



# HYUNDAIPIPE

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The Choice for the  
Next Generation

High Density Polyethylene (HDPE)-PE100RC, PE100, PE80



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The Choice For the  
**Next Generation**



## HISTORY



- 1990** Established Taekwang Plastic
- 1996** Acquired by Hyundai Group
- 2003** Separated from Hyundai Group
- 2011** Opening of R&D Pilot Factory
- 2013** Established Company R&D Center  
R&D of Large Diameter (SUDIA) PE Pipe
- 2014** R&D of AAA (Advanced Anti-Abrasion) PE Pipe
- 2015** Opening of SUDIA Factory
- 2016** Global Small and Medium Businesses Appointed
- 2020** The leading company in the water industry in Gyeongsangbuk-do Appointed
- 2021** PE Welding Machine Factory Established



## QUALITY



### · Certifications

KS Q ISO 9001:2009/ ISO 9001:2008

Plastic piping systems for water supply-Polyethylene-Part 2: Pipes (KS M 3408-2)

Plastic piping systems for water supply-Polyethylene-Part 3: Fittings (KS M 3408-3)

Polyethylene (PE) pipes for the supply of gaseous fuels (KS M 3514)

Polyethylene fittings for use with polyethylene pipes for the supply of gaseous fuels - Metric series - Specifications - Part 2 : Spigot fittings for butt fusion, for socket fusion using heated tools and for use with electrofusion fittings (KS M ISO8085-2)

Pliable plastics conduits (KS C-8454)

Polyethylene pipe for general purpose (KS M 3407)

Structured-wall polyethylene(PE) pipes for non-pressure underground drainage and sewerage - Part 1: Double-wall pipe (KS M 3500-1)

Structured-wall polyethylene(PE) pipes for non-pressure underground drainage and sewerage - Part 2: Multi-wall pipe (KS M 3500-2)

Structured Wall Polyethylene Sewer and Drainage Pipes (KPS M 2009)

Fittings for Polyethylene Sewer and Drainage Pipes (KPS M 2017)

Polyethylene piping systems for water supply KWWA Sanitation and Safety (KC)

Synthetic Resin Pipe for Firefighting - Korea Fire Institute

Double-wall and Multi-wall Polyethylene Pipe (QA-2650) 'Q'-Mark

### · Patents

Apparatus for attaching metallic conductor for locating underground polyethylene pipe

Sewer pipe with watertight and airtight functions

Connection pipe with watertight and airtight functions

Slurry feed tube for thermal power plants

Complex synthetic resin pipe and its manufacturing method

A manufacturing device and a way of the polyethylene solid cesspipe which took advantage of lungs synthetic resin

A floating structure of an assembly type

Intake equipment of deep sea water

Spiral bellows pipe with hollow and manufacturing apparatus thereof

Connecting pipe using flange

### · Others

Promotion of Technology Innovation for SMEs (INNO-BIZ)

Promotion of Management Innovation for SMEs (MAIN-BIZ)

Certificate of Venture Business

Certificate of Clean Workplace

Koita Certificate of R&D Center

## Features of PE Pipe



### · Life Cycle Cost Savings

For municipal applications, the life cycle cost of PE pipe can be significantly less than other pipe materials. The extremely smooth inside surface of PE pipe maintains its exceptional flow characteristics, and heat fusion joining eliminates leakage. This has proven to be a successful combination for reducing total system operating costs.

### · Leak Free, Fully Restrained Joints

PE heat fusion joining forms leak-free joints that are as strong as, or stronger than, the pipe itself. For municipal applications, fused joints eliminate the potential leak points that exist every 10 to 20 feet when using the bell and spigot type joints associated with other piping products such as PVC or ductile iron. All these bell and spigot type joints employ elastomeric gasket materials that age over time and thus have the potential for leaks. As a result of this, the "allowable water leakage" for PE pipe is zero as compared to the water leakage rates of 10% or greater typically associated with these other piping products. PE pipe's fused joints are also self-restraining, eliminating the need for costly thrust restraints or thrust blocks while still insuring the integrity of the joint. Notwithstanding the advantages of the butt fusion method of joining, the engineer also has other available means for joining PE pipe and fittings such as electrofusion and mechanical fittings. Electrofusion fittings join the pipe and/or fittings together using embedded electric heating elements. In some situations, mechanical fittings may be required to facilitate joining to other piping products, valves or other system appurtenances. Specialized fittings for these purposes have been developed and are readily available to meet the needs of most demanding applications.

### · Chemical & Corrosion Resistance

PE pipe will not rust, rot, pit, corrode, tuberculate or support biological growth. It has superb chemical resistance and is the material of choice for many harsh chemical environments. Although unaffected by chemically aggressive native soil, installation of PE pipe (as with any piping material) through areas where soils are contaminated with organic solvents (oil, gasoline) may require installation methods that protect the PE pipe against contact with organic solvents. It should be recognized that even in the case of metallic and other pipe materials, which are joined by means of gaskets, protection against permeation is also required. Protective installation measures that assure the quality of the fluid being transported are typically required for all piping systems that are installed in contaminated soils.

### · Fatigue Resistance and Flexibility

PE pipe can be field bent to a radius of about 30 times the nominal pipe diameter or less depending on wall thickness (12" PE pipe, for example, can be cold formed in the field to a 32-foot radius). This eliminates many of the fittings otherwise required for directional changes in piping systems and it also facilitates installation. The long-term durability of PE pipe has been extremely well researched. PE has exceptional fatigue resistance and when, operating at maximum operating pressure, it can withstand multiple surge pressure events up to 100% above its maximum operating pressure without any negative effect to its long-term performance capability.

### · Seismic Resistance

The toughness, ductility and flexibility of PE pipe combined with its other special properties, such as its leak-free fully restrained heat fused joints, make it well suited for installation in dynamic soil environments and in areas prone to earthquakes.

### · Hydraulically Efficient

The internal surface of PE pipe is devoid of any roughness which places it in the "smooth pipe" category, a category that results in the lowest resistance to fluid flow. For water applications, PE pipe's Hazen Williams C factor is 150 and does not change over time. The C factor for other typical pipe materials declines dramatically over time due to corrosion and tuberculation or biological build-up. Without corrosion, tuberculation, or biological growth PE pipe maintains its smooth interior wall and its flow capabilities indefinitely to insure hydraulic efficiency over the intended design life.

