0	1	315	90	445	150	79	360
023403	DN315X110X315-PN1.0	1	315	110	445	150	82	265
023405	DN315X160X315-PN1.0	1	315	160	505	150	98	278
023407	DN315X200X315-PN1.0	1	315	200	540	150	112	292
023409	DN315X225X315-PN1.0	1	315	225	560	150	120	305
023410	DN315X250X315-PN1.0	1	315	250	585	150	129	310
040215	DN355X160X355-PN1.0	1	355	160	492	150	100	291
040216	DN355X200X355-PN1.0	1	355	200	495	130	120	305
046076	DN400X63X400-PN1.0	1	400	63	508	160	63	450
046077	DN400X75X400-PN1.0	1	400	75	508	160	70	450

Reducing tee PN1.0



Code	Description	pcs/ctn	D	d	L	C1	C2	H
040217	DN400X110X400-PN1.0	1	400	110	508	160	112	350
040218	DN400X160X400-PN1.0	1	400	160	508	150	135	360
040219	DN400X200X400-PN1.0	1	400	200	508	135	140	360
040220	DN400X250X400-PN1.0	1	400	250	616	160	135	360
040221	DN400X315X400-PN1.0	1	400	315	616	130	135	350
047076	DN500X90X500-PN1.0	1	500	90	835	130	79	--
047083	DN500X110X500-PN1.0	1	500	110	835	130	102	--
047077	DN500X160X500-PN1.0	1	500	160	835	130	108	--
047081	DN500X200X500-PN1.0	1	500	200	835	130	112	--
047082	DN500X315X500-PN1.0	1	500	315	835	130	160	--
047078	DN500X400X500-PN1.0	1	500	400	835	130	185	--
047075	DN630X90X630-PN1.0	1	630	90	995	140	79	--
047074	DN630X160X630-PN1.0	1	630	160	995	140	110	--
047073	DN630X200X630-PN1.0	1	630	200	995	140	115	--
047072	DN630X315X630-PN1.0	1	630	315	995	140	160	--
047069	DN800X90X800-PN1.0	1	800	90	500	180	79	640
047068	DN800X160X800-PN1.0	1	800	160	590	200	160	570
047067	DN800X200X800-PN1.0	1	800	200	590	180	160	570
047066	DN800X315X800-PN1.0	1	800	315	720	190	160	570

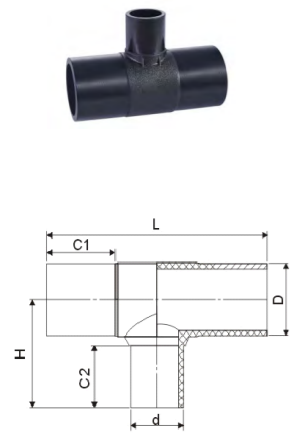
Reducing tee PN1.6



Code	Description	pcs/ctn	D	d	L	C1	C2	H
027628a	DN110X32X110-PN1.6	35	110	32	218	82	44	115
027628b	DN110X40X110-PN1.6	35	110	40	230	82	49	120
027628	DN110X50X110-PN1.6	30	110	50	235	82	55	126
021001	DN110X63X110-PN1.6	30	110	63	250	82	63	134
021002	DN110X75X110-PN1.6	25	110	75	260	82	70	141
023364	DN110X90X110-PN1.6	20	110	90	280	82	79	150
023368	DN125X110X125-PN1.6	15	125	110	319	87	88	166
023365	DN125X63X125-PN1.6	12	125	63	270	87	70	145
023366	DN125X75X125-PN1.6	12	125	75	288	87	78	157
023367	DN125X90X125-PN1.6	20	125	90	299	87	80	165
023367a	DN140X110X140-PN1.6	9	140	110	343	100	125	212
021006	DN160X110X160-PN1.6	9	160	110	340	98	82	180
023370	DN160X125X160-PN1.6	9	160	125	330	90	93	192
023370a	DN160X32X160-PN1.6	10	160	32	280	98	45	140
023370b	DN160X40X160-PN1.6	10	160	40	280	98	50	144
023370c	DN160X50X160-PN1.6	10	160	50	280	98	56	150
021003	DN160X63X160-PN1.6	10	160	63	290	98	66	161
021004	DN160X75X160-PN1.6	10	160	75	308	98	70	166
021005	DN160X90X160-PN1.6	10	160	90	320	98	79	176
023372	DN180X110X180-PN1.6	4	180	110	370	110	105	213
023374	DN180X160X180-PN1.6	4	180	160	370	87	105	213
021008	DN200X110X200-PN1.6	4	200	110	385	112	88	213
023387	DN200X125X200-PN1.6	4	200	125	390	110	94	215
021010	DN200X160X200-PN1.6	4	200	160	390	95	90	210