### · Construction Advantages

PE pipe's combination of light weight, flexibility and leak-free, fully restrained joints permits unique and cost-effective installation methods that are not practical with alternate materials. Installation methods such as horizontal directional drilling, pipe bursting, sliplining, plow and plant, and submerged or floating pipe, can greatly simplify construction and save considerable time and money on many installations. At approximately one-eighth the weight of comparable sized steel pipe, and with integral and dependable leakfree joining methods, installation is simpler, and it does not need heavy lifting equipment. PE pipe is produced in standard straight lengths to 50 feet or longer and coiled in diameters up through 6". Coiled lengths over 1000 feet are available in certain diameters. PE pipe can withstand impact much better than PVC pipe, especially in cold weather installations where other pipes are more prone to cracks and breaks. Because heat fused PE joints are as strong as the pipe itself, it can be joined into long runs conveniently above ground and later, installed directly into a trench or pulled in via directional drilling or using the re-liner process. Of course, the conditions at the construction site have a big impact on the preferred method of installation.

### · Durability

PE pipe installations are cost-effective and have long-term cost advantages due to the pipe's physical properties, leak-free joints and reduced maintenance costs. The PE pipe industry estimates a service life for PE pipe to be, conservatively, 50-100 years provided that the system has been properly designed, installed and operated in accordance with industry established practice and the manufacturer's recommendations. This longevity confers savings in replacement costs for generations to come. Properly designed and installed PE piping systems require little on-going maintenance. PE pipe is resistant to most ordinary chemicals and is not susceptible to galvanic corrosion or electrolysis.

### · Temperature Resistance

PE pipe's typical operating temperature range is from 0°F to 140°F for pressure service. However, for non-pressure and special applications the material can easily handle much lower temperatures (e.g., to -40°F and lower) and there are specially formulated materials that can service somewhat higher temperatures. Extensive testing and very many applications at very low ambient temperatures indicates that these conditions do not have an adverse effect on pipe strength or performance characteristics. Many of the PE resins used in PE pipe are stress rated not only at the standard temperature, 73°F, but also at an elevated temperature, such as 140°F. Typically, PE materials retain greater strength at elevated temperatures compared to other thermoplastic materials such as PVC. At 140°F, PE materials retain about 50% of their 73°F strength, compared to PVC which loses nearly 80% of its 73°F strength when placed in service at 140°F. As a result, PE pipe materials can be used for a variety of piping applications across a very broad temperature range.

### · Ductility

Ductility is the ability of a material to deform in response to stress without fracture or, ultimately, failure. It is also sometimes referred to as increased strain capacity and it is an important performance feature of PE piping, both for above and below ground service. For example, in response to earth loading, the vertical diameter of buried PE pipe is slightly reduced. This reduction causes a slight increase in horizontal diameter, which activates lateral soil forces that tend to stabilize the pipe against further deformation. This yields a process that produces a soil-pipe Introduction 11 structure that is capable of safely supporting vertical earth and other loads that can fracture pipes of greater strength but lower strain capacity. Ductile materials, including PE, used for water, natural gas and industrial pipe applications have the capacity to safely handle localized stress intensifications that are caused by poor quality installation where rocks, boulders or tree stumps may be in position to impinge on the outside surface of the pipe. There are many other construction conditions that may cause similar effects, e.g. bending the pipe beyond a safe strain limit, inadequate support for the pipe, misalignment in connections to rigid structures and so on. Non-ductile piping materials do not perform as well when it comes to handling these types of localized high stress conditions.

※Source : PPI "Handbook of Polyethylene Pipe Second Edition", Chapter 1 내 Features and Benefits of PE pipe 중



## Property of HDPE Pipe



### Physical Characteristics

Characteristic	Requirement	Test Method(s)
Hydrostatic Test 20°C, 12.4Mpa, 100hr	No failure of any test piece during test period	ISO1167-1 ISO1167-2
Hydrostatic Test 80°C, 5.4Mpa, 165hr		
Hydrostatic Test 80°C, 5.0Mpa, 1000hr		
Elongation at break for e ≤ 5mm 5mm (e ≤ 12mm e > 12mm)	≥ 350%	ISO 6259-1 ISO 6259-3
Longitudinal reversion	≤ 3% No effect on surface	ISO 2505
Melt mass-flow rate MFR for PE 100	Change of MFR by processing ± 20%	ISO 1133:2005, Condition T
Oxidation induction time	≥ 20 min	ISO 11357-6:2002
Consumption of potassium permanganate	less than 1.0mg/L	As per process testing of sanitary and safety practices for materials and products for water supply, Department of Environment
Taste	None	
Odor	None	
Chromaticity	less than 0.5	
Turbidity	less than 0.2NTU	

**NOTE** As per ISO 4427-2:2007.

### Chemical Characteristics

Code	Meaning	Typical Result
140	Plastic type is generally resistant to temperature (°F) indicated by code.	Swelling < 3% or weight loss < 0.5% and elongation at break not significantly changed.
R to 73	Plastic type is generally resistant to temperature (°F) indicated by code and may have limited resistance at higher temperatures.	Swelling < 3% or weight loss < 0.5% and elongation at break not significantly changed.
C to 73	Plastic type has limited resistance to temperature (°F) indicated by code and may be suitable for some conditions.	Swelling 3-8% or weight loss < 0.5-5% and/or elongation at break decreased by 50%
N	Plastic type is not resistant.	Swelling > 8% or weight loss > 5% and/or elongation at break decreased by > 50%
-	Data not available.	

### Max. Operating Temperature (Unit: °C)

Chemicals	Concentration	Code
Calcium Hydroxide	30	R to 60
Sodium Hydroxide	40	60
Potassium Hydroxide	25	R to 60
Sodium Carbonate	-	60
Silver Nitrate(aq)	-	R to 60
Copper Sulfate(aq)	sat'd	60
Ammonia(l)	100	60
Hydrogen Peroxide	50	60
	90	23
Bromine	vapor 25	N
Sea Water	-	60
Carbon Tetrachloride	-	C to 23
Methanol	-	R to 60
Gasoline (leaded/unleaded)	-	23

### Max. Operating Temperature (Unit: °C)

Chemicals	Concentration	Code	
Hydrochloric Acid	10	60	
	30	60	
	30	60	
	50	50	
	60	50	
Sulfuric Acid	70	R to 50	
	80	R to 50	
	90	50	
	93	C to 23	
	94-98	C to 23	
	100	C to 23	
	Nitric Acid	10	23
		30	23
40		23	
50		C to 23	
70		C to 23	
Phosphoric Acid	10	60	
	50	60	
	85	23	
Hydrofluoric Acid	Dilute	60	
	30	60	
	50	50	
Boric Acid	50	60	
	100	50	
	sat'd	60	
Chromic Acid	10	23	
	30	23	
	40	23	
	50	23	

## Usage of HDPE Pipe

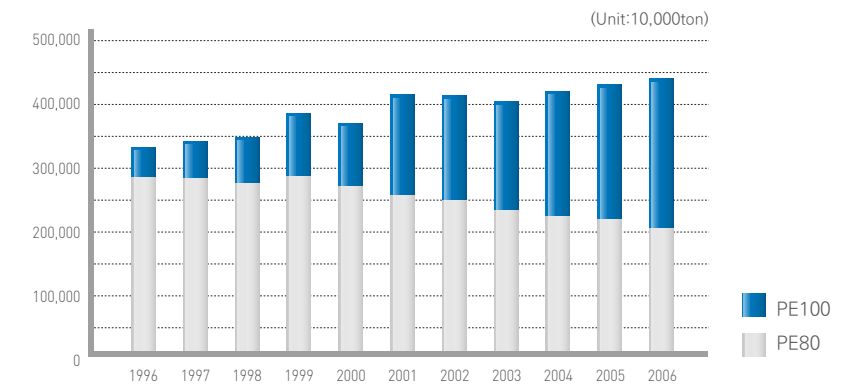


### PE100 - HDPE(High Density Polyethylene)

	PE 80	PE 100	Performance Improvement
Operating Pressure of SDR 11	PN12.5	PN16	22% increase in operating pressure
Thickness of D630, PN 12.5	57.2mm	46.3mm	20% decrease in thickness

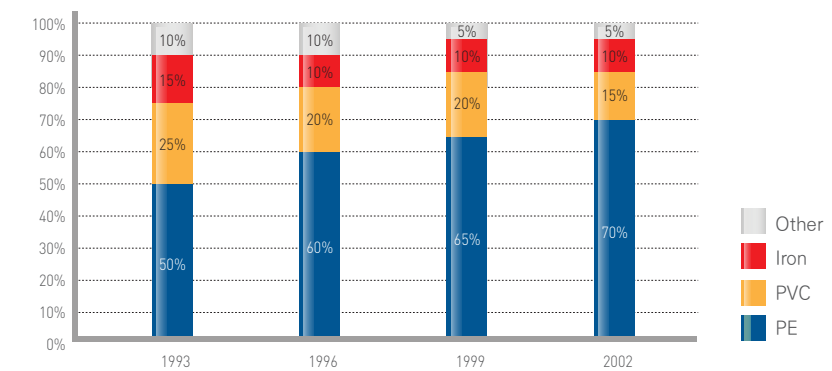
- Implement over PN 16 operating internal pressure
- Economic improvement by decrease in pipe thickness when same internal pressure is applied
- long-term durability of 50 years life cycle
- Distribution of large diameter pipe (>D630)
- Typical joining (Butt fusion, socket fusion, electrofusion)
- Joining to other pipe materials using flange joint, multi-joint

### Growth of PE100 Pipe systems in Europe(1996~2006)



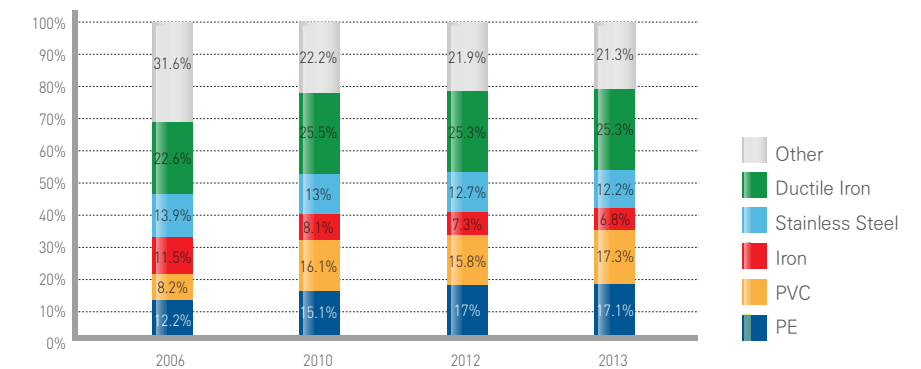
Source : Borouge Essential for durable gas and water pipes

### Market share of pipes in Europe



Source : Market share of pipes in Europe (2002)

### Market share of pipes in Korea



Source : Statistics by Department of Environment



**SUDIA(Super Diameter)**



· SUDIA



· SUDIA Manufacturing Equipment

– Battenfeld-Cincinnati

· SUDIA Standard

SDR	SDR41		SDR33		SDR26		SDR21		SDR17		SDR13.6	
	PN4		PN5		PN6		PN8		PN10		PN12.5	
Operating Pressure (PE100)	Thickness		Thickness		Thickness		Thickness		Thickness		Thickness	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1000	24.5	27.1	30.6	33.5	38.2	42.2	47.7	52.6	59.3	65.4	72.5	79.9
1200	29.4	32.5	36.7	40.5	45.9	50.6	57.2	63.1	67.9	74.8	88.2	97.2
1400	34.3	37.9	42.9	47.3	53.5	59	66.7	73.5	82.4	90.8	102.9	113.3
1600	39.2	43.3	49	54	61.2	67.5	76.2	84	94.1	103.7	117.6	129.5
1800	43.8	48.3	54.5	60.1	69.1	76.2	85.7	94.4	105.9	116.6	132.4	145.8
2000	48.8	53.8	60.6	66.8	76.9	84.7	95.2	104.9	117.6	129.5	-	-
2200	53.7	61.9	66.7	76.9	84.7	97.6	104.8	120.7	129.5	149.1	-	-
2400	58.6	67.5	72.8	83.9	92.4	106.4	114.3	131.6	-	-	-	-
2600	63.5	73.2	78.8	90.8	100	115.1	123.9	142.6	-	-	-	-
2700	65.9	76.0	81.9	94.3	103.8	119.5	-	-	-	-	-	-

- NOTICE** 1. Tolerances in accordance with ISO 11922-1.  
2. Other standards and detailed requirements can be consulted with purchaser.