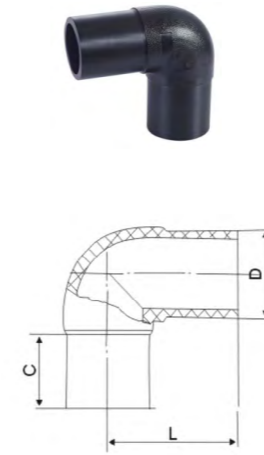


Reducing tee PN1.6



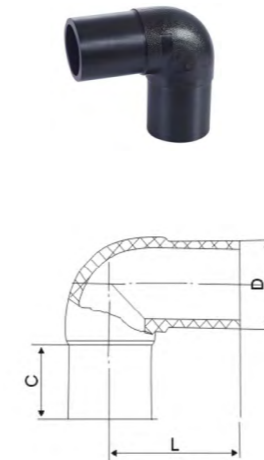
Code	Description	pcs/ctn	D	d	L	C1	C2	H
021010a	DN200X40X200-PN1.6	5	200	40	285	100	58	185
021010b	DN200X50X200-PN1.6	5	200	50	314	110	62	180
023376	DN200X63X200-PN1.6	5	200	63	310	105	64	185
023377	DN200X75X200-PN1.6	5	200	75	338	112	70	190
023378	DN200X90X200-PN1.6	5	200	90	335	105	79	202
023381	DN225X110X225-PN1.6	3	225	110	413	128	100	235
023383	DN225X160X225-PN1.6	3	225	160	410	110	120	252
023385	DN225X200X225-PN1.6	2	225	200	413	90	130	257
023380	DN225X90X225-PN1.6	3	225	90	413	143	104	248
021012	DN250X110X250-PN1.6	2	250	110	420	129	82	234
023389	DN250X125X250-PN1.6	2	250	125	435	129	87	239
021014	DN250X160X250-PN1.6	2	250	160	470	129	98	250
023390	DN250X200X250-PN1.6	2	250	200	510	129	112	265
023392	DN250X225X250-PN1.6	2	250	225	540	129	120	275
023388	DN250X90X250-PN1.6	2	250	90	400	129	79	232
023394	DN280X110X280-PN1.6	2	280	110	420	135	82	245
023396	DN280X160X280-PN1.6	2	280	160	475	137	98	260
023398	DN280X200X280-PN1.6	2	280	200	486	125	120	278
023400	DN280X225X280-PN1.6	2	280	225	533	139	120	284
023402	DN315X110X315-PN1.6	1	315	110	445	150	82	265
023404	DN315X160X315-PN1.6	1	315	160	505	150	98	278
023406	DN315X200X315-PN1.6	1	315	200	540	150	112	292
023408	DN315X225X315-PN1.6	1	315	225	560	150	120	305
022123	DN315X250X315-PN1.6	1	315	250	585	150	129	310
043668	DN315X75X315-PN1.6	1	315	75	445	150	70	355
026435	DN315X90X315-PN1.6	1	315	90	445	150	79	360
026436	DN355X250X355-PN1.6	1	355	250	720	164	120	460
048258	DN400X110X400-PN1.6	1	400	110	720	140	82	--
046080	DN400X160X400-PN1.6	1	400	160	720	140	110	--
046081	DN400X200X400-PN1.6	1	400	200	720	140	115	--
046082	DN400X250X400-PN1.6	1	400	250	720	140	129	--
026437	DN400X315X400-PN1.6	1	400	315	720	140	140	--
026438	DN400X355X400-PN1.6	1	400	355	720	140	190	--
027619	DN63X25X63-PN1.6	60	63	25	238	78	58	118
027620	DN63X32X63-PN1.6	60	63	32	238	75	62	118
027621	DN63X40X63-PN1.6	60	63	40	238	78	66	118
027622	DN63X50X63-PN1.6	60	63	50	238	78	65	118
027622a	DN75X32X75-PN1.6	60	75	32	242	90	62	120
027623	DN75X40X75-PN1.6	60	75	40	242	87	60	120
027624	DN75X50X75-PN1.6	60	75	50	242	80	70	120
027625	DN75X63X75-PN1.6	50	75	63	242	78	67	120
027625a	DN90X32X90-PN1.6	50	90	32	202	79	44	102
027626	DN90X40X90-PN1.6	50	90	40	214	79	49	107
027627	DN90X50X90-PN1.6	40	90	50	227	79	55	113
026433	DN90X63X90-PN1.6	40	90	63	239	79	63	121
026434	DN90X75X90-PN1.6	30	90	75	250	79	70	128
026434a	DN500x200x500-PN1.6	1	500	200	495	135	135	420
026434b	DN500x400x500-PN1.6	1	500	400	705	140	160	445

Elbow 90° PN1.0



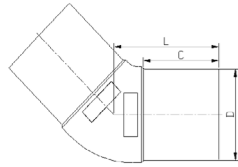
Code	Description	pcs/ctn	D	C	L
046382	DN75X90°-PN1.0	70	75	72	125
027617	DN90X90°-PN1.0	40	90	79	137
023353	DN110X90°-PN1.0	25	110	82	150
023354	DN125X90°-PN1.0	12	125	100	180
023215	DN160X90°-PN1.0	10	160	98	187
023355	DN180X90°-PN1.0	5	180	105	207
023356	DN200X90°-PN1.0	4	200	125	250
020977	DN225X90°-PN1.0	3	225	140	280
020979	DN250X90°-PN1.0	2	250	129	285
020981	DN280X90°-PN1.0	2	280	130	290
023358	DN315X90°-PN1.0	1	315	150	352
040201	DN355X90°-PN1.0	1	355	160	357
027618	DN400X90°-PN1.0	1	400	145	370
040202	DN450X90°-PN1.0	1	450	135	400
040203	DN500X90°-PN1.0	1	500	135	436
040203a	DN560X90°-PN1.0	1	560	130	455
026451	DN630X90°-PN1.0	1	630	130	490
046906	DN800X90°-PN1.0	1	800	170	575

Elbow 90° PN1.6



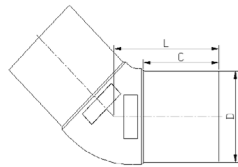
Code	Description	pcs/ctn	D	C	L
022649	DN63X90°-PN1.6	100	63	63	101
020970	DN75X90°-PN1.6	70	75	72	125
020971	DN90X90°-PN1.6	40	90	79	137
020972	DN110X90°-PN1.6	25	110	82	150
020973	DN125X90°-PN1.6	12	125	100	180
020974	DN160X90°-PN1.6	10	160	98	187
020975	DN180X90°-PN1.6	5	180	105	207
020976	DN200X90°-PN1.6	4	200	125	250
020978	DN225X90°-PN1.6	3	225	140	280
020980	DN250X90°-PN1.6	2	250	129	285
020982	DN280X90°-PN1.6	2	280	130	290
023357	DN315X90°-PN1.6	1	315	150	352
026426	DN355X90°-PN1.6	1	355	160	357
026427	DN400X90°-PN1.6	1	400	145	370
026428	DN450X90°-PN1.6	1	450	120	355
026429	DN500X90°-PN1.6	1	500	135	400
026429a	DN560X90°-PN1.6	1	560	140	430
026452	DN630X90°-PN1.6	1	630	145	465

## Elbow 45° PN1.0



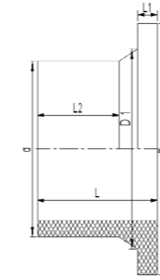
Code	Description	pcs/ctn	D	C	L
046383	DN75X45°-PN1.0	70	75	70	95
027615	DN90X45°-PN1.0	40	90	79	105
023297	DN110X45°-PN1.0	25	110	82	118
023298	DN125X45°-PN1.0	12	125	87	125
020869	DN160X45°-PN1.0	10	160	98	142
020873	DN200X45°-PN1.0	4	200	112	162
044898	DN225X45°-PN1.0	3	225	98	155
020877	DN250X45°-PN1.0	2	250	129	190
020879	DN280X45°-PN1.0	2	280	139	230
023299	DN315X45°-PN1.0	1	315	150	240
040198	DN355X45°-PN1.0	1	355	164	270
042047	DN400X45°-PN1.0	1	400	150	255
040199	DN450X45°-PN1.0	1	450	135	255
040200	DN500X45°-PN1.0	1	500	135	260
040200a	DN560X45°-PN1.0	1	560	130	265
026449	DN630X45°-PN1.0	1	630	140	300
046902	DN800X45°-PN1.0	1	800	170	365

## Elbow 45° PN1.6



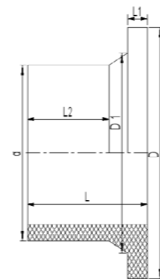
Code	Description	pcs/ctn	D	C	L
020865	DN75X45°-PN1.6	80	75	70	95
020866	DN90X45°-PN1.6	50	90	79	105
020867	DN110X45°-PN1.6	30	110	82	118
020868	DN125X45°-PN1.6	25	125	87	125
020870	DN160X45°-PN1.6	12	160	98	142
020874	DN200X45°-PN1.6	5	200	112	162
020876	DN225X45°-PN1.6	3	225	98	155
020878	DN250X45°-PN1.6	2	250	129	190
020880	DN280X45°-PN1.6	2	280	139	230
023300	DN315X45°-PN1.6	1	315	150	240
026420	DN355X45°-PN1.6	1	355	164	270
026421	DN400X45°-PN1.6	1	400	150	255
026422	DN450X45°-PN1.6	1	450	130	235
026423	DN500X45°-PN1.6	1	500	135	255
026423a	DN560X45°-PN1.6	1	560	135	265
026450	DN630X45°-PN1.6	1	630	145	285

## Flange PN1.0



Code	Description	pcs/ctn	D	d	D1	L	L1	L2
044837	DN1000-PN1.0	1	1100	1000	1020	260	60	200
023210	DN110-PN1.0	45	158	110	125	123	19	82
040208	DN125-PN1.0	15	158	125	132	115	20	87
040208a	DN140-PN1.0	15	188	140	155	136	24	92
023211	DN160-PN1.0	15	212	160	175	145	23	98
040209	DN180-PN1.0	12	212	180	182	154	25	105
023212	DN200-PN1.0	12	268	200	232	162	25	112
036428	DN225-PN1.0	10	268	225	235	173	30	120
040210	DN250-PN1.0	10	320	250	285	185	31	129
040211	DN280-PN1.0	4	320	280	291	196	33	139
026455	DN315-PN1.0	4	370	315	335	205	35	140
026455a	DN355-PN1.0	1	430	355	375	235	38	164
021027	DN400-PN1.0	1	482	400	427	230	40	158
021029	DN450-PN1.0	1	538	450	468	230	45	155
045667	DN50-PN1.0	100	102	50	61	102	12	66
021031	DN500-PN1.0	1	585	500	518	230	53	145
021033	DN560-PN1.0	1	685	560	575	220	54	130
046078	DN63-PN1.0	100	102	63	75	102	13	65
021035	DN630-PN1.0	1	690	630	642	220	60	125
045662	DN75-PN1.0	80	122	75	89	110	15	74
046900	DN800-PN1.0	1	905	800	820	230	60	170
026454	DN90-PN1.0	60	122	75	89	110	15	74