· References for Overseas project for large diameter PE pipe



Power Plant

Ghana : CCPP (D2500)  
Philippines : Cebu CFPP (D2500)



Petrochemical Plant

UAE : Borouge III (D2000)



Desalination Plant

Spain : Muria (D2200)  
Algeria : Beni Saf (D2400)



Waster Water Treatment

UK : Liverpool (D2500)  
Hong Kong : Wan chai (D2000)

**PE Pipe for Water Supply**



· Material : PE100 / PE100 RC GRADE

\* Can be produced in AWWAC906-15, ASTM D3035-15 Standards

SDR	SDR9		SDR11		SDR13.6		SDR17		SDR21		SDR26	
	PN20		PN16		PN12.5		PN10		PN8		PN8	
Operating Pressure(PE100)	Thickness		Thickness		Thickness		Thickness		Thickness		Thickness	
Appellation	G2B code number		G2B code number		G2B code number		G2B code number		G2B code number		G2B code number	
16	2.0 ~ 2.3	-	-	-	-	-	-	-	-	-	-	-
20	2.3 ~ 2.7	-	-	-	-	-	-	-	-	-	-	-
25	3.0 ~ 3.4	2.0 ~ 2.3	21902547	-	-	-	-	-	-	-	-	-
32	3.6 ~ 4.1	2.3 ~ 2.7	21902548	2.0 ~ 2.3	-	-	-	-	-	-	-	-
40	4.5 ~ 5.1	3.0 ~ 3.4	21902549	2.4 ~ 2.8	-	-	2.0 ~ 2.3	22422573	-	-	-	-
50	5.6 ~ 6.3	3.7 ~ 4.2	21902550	3.0 ~ 3.5	-	-	2.4 ~ 2.8	22422575	2.0 ~ 2.3	-	-	-
63	7.1 ~ 8.0	4.6 ~ 5.2	21902551	3.7 ~ 4.2	-	-	3.0 ~ 3.4	22422576	2.4 ~ 2.8	-	2.0 ~ 2.3	-
75	8.4 ~ 9.4	5.8 ~ 6.5	21902552	4.7 ~ 5.3	-	-	3.8 ~ 4.3	22422577	3.0 ~ 3.4	-	2.5 ~ 2.9	-
90	10.1 ~ 11.3	6.8 ~ 7.6	21902553	5.6 ~ 6.3	-	-	4.5 ~ 5.1	22422578	3.6 ~ 4.1	-	2.9 ~ 3.3	-
110	12.3 ~ 13.7	8.2 ~ 9.2	21902554	6.7 ~ 7.5	-	-	5.4 ~ 6.1	23291360	4.3 ~ 4.9	-	3.5 ~ 4.0	24149449
125	14.0 ~ 15.6	10.0 ~ 11.1	21902555	8.1 ~ 9.1	21902571	6.6 ~ 7.4	21902589	5.3 ~ 6.0	21902607	4.2 ~ 4.8	23124537	-
140	15.7 ~ 17.4	11.4 ~ 12.7	21902556	9.2 ~ 10.3	21902572	7.4 ~ 8.3	21902590	6.0 ~ 6.7	21902608	4.8 ~ 5.4	-	-
160	17.9 ~ 19.8	12.7 ~ 14.1	21902557	10.3 ~ 11.5	21902573	8.3 ~ 9.3	21902591	6.7 ~ 7.5	21902609	5.4 ~ 6.1	-	-
180	20.1 ~ 22.3	14.6 ~ 16.2	21902558	11.8 ~ 13.1	21902574	9.5 ~ 10.6	21902592	7.7 ~ 8.6	21902610	6.2 ~ 7.0	23124538	-
200	22.4 ~ 24.8	16.4 ~ 18.2	21902559	13.3 ~ 14.8	21902575	10.7 ~ 11.9	21902593	8.6 ~ 9.6	21902611	6.9 ~ 7.7	-	-
225	25.2 ~ 27.9	18.2 ~ 20.2	21902560	14.7 ~ 16.3	21902576	11.9 ~ 13.2	21902594	9.6 ~ 10.7	21902612	7.7 ~ 8.6	-	-
250	27.9 ~ 30.8	20.5 ~ 22.7	21902561	16.6 ~ 18.4	21902577	13.4 ~ 14.9	21902595	10.8 ~ 12.0	21902613	8.6 ~ 9.6	23124539	-
280	31.3 ~ 34.6	22.7 ~ 25.1	21902562	18.4 ~ 20.4	21902578	14.8 ~ 16.4	21902596	11.9 ~ 13.2	21902614	9.6 ~ 10.7	24149450	-
315	35.2 ~ 38.9	25.4 ~ 28.1	21902563	20.6 ~ 22.8	21902579	16.6 ~ 18.4	21902597	13.4 ~ 14.9	21902615	10.7 ~ 11.9	23124540	-
355	39.7 ~ 43.8	28.6 ~ 31.6	21902564	23.2 ~ 25.7	21902580	18.7 ~ 20.7	21902598	15.0 ~ 16.6	21902616	12.1 ~ 13.5	23124541	-
400	44.7 ~ 49.3	32.2 ~ 35.6	21902565	26.1 ~ 28.9	21902581	21.1 ~ 23.4	21902599	16.9 ~ 18.7	21902617	13.6 ~ 15.1	23124557	-
450	50.3 ~ 55.5	36.3 ~ 40.1	21902566	29.4 ~ 32.5	21902582	23.7 ~ 26.2	21902600	19.1 ~ 21.2	21902618	15.3 ~ 17.0	23124558	-
500	55.8 ~ 61.5	40.9 ~ 45.1	21902567	33.1 ~ 36.6	21902583	26.7 ~ 29.5	21902601	21.5 ~ 23.8	21902619	17.2 ~ 19.1	23124559	-
560	62.5 ~ 68.9	45.4 ~ 50.1	21902568	36.8 ~ 40.6	21902584	29.7 ~ 32.8	21902602	23.9 ~ 26.4	21902620	19.1 ~ 21.2	23124560	-
630	70.3 ~ 77.5	50.8 ~ 56.0	21902569	41.2 ~ 45.5	21902585	33.2 ~ 36.7	21902603	26.7 ~ 29.5	21902621	21.4 ~ 23.7	23124561	-
710	79.3 ~ 87.4	57.2 ~ 63.1	21902570	46.3 ~ 51.1	21902586	37.4 ~ 41.3	21902604	30.0 ~ 33.1	21902622	24.1 ~ 26.7	23124562	-
800	89.3 ~ 98.4	64.5 ~ 71.1	-	52.2 ~ 57.6	21902587	42.1 ~ 46.5	21902605	33.9 ~ 37.4	23409713	27.2 ~ 30.1	23124563	-
900	-	72.6 ~ 80.0	-	58.8 ~ 64.8	21902588	47.4 ~ 52.3	21902606	38.1 ~ 42.1	23409712	30.6 ~ 33.8	23124564	-
1000	-	81.7 ~ 90.0	-	66.2 ~ 73.0	-	53.3 ~ 58.8	22990236	42.9 ~ 47.3	23409711	34.4 ~ 38.3	23409709	-
1200	-	90.2 ~ 99.4	-	72.5 ~ 79.9	-	59.3 ~ 65.4	22990237	47.7 ~ 52.6	23409710	38.2 ~ 42.2	23409708	-
1400	-	-	-	88.2 ~ 97.2	-	71.1 ~ 74.8	-	57.2 ~ 63.1	-	45.9 ~ 50.6	23609982	-
	-	-	-	102.8 ~ 113.3	-	83.0 ~ 90.8	-	66.7 ~ 73.5	-	53.5 ~ 59.0	23609983	-

- NOTICE** 1. Tolerance of Pipe length <2% 2. Pipe's cutting length can be consulted 3. 16-90mm can be manufactured as coiled pipe  
4. Tolerance in thickness is allowed with in ISO 11922-1 standard 5. Other standards and detailed requirements can be consulted

· Material : PE80 GRADE

\* Can be produced in AWWAC906-15, ASTM D3035-15 Standards

SDR	SDR9		SDR11		SDR13.6		SDR17		SDR21	
	PN16		PN12.5		PN10		PN8		PN6	
Operating Pressure(PE100)	Thickness		Thickness		Thickness		Thickness		Thickness	
Dimensions(OD)	G2B code number		G2B code number		G2B code number		G2B code number		G2B code number	
16	2.0 ~ 2.3	-	-	-	-	-	-	-	-	-
20	2.3 ~ 2.7	2.0 ~ 2.3	21902455	-	-	-	-	-	-	-
25	3.0 ~ 3.4	2.3 ~ 2.7	21902456	2.0 ~ 2.3	-	-	-	-	-	-
32	3.6 ~ 4.1	3.0 ~ 3.4	21902457	2.4 ~ 2.8	-	-	2.0 ~ 2.3	-	-	-
40	4.5 ~ 5.1	3.7 ~ 4.2	21902458	3.0 ~ 3.5	-	-	2.4 ~ 2.8	-	2.0 ~ 2.3	-
50	5.6 ~ 6.3	4.6 ~ 5.2	21902459	3.7 ~ 4.2	-	-	3.0 ~ 3.4	-	2.4 ~ 2.8	-
63	7.1 ~ 8.0	5.8 ~ 6.5	21902460	4.7 ~ 5.3	-	-	3.8 ~ 4.3	-	3.0 ~ 3.4	-
75	8.4 ~ 9.4	6.8 ~ 7.6	21902461	5.6 ~ 6.3	-	-	4.5 ~ 5.1	-	3.6 ~ 4.1	-
90	10.1 ~ 11.3	8.2 ~ 9.2	21902462	6.7 ~ 7.5	-	-	5.4 ~ 6.1	-	4.3 ~ 4.9	-
110	12.3 ~ 13.7	10.0 ~ 11.1	21902463	8.1 ~ 9.1	21902479	6.6 ~ 7.4	21902497	5.3 ~ 6.0	21902515	-
125	14.0 ~ 15.6	11.4 ~ 12.7	21902464	9.2 ~ 10.3	21902480	7.4 ~ 8.3	-	6.0 ~ 6.7	21902516	-
140	15.7 ~ 17.4	12.7 ~ 14.1	21902465	10.3 ~ 11.5	21902481	8.3 ~ 9.3	-	6.7 ~ 7.5	21902517	-
160	17.9 ~ 19.8	14.6 ~ 16.2	21902466	11.8 ~ 13.1	21902482	9.5 ~ 10.6	21902500	7.7 ~ 8.6	21902518	-
180	20.1 ~ 22.3	16.4 ~ 18.2	21902467	13.3 ~ 14.8	21902483	10.7 ~ 11.9	-	8.6 ~ 9.6	-	-
200	22.4 ~ 24.8	18.2 ~ 20.2	21902468	14.7 ~ 16.3	21902484	11.9 ~ 13.2	-	9.6 ~ 10.7	-	-
225	25.2 ~ 27.9	20.5 ~ 22.7	21902469	16.6 ~ 18.4	21902485	13.4 ~ 14.9	21902503	10.8 ~ 12.0	21902521	-
250	27.9 ~ 30.8	22.7 ~ 25.1	21902470	18.4 ~ 20.4	21902486	14.8 ~ 16.4	-	11.9 ~ 13.2	-	-
280	31.3 ~ 34.6	25.4 ~ 28.1	21902471	20.6 ~ 22.8	21902487	16.6 ~ 18.4	21902505	13.4 ~ 14.9	-	-
315	35.2 ~ 38.9	28.6 ~ 31.6	21902472	23.2 ~ 25.7	21902488	18.7 ~ 20.7	21902506	15.0 ~ 16.6	21902524	-
355	39.7 ~ 43.8	32.2 ~ 35.6	21902473	26.1 ~ 28.9	21902489	21.1 ~ 23.4	21902507	16.9 ~ 18.7	21902525	-
400	44.7 ~ 49.3	36.3 ~ 40.1	21902474	29.4 ~ 32.5	21902490	23.7 ~ 26.2	21902508	19.1 ~ 21.2	21902526	-
450	50.3 ~ 55.5	40.9 ~ 45.1	21902475	33.1 ~ 36.6	21902491	26.7 ~ 29.5	21902509	21.5 ~ 23.8	21902527	-
500	55.8 ~ 61.5	45.4 ~ 50.1	21902476	36.8 ~ 40.6	21902492	29.7 ~ 32.8	21902510	23.9 ~ 26.4	21902528	-
560	62.5 ~ 68.9	50.8 ~ 56.0	21902477	41.2 ~ 45.5	21902493	33.2 ~ 36.7	21902511	26.7 ~ 29.5	21902529	-
630	70.3 ~ 77.5	57.2 ~ 63.1	21902478	46.3 ~ 51.1	21902494	37.4 ~ 41.3	21902512	30.0 ~ 33.1	21902530	-
710	79.3 ~ 87.4	64.5 ~ 71.1	-	52.2 ~ 57.6	21902495	42.1 ~ 46.5	21902513	33.9 ~ 37.4	-	-
800	89.3 ~ 98.4	72.6 ~ 80.0	-	58.8 ~ 64.8	21902496	47.4 ~ 52.3	21902514	38.1 ~ 42.1	-	-
900	-	81.7 ~ 90.0	-	66.2 ~ 73.0	-	53.3 ~ 58.8	-	42.9 ~ 47.3	-	-
1200	-	90.2 ~ 99.4	-	72.5 ~ 79.9	-	59.3 ~ 65.4	-	47.7 ~ 52.6	-	-