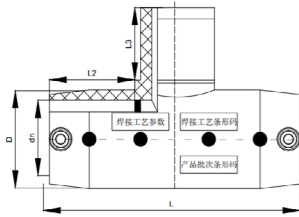
## Flange PN1.6



Code	Description	pcs/ctn	D	d	D1	L	L1	L2
021017	DN110-PN1.6	45	158	110	125	123	19	82
021018	DN125-PN1.6	35	158	125	132	115	20	87
026461	DN140-PN1.6	30	188	140	155	136	24	92
021019	DN160-PN1.6	15	212	160	175	145	23	98
021020	DN180-PN1.6	12	212	180	182	154	25	105
021021	DN200-PN1.6	12	268	200	232	162	25	112
021022	DN225-PN1.6	10	268	225	235	173	30	120
021023	DN250-PN1.6	6	320	250	285	185	31	129
021024	DN280-PN1.6	6	320	280	291	196	33	139
021025	DN315-PN1.6	1	370	315	335	205	35	140
023504	DN355-PN1.6	1	430	355	375	235	38	164
021028	DN400-PN1.6	1	482	400	427	230	40	158
040193	DN450-PN1.6	1	538	450	468	230	45	155
040193a	DN40-PN1.6	100	78	40	50	100	12	65
021015	DN50-PN1.6	100	102	50	61	102	12	66
040194	DN500-PN1.6	1	585	500	518	230	53	145
021016	DN63-PN1.6	100	102	63	75	102	13	65
021016a	DN560-PN1.6	1	685	560	575	220	54	130
026453	DN630-PN1.6	1	690	630	642	220	60	125
023411	DN75-PN1.6	80	122	75	89	110	15	74
023412	DN90-PN1.6	60	138	90	105	115	16	79

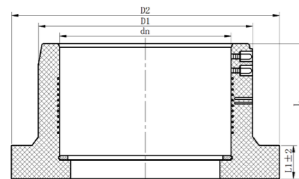
## Electro-fusion fittings

### Tee



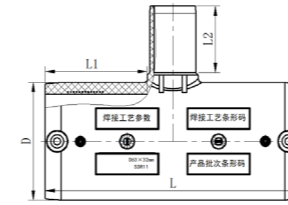
Code	Description	pcs/ctn	D	L	L2	L3
021089	Tee-DN20					
035733	Tee-DN25		37	107	40	41
021090	Tee-DN32	200	46	117	46	44
021091	Tee-DN40	100	57	136	50	49
021092	Tee-DN50	105	60	151	50	56
021093	Tee-DN63	66	81	166	55	63
021094	Tee-DN75	45	95	190	65	71
021095	Tee-DN90	20	112	210	65	79
021096	Tee-DN110	20	136	245	75	82
021097	Tee-DN125	8	158	277	90	87
021098	Tee-DN160	6	195	312	85	98
021100	Tee-DN200	3	242	370	98	112
043905	Tee-DN225	1	273	398	102	120
021101	Tee-DN250	2	300	440	110	129
021102	Tee-DN315		378	505	118	150
021102a	Tee-DN355-PN1.0		406	148	172	602
021102b	Tee-DN400		480	150	179	635
021102c	Tee-DN450-PN1.0		512	160	162	720

### Flange



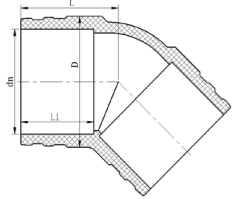
Code	Description	pcs/ctn	D1	D2	L1	L
023441	Flange-DN50	150	66	88	11	72
023442	Flange-DN63	125	80	102	12	75
023443	Flange-DN75	96	95	125	15	78
023444	Flange-DN90	64	111	140	15	85
021188	Flange-DN110	50	136	175	18	90
023445	Flange-DN125	24	152	190	20	98
035735	Flange-DN160	18	194	238	24	112
021190	Flange-DN200	10	240	290	27	122
021191a	Flange-DN225		267	294	28	126
021191	Flange-DN250	7	298	350	33	133
021192	Flange-DN315		367	404	45	165
021193a	Flange-DN200-PN1.0		228	290	20	115
021194a	Flange-DN225-PN1.0		258	294	24	123
021195a	Flange-DN315-PN1.0		358	402	32	145
021196a	Flange-DN355-PN1.0		409	455	45	182
021197a	Flange-DN400-PN1.0		459	527	40	225
021198a	Flange-DN450-PN1.0		510	584	45	235
021199a	Flange-DN500-PN1.0		580	645	49	258
021200a	Flange-DN560-PN1.0		646	720	53	260
021201a	Flange-DN630-PN1.0		728	810	54	280