## Polyethylene Pipe for Water Supply



### · Polyethylene Pipe for Water Supply (Previous KS Standard)

Operating Pressure: PE80 – PN 12.5, PE100 – PN16

DN	OD(mm)	Single Layer	Double Layer
		Thickness(mm)	Thickness(mm)
16	21.5 ~ 22.0	2.5 ~ 3.0	0.8 ~ 1.2
20	27.0 ~ 27.6	3.0 ~ 3.5	"
25	34.0 ~ 34.7	3.5 ~ 4.1	"
30	42.0 ~ 42.8	4.0 ~ 4.7	1.2 ~ 1.8
40	48.0 ~ 48.9	4.5 ~ 5.2	"
50	60.0 ~ 61.1	5.5 ~ 6.3	"
65	76.0 ~ 77.3	6.6 ~ 7.5	"
75	89.0 ~ 90.5	8.1 ~ 9.2	1.4 ~ 2.0
100	114.0 ~ 115.9	10.4 ~ 11.7	"
125	140.0 ~ 142.3	12.7 ~ 14.2	"
150	165.0 ~ 167.6	15.3 ~ 17.0	"
200	216.0 ~ 218.8	19.5 ~ 21.7	2.0 ~ 3.0
250	267.0 ~ 270.1	24.3 ~ 26.8	"
300	318.0 ~ 321.3	28.9 ~ 32.2	"
350	370.0 ~ 373.6	33.6 ~ 37.2	3.0 이상
400	420.0 ~ 423.7	38.2 ~ 42.2	"
450	457.2 ~ 461.3	41.6 ~ 48.0	"
500	508.0 ~ 512.5	46.2 ~ 53.3	"
550	558.8 ~ 563.8	50.8 ~ 58.6	"
600	609.6 ~ 614.6	55.4 ~ 63.9	"

**NOTICE** 1. Tolerance of pipe length <2% 2. Pipe's cutting length can be consulted  
3. 16 ~ 75 can be manufactured as coiled pipe

### · Features

- Non-toxic, odorless
- Certified by Sanitary and Safety Practices
- Durable at erosive and coastal region
- Resistant to acid and base

### · Use

- Domestic, industrial, agricultural, seawater, dredge pipe, extraction transportation
- Chemical, fish cage, swimming pool, golf course spring coolers
- Firefighting pipe

## Pressure Pipe



### · Features

- Suitable for chemical, agricultural pipe
- leak-free fusion joint

### · Use

- Agricultural, water intake, pressured transportation, chemical, industrial

### · Type

- Pressure Pipe 1
- Pressure Pipe 2

Dimensions (mm)	OD(mm)	PE Pressure pipe class 1 SDR 13.5 Operating pressure: PE80-PN10, PE100 - PN12.5	PE pressure pipe class 2 SDR 15.5 Operating Pressure: PE80-PN8, PE100-PN10
		Thickness(mm)	Thickness(mm)
65	76.0 ~ 77.3	5.6 ~ 6.4	4.9 ~ 5.6
75	89.0 ~ 90.5	6.5 ~ 7.4	5.7 ~ 6.5
100	114.0 ~ 115.9	8.4 ~ 9.6	7.3 ~ 8.3
125	140.0 ~ 142.3	10.3 ~ 11.8	9.0 ~ 10.1
150	165.0 ~ 167.6	12.2 ~ 13.5	10.6 ~ 11.9
200	216.0 ~ 218.8	16.0 ~ 17.8	13.9 ~ 15.5
250	267.0 ~ 270.1	19.7 ~ 22.0	17.2 ~ 19.1
300	318.0 ~ 321.3	23.5 ~ 26.2	20.5 ~ 22.8
350	370.0 ~ 373.6	27.4 ~ 30.3	23.8 ~ 26.5
400	420.0 ~ 423.7	31.1 ~ 36.0	27.0 ~ 31.4
450	457.2 ~ 461.3	33.8 ~ 39.2	29.4 ~ 34.1
500	508.0 ~ 512.5	37.6 ~ 43.4	32.7 ~ 37.9
550	558.8 ~ 563.8	41.3 ~ 47.8	36.0 ~ 41.7
600	609.6 ~ 614.6	45.1 ~ 52.2	39.3 ~ 45.4
700	710.0 ~ 716.4	52.2 ~ 60.0	45.8 ~ 52.6
800	800.0 ~ 807.2	58.8 ~ 67.6	51.6 ~ 59.3

**NOTICE** 1. Tolerance of pipe length <2% 2. Pipe's cutting length can be consulted

## Pipe and Sewer Pipe for General Purpose



### · Features

- Chemical Resistant, suitable for rain,waste water
- Cost Savings in Construction

### · Use

- General, rainwater, waste water, sewage, slurry transportation

Dimensions (mm)	OD(mm)	Thickness(mm)		Length(m)	
		General	General Sewer	Straight	Coiled
20	27.0±0.5	2.4±0.2	-	6	100 ~ 120
25	34.0±0.6	2.6±0.2	-	6	100 ~ 120
30	42.0±0.8	2.8±0.2	-	6	60 ~ 100
40	48.0±0.9	3.0±0.3	-	6	40 ~ 100
50	60.0±1.2	3.5±0.3	-	6	40 ~ 100
65	76.0±1.5	4.0±0.4	-	6	40 ~ 50
75	89.0±1.7	5.0±0.5	-	6	40 ~ 50
100	114.0±2.2	5.5±0.5	7.0±0.5	6	-
125	140.0±2.8	6.5±0.6	8.0±0.5	6	-
150	165.0±3.3	7.0±0.7	9.0±0.5	6	-
200	216.0±4.3	8.0±0.8	10.0±0.5	6	-
250	267.0±5.3	9.0±0.9	13.0±0.6	6	-
300	318.0±6.3	10.0±1.0	15.0±0.8	6	-
350	370.0±7.4	14.2±1.4	18.0±0.9	6	-
400	420.0±8.4	16.2±1.6	20.0±1.0	6	-
450	457.2±9.1	17.6±1.7	22.0±1.0	6	-
500	508.0±10.1	19.5±1.9	25.0±1.3	6	-
550	558.2±11.1	21.5±2.1	27.0±1.4	6	-
600	609.6±12.2	23.4±2.3	30.0±1.5	6	-
700	710.0±14.2	27.3±2.73	-	6	-
800	800.0±16.0	30.7±3.07	-	6	-