### Reducing tee



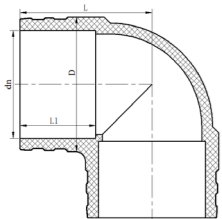
Code	Description	pcs/ctn	D	L1	L2	L
021194	Reducing tee-DN32X20X32	200	46	43	42	118
021195	Reducing tee-DN32X25X32	200	46	43	42	118
021197	Reducing tee-DN40X25X40	120	57	46	48	136
021198	Reducing tee-DN40X32X40	120	57	46	52	136
021200	Reducing tee-DN50X25X50	90	65	50	42	150
021201	Reducing tee-DN50X32X50	90	65	50	45	150
021202	Reducing tee-DN50X40X50	90	65	50	50	150
021204	Reducing tee-DN63X25X63	50	82	55	42	175
021205	Reducing tee-DN63X32X63	50	82	55	45	146
021206	Reducing tee-DN63X40X63	50	82	55	50	146
021207	Reducing tee-DN63X50X63	50	82	55	56	156
023448	Reducing tee-DN75X32X75	40	95	60	66	152
021208	Reducing tee-DN75X40X75	40	95	60	50	160
021209	Reducing tee-DN75X50X75	40	95	60	56	168
021210	Reducing tee-DN75X63X75	40	95	60	66	178
023449	Reducing tee-DN90X32X90	30	112	65	45	225
021211	Reducing tee-DN90X40X90	30	112	65	50	225
021212	Reducing tee-DN90X50X90	20	112	65	56	178
021213	Reducing tee-DN90X63X90	20	112	65	66	188
021214	Reducing tee-DN90X75X90	20	112	65	71	198
023450	Reducing tee-DN110X32X110	20	135	73	45	175
023451	Reducing tee-DN110X40X110	20	135	73	50	183
021215	Reducing tee-DN110X50X110	20	135	73	56	194
021216	Reducing tee-DN110X63X110	20	135	73	66	205
021217	Reducing tee-DN110X75X110	20	135	73	71	215
021218	Reducing tee-DN110X90X110	17	135	73	80	228
021222	Reducing tee-DN125X110X125	10	125.2	110	319	87
021221	Reducing tee-DN125X90X125	10	125.4	90.4	299	87
035734	Reducing tee-DN160X50X160					
021224	Reducing tee-DN160X63X160	10	194	84	66	228
021225	Reducing tee-DN160X75X160	10	194	84	71	238
021226	Reducing tee-DN160X90X160	10	194	84	80	252
021227	Reducing tee-DN160X110X160	9	194	84	83	270
021230	Reducing tee-DN200X63X200	5	240	98	66	258
021231	Reducing tee-DN200X75X200	5	240	98	71	268
021232	Reducing tee-DN200X90X200	5	240	98	80	280
021233	Reducing tee-DN200X110X200	4	240	98	83	296
021234	Reducing tee-DN200X160X200	4	240	98	99	338
021238	Reducing tee-DN250X90X250	3	299	115	80	300
021239	Reducing tee-DN250X110X250	3	299	115	83	318
021240	Reducing tee-DN250X160X250	2	299	115	99	360
021241	Reducing tee-DN250X200X250	2	299	115	113	392
021243	Reducing tee-DN315X110X315	2	378	120	83	338
021244	Reducing tee-DN315X160X315	1	378	120	99	378
021245	Reducing tee-DN315X200X315	1	378	120	113	410
021246	Reducing tee-DN315X250X315	1	378	120	130	450
021247a	Reducing tee-DN400X200X400		480	145	112	460
021248a	Reducing tee-DN400X250X400		480	145	129	505
021249a	Reducing tee-DN400X315X400		480	145	150	560
021250a	Reducing tee-DN450X250X450-PN1.0		512	160	129	550
021251a	Reducing tee-DN450X315X450-PN1.0		512	160	150	606
021252a	Reducing tee-DN450X400X450-PN1.0		512	160	179	680

## Elbow 45°



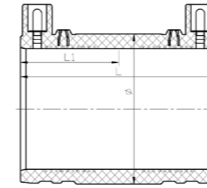
Code	Description	pcs/ctn	D	L1	L
021116	Elbow-DN32X45°				
021117	Elbow-DN40X45°	200	57	55	64
021118	Elbow-DN50X45°	150	66	50	63
021119	Elbow-DN63X45°	90	80	55	68
021120	Elbow-DN75X45°	55	95	58	75
021121	Elbow-DN90X45°	35	112	63	84
021122	Elbow-DN110X45°	20	135	73	98
021124	Elbow-DN160X45°	10	194	85	122
021126	Elbow-DN200X45°	4	241	78	142
021126a	Elbow-DN225X45°		272	105	155
021127	Elbow-DN250X45°	2	301	110	165
021128	Elbow-DN315X45°	2	380	117	186
021129a	Elbow-DN400X45°-PN1.0		460	179	300
021130a	Elbow-DN450X45°-PN1.0		510	205	323
021131a	Elbow-DN500X45°-PN1.1		570	215	338
021132a	Elbow-DN560X45°-PN1.1		640	235	368

## Elbow 90°



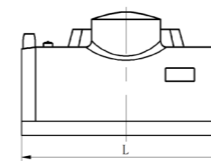
Code	Description	pcs/ctn	D	L1	L
035730	Elbow-DN20X90°				
0211130	Elbow-DN25X90°		35.2	52.1	34.21
0211131	Elbow-DN32X90°	200	46	44	60
0211132	Elbow-DN40X90°	150	56	45	70
0211133	Elbow-DN50X90°	150	65	50	77
0211134	Elbow-DN63X90°	90	80	53	86
0211135	Elbow-DN75X90°	55	95	60	100
0211136	Elbow-DN90X90°	32	112	63	110
0211137	Elbow-DN110X90°	23	135	73	130
0211138	Elbow-DN125X90°	10	166	100	152
0211139	Elbow-DN160X90°	8	194	85	168
0211141	Elbow-DN200X90°	4	241	98	200
035731	Elbow-DN225X90°		272	105	155
0211142	Elbow-DN250X90°	2	301	110	238
0211143	Elbow-DN315X90°		380	118	278
0211144a	Elbow-DN355X90°-PN1.0		406	145	320
0211145a	Elbow-DN400X90°-PN1.0		460	180	410
0211146a	Elbow-DN450X90°-PN1.0		510	205	440
0211147a	Elbow-DN500X90°-PN1.0		570	215	475
0211148a	Elbow-DN560X90°-PN1.0		640	240	530

## Straight coupling



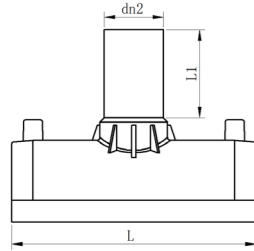
Code	Description	pcs/ctn	D	L1	L
021068	Straight coupling-DN20	400	30.21	72.6	36.3
021069	Straight coupling-DN25	400	39	42	85
021070	Straight coupling-DN32	300	44	42	86
021071	Straight coupling-DN40	200	55	42	86
021072	Straight coupling-DN50	150	64	50	100
021073	Straight coupling-DN63	130	80	52	105
021074	Straight coupling-DN75	96	95	57	115
021075	Straight coupling-DN90	75	111	62	125
021076	Straight coupling-DN110	45	133	70	140
021077	Straight coupling-DN125	30	154	70	142
021078	Straight coupling-DN160	24	193	82	165
021079	Straight coupling-DN180	16	218	92	185
021080	Straight coupling-DN200	12	240	95	190
021081	Straight coupling-DN225	6	270	105	210
021082	Straight coupling-DN250	5	298	107	215
021083	Straight coupling-DN280	4	337	107	215
021084	Straight coupling-DN315		377	118	238
021085	Straight coupling-DN355	2	427	140	280
021086	Straight coupling-DN400	2	452	140	280
049239	Straight coupling-DN450		538	162	326
049240	Straight coupling-DN500		598	189	378
049241	Straight coupling-DN560		670	194	388
049242	Straight coupling-DN630		752	208	418
049243a	Straight coupling-DN355-PN1.0		407	140	280
049244a	Straight coupling-DN400-PN1.0		452	140	280
049245a	Straight coupling-DN450-PN1.0		510	160	320
047516	Straight coupling-DN500-PN1.0		565	180	360
047517a	Straight coupling-DN560-PN1.0		647	190	380
047517	Straight coupling-DN630-PN1.0		712	195	390

## Sealed saddle



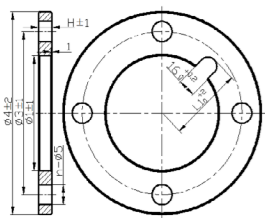
Code	Description	pcs/ctn	L
021108a	Sealed saddle-DN63		110
021109	Sealed saddle-DN90		170
021110	Sealed saddle-DN110	15	180
021112	Sealed saddle-DN160	10	230
021113	Sealed saddle-DN200	8	245
021114	Sealed saddle-DN250	6	320
021115	Sealed saddle-DN315	4	316

## Straight coupling saddle



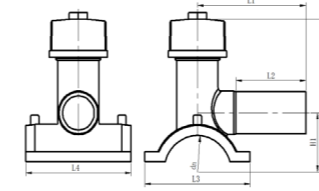
Code	Description	pcs/ctn	L1	L
021145	Straight coupling saddle-DN90X63	8	90	170
021146	Straight coupling saddle-DN110X63	8	90	180
021147	Straight coupling saddle-DN125X63	6	90	180
021148	Straight coupling saddle-DN160X63	6	110	230
021149	Straight coupling saddle-DN200X63	4	107	245
021150	Straight coupling saddle-DN200X90	4	110	245
021151	Straight coupling saddle-DN250X90	2	94	320
021152	Straight coupling saddle-DN315X110	1	100	320
021096	Tee-DN110	20	136	
021097	Tee-DN125	8	158	
021098	Tee-DN160	6	195	
021100	Tee-DN200	3	242	
043905	Tee-DN225	1	273	
021101	Tee-DN250	2	300	
021102	Tee-DN315		378	
021102a	Tee-DN355-PN1.0		406	
021102b	Tee-DN400		480	
021102c	Tee-DN450-PN1.0		512	

## Flange ring



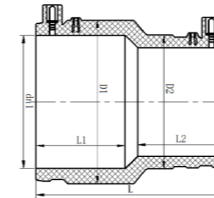
Code	Description	pcs/ctn	D1	D2	D3	D4	D5	H
023424	Flange ring-DN50-PN1.6	25	70	--	110	145	18	11
023425	Flange ring-DN63-PN1.6	20	86	--	125	160	18	12
023426	Flange ring-DN75-PN1.6	20	100	--	145	180	18	12
023427	Flange ring-DN90-PN1.6	15	120	--	160	195	18	12
021104	Flange ring-DN110-PN1.6	15	142	--	180	215	18	13
023428	Flange ring-DN125-PN1.6	15	164	--	210	245	18	13
021105	Flange ring-DN160-PN1.6	12	203	--	240	280	22	14
021106	Flange ring-DN200-PN1.6		254	--	295	335	22	16
021107a	Flange ring-DN225-PN1.6		269	--	295	335	22	16
021107	Flange ring-DN250-PN1.6		305	--	355	400	26	17
021108	Flange ring-DN315-PN1.6		377	--	410	455	26	20
041251	Flange ring-DN200-PN1.0	10	248	--	295	335	22	14
041252a	Flange ring-DN225-PN1.0		269	--	295	335	22	14
041252	Flange ring-DN250-PN1.0	8	305	--	350	390	22	15
041253	Flange ring-DN315-PN1.0		369	--	400	440	22	17
041254	Flange ring-DN355-PN1.0		417	--	460	500	22	18
041265	Flange ring-DN400-PN1.0		471	486	515	560	26	19
041266	Flange ring-DN450-PN1.0		523	538	565	610	26	21
041267	Flange ring-DN500-PN1.0		584	590	620	665	26	23
041268	Flange ring-DN560-PN1.0		656	670	725	775	30	26
041269	Flange ring-DN630-PN1.0		737	775	840	890	30	30

## By-pass saddle



Code	Description	pcs/ctn	L1	L2	L3	L4	H1	H2
021154	By-Pass saddle-DN63X32	10	--	50	103	110	54	135
021155	By-Pass saddle-DN90X63	4	175	117	155	170	77	222
021157	By-Pass saddle-DN110X63	4	175	116	170	180	89	230
021158	By-Pass saddle-DN160X63	2	187	108	232	230	118	255
021159	By-Pass saddle-DN200X90	2	230	120	275	250	145	350
021160	By-Pass saddle-DN250X90	1	270	125	310	330	180	410
021161a	By-Pass saddle-DN250X110		270	125	310	330	180	410
021162a	By-Pass saddle-DN315X90		275	130	370	330	220	450
021163a	By-Pass saddle-DN315X110		275	130	370	330	220	450

## Reducer

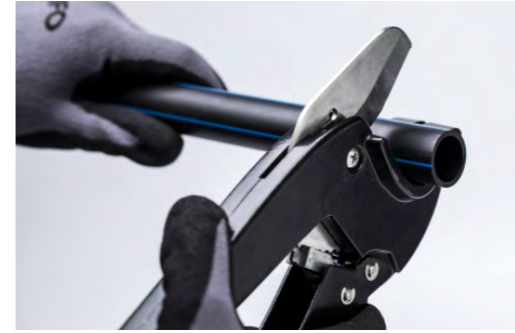


Code	Description	pcs/ctn	D1	D2	L1	L2	L
021161	Reducer-DN32X25	200	47	40	44	40	99
021162	Reducer-DN40X32	200	56	46	49	42	100
021163	Reducer-DN50X32	180	68	47	55	43	110
021164	Reducer-DN50X40	120	68	56	55	45	114
021165	Reducer-DN63X32	100	85	47	63	44	131
021166	Reducer-DN63X40	100	85	55	63	49	130
021167	Reducer-DN63X50	100	84	66	62	60	130
023438	Reducer-DN75X40	30	103	58	55	49	145
021168	Reducer-DN75X63	50	95	80	60	55	122
021169	Reducer-DN90X63	40	111	80	72	60	150
021170	Reducer-DN90X75	40	111	95	72	64	145
021172	Reducer-DN110X63	30	135	80	73	55	156
021173	Reducer-DN110X75	30	135	95	73	58	150
021174	Reducer-DN110X90	25	135	111	73	65	152
023439	Reducer-DN125X110	18	154	135	80	76	164
021176	Reducer-DN160X90	12	197	111	88	73	196
021177	Reducer-DN160X110	10	197	135	88	80	193
023440	Reducer-DN200X90	8	242	112	93	70	218
021178	Reducer-DN200X110	8	242	135	93	75	213
021179	Reducer-DN200X160	6	242	195	93	85	199
021180a	Reducer-DN225X160		272	195	106	88	227
021181a	Reducer-DN225X200		272	242	106	97	217
021180	Reducer-DN250X110						
021181	Reducer-DN250X160	4	301	195	107	86	238
021182	Reducer-DN250X200	4	301	241	107	93	225
021183a	Reducer-DN315X110		380	136	117	75	294
021184a	Reducer-DN315X160		380	195	117	85	278
021184	Reducer-DN315X200	2	380	241	117	96	270
021185	Reducer-DN315X250	2	380	301	117	97	246
021186a	Reducer-DN400X250		480	300	145	110	330
021187a	Reducer-DN400X315		480	378	145	120	309
021188a	Reducer-DN450X315		540	378	160	120	350
021189a	Reducer-DN450X400		540	480	160	140	328



## INSTALLATION

### Socket Welding



#### Step 1:

Cut the pipe vertically



#### Step 2:

Remove the burr, clean the rough seldge. Use a pencil and RIIFO marker to mark the according melting depth on the surface of pipe ends.



#### Step 3:

Push and insert the pipe and fitting simultaneously into the melding heads on the device. Push the fitting as far as possible; Push the pipe to the marked position.\*If pushing over the marked position or heating over specified time, the pipe may be constricted or clogged. Specified time in right table.



#### Step 4:

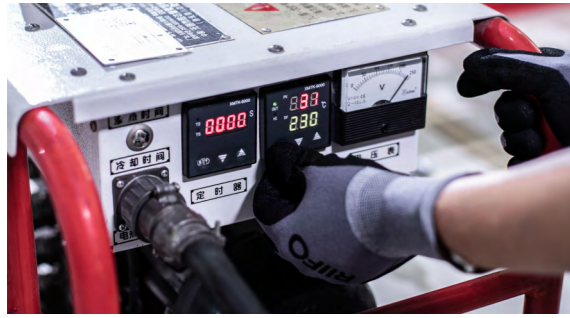
When the heating time is passed, pull out the pipe and fitting from the adaptors quickly, then link the pipe and fitting together coaxially.



#### Step 5:

Then hold the pipe and fitting following the connecting time until the welding is completed.

## Butt-fusion Welding



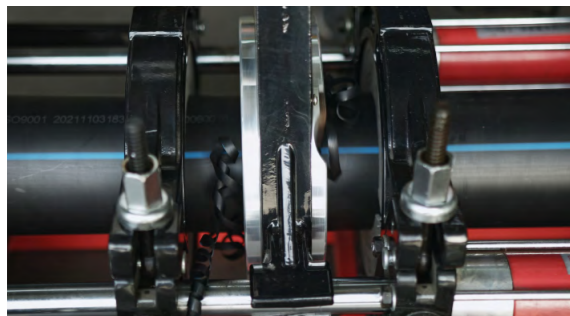
### Step 1:

Setup the butt fusion machine on flat, switch on the power, heat up the iron.



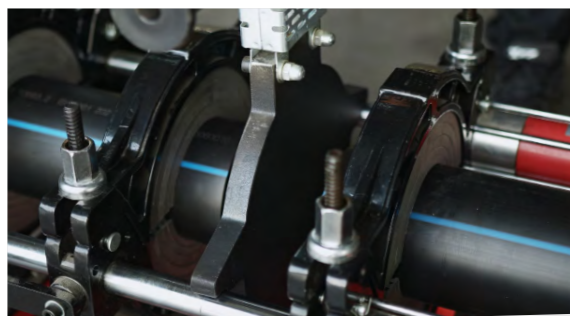
### Step 2:

Fix the pipes on clamps and leaving enough room for facer. Bring the pipe ends together to check the alignment, adjust if needed. Then open for next step.



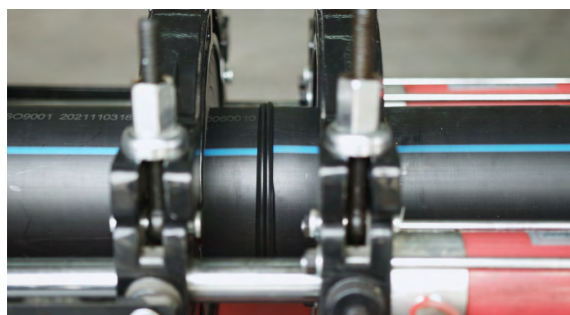
### Step 3:

Set the miller between the pipes. Bring the pipe ends together to shave. Proper shaving will produce continuous and even strips. Then open the pipes, take off the miller.



### Step 4:

Bring the pipe ends together again to check alignment. Adjust if needed. Open the pipes, set the heating iron between the pipes. Make the temperature of the iron is at  $210 \pm 10^\circ\text{C}$ . Close the pipe onto the heating iron with full pressure (drag force + machine force).



### Step 5:

When the head is built to required height, take off the heating iron. And bring the pipe ends together to complete the fusion according to required time.

## Electro Fusion Welding



### Step 1:

Setup the electro fusion machine. Ensure to meet the power requirement.



### Step 2:

Cut square the pipe and remove the burrs and edges. Peel the outside of the pipes' ends.



### Step 3:

Make sure the fitting and pipe ends free of dirty. Markdown a line as half depth of the fitting.



### Step 4:

Insert the pipe into the fittings. Check the depth mark to ensure no gap inside the fitting.



### Step 5:

Remove the plug and connect the leads onto the fittings. Scan the code and confirm whether the information on the machine display matches with the label. Rescan or manual input if needed. Following the guide from the machine, begin heating. And when the heating finish, remove the leads and put the plug back on the connector.