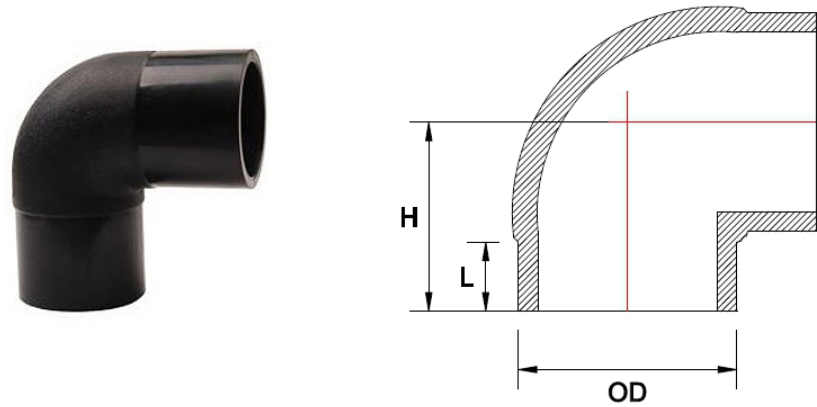
**NOTICE** 1. Tolerance of pipe length <2% 2. Pipe's cutting length can be consulted



PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 90° Elbow



· 90° Elbow (Butt)



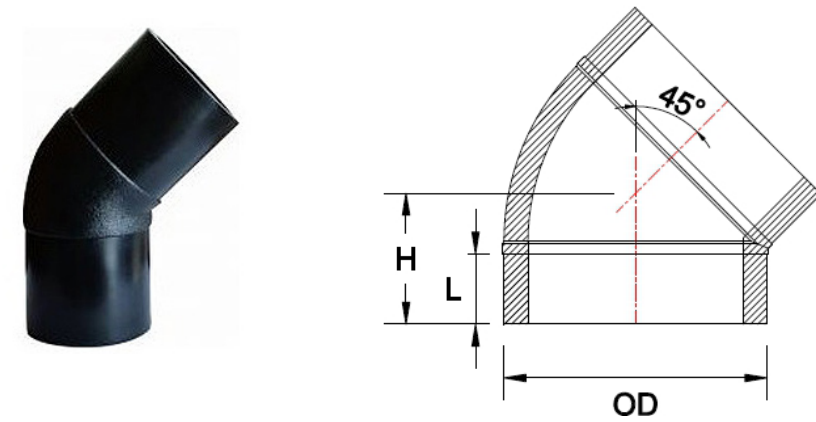
SIZE (OD)	SDR	Height (H)	Length (L)
D63	11	100	62
D75	11	115	68
D90	11	115	65
D110	11	154	81
D140	11	182	93
D160	11	197	93
D225	11	223	92
D280	11	270	103
D315	11	300	115
D355	11	325	115
D400	11	380	153
D450	11	345	103
D500	11	440	175
D560	11	440	137
D630	11	470	147
D710	17	545	170
D800	17	580	171

**NOTICE** Above measurements are as per KS Standard and can be consulted.

PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 45° Elbow



· 45° Elbow (Butt)



SIZE (OD)	SDR	Height (H)	Length (L)
D63	11	80	57
D75	11	95	70
D90	11	90	65
D110	11	115	75
D140	11	135	89
D160	11	150	95
D225	11	147	90
D280	11	225	137
D315	11	185	110
D355	11	215	115
D400	11	210	116
D450	11	225	125
D500	11	245	135
D560	11	250	138
D630	11	270	146
D710	17	270	170

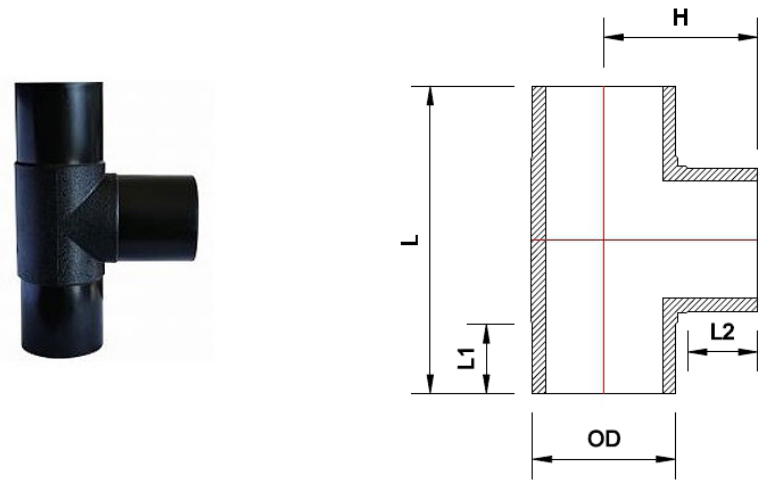
**NOTICE** Above measurements are as per KS Standard and can be consulted.



PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | EQUAL TEE



Tee (Butt)



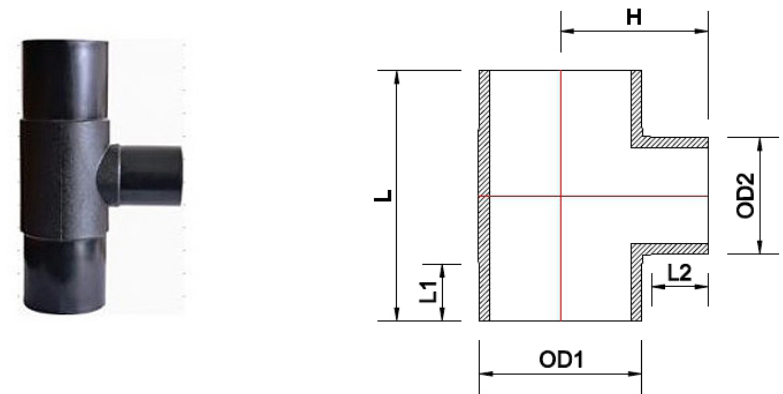
SIZE	SDR	Length (L)	Length1 (L1)	Length2 (L2)	Height (H)
D63	11	180	56	56	92
D75	11	230	68	66	115
D90	11	236	64	60	119
D110	11	295	80	86	150
D140	11	347	94	87	173
D160	11	380	94	93	190
D225	11	432	95	110	255
D280	11	506	97	138	291
D315	11	360	105	142	335
D355	11	608	110	165	390
D400	11	666	123	178	415
D450	11	746	127	153	445
D500	11	770	117	179	475
D630	11	980	157	155	525
D710	17	1100	179	195	570
D800	17	1116	90	190	620

NOTICE Above measurements are as per KS Standard and can be consulted.

PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | REDUCING TEE



R.Tee (Butt)



SIZE	SDR	Length (L)	Length1 (L1)	Length2 (L2)	Height (H)
D75x63	11	131	32	27	66
D90x50	11	210	63	54	110
D90x63	11	211	65	52	111
D90x75	11	250	83	75	133
D110x50	11	245	77	64	128
D110x63	11	248	82	68	133
D110x75	11	270	82	72	135
D110x90	11	277	85	76	145
D140x63	11	280	95	65	155
D140x75	11	281	92	74	160
D140x90	11	315	99	83	168
D140x110	11	315	93	83	168
D160x50	11	210	71	60	147
D160x63	11	291	109	66	165
D160x75	11	277	93	76	168
D160x90	11	327	108	82	175
D160x110	11	326	99	84	178
D160x140	11	358	102	95	185
D225x63	11	290	103	88	216
D225x75	11	291	98	90	215
D225x90	11	312	102	99	230
D225x110	11	375	123	89	235
D225x140	11	345	90	110	225
D225x160	11	376	98	105	240
D280x63	11	332	122	63	230
D280x90	11	335	112	102	260
D280x110	11	334	102	103	265
D280x140	11	365	98	105	258
D280x160	11	387	105	103	257
D280x225	11	451	105	125	285
D280x225	11	452	100	123	270
D315x90	11	372	130	105	270
D315x110	11	373	121	103	276
D315x140	11	389	115	103	280
D315x160	11	408	115	103	280
D315x225	11	472	114	121	319
D315x280	11	512	106	138	330
D355x110	11	357	111	89	303
D355x140	11	392	115	100	295
D355x160	11	406	112	105	300
D355x225	11	475	115	125	345
D355x280	11	541	121	145	355
D355x315	11	563	115	148	353
D400x110	11	389	125	90	303
D400x140	11	409	122	100	310
D400x160	11	425	115	104	316
D400x225	11	506	127	130	335
D400x280	11	457	117	143	380
D400x315	11	586	123	150	360
D450x355	11	625	125	165	400
D500x450	11	743	134	169	490

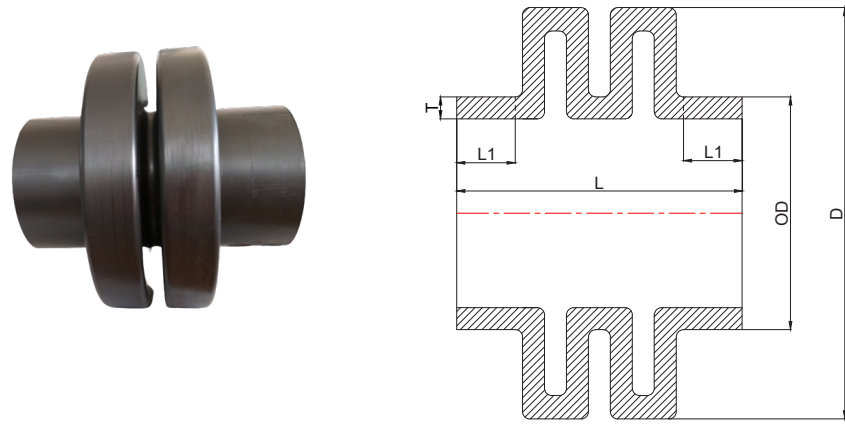
NOTICE Above measurements are as per KS Standard and can be consulted.



PE Fittings for Water Supply | PE Bellows



· PE Bellows

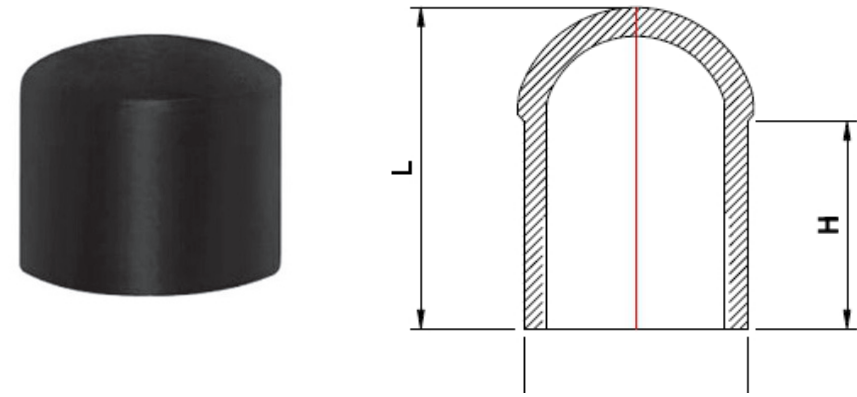


호칭	OD (mm)	OD Tolerance	D (mm)	T (mm)	T Tolerance	L (mm)	L1 (mm)	L3 (mm)	신축범위	
									신장	압축
D25	25	+0.3	43	2.5	+0.4	169.6	60.0	10.0	10	20
D32	32	+0.3	54	3.0	+1.0	173.6	60.0	10.0	10	20
D40	40	+0.4	67	3.7	+0.5	178.4	60.0	10.0	10	20
D50	50	+0.4	84	4.6	+0.6	184.4	60.0	10.0	10	20
D63	63	+0.4	105	5.8	+0.7	192.3	60.0	10.0	10	20
D75	75	+0.5	125	6.8	+0.8	199.4	60.0	10.0	10	20
D90	90	+0.6	150	8.2	+1.0	208.6	60.0	10.0	10	20
D110	110	+0.7	183	10.0	+1.1	222.7	60.0	10.0	10	20
D140	140	+0.9	233	12.7	+1.3	243.8	60.0	11.0	10	22
D160	160	+1.0	267	14.6	+1.4	256.1	60.0	11.0	10	22
D200	200	+1.2	333	18.2	+2.0	280.2	60.0	11.0	10	22
D225	225	+1.4	375	20.5	+2.2	295.4	60.0	11.0	10	22
D250	250	+1.5	417	22.7	+2.4	310.5	60.0	11.0	10	22
D280	280	+1.7	466	25.4	+2.7	328.6	60.0	11.0	10	22
D315	315	+1.9	496	28.6	+3.0	339.4	60.0	11.0	10	22
D355	355	+2.2	559	32.2	+3.4	365.3	60.0	12.0	10	24
D400	400	+2.4	630	36.3	+3.8	391.1	60.0	12.0	10	24
D450	450	+2.7	709	40.9	+4.2	439.8	70.0	12.0	10	24
D500	500	+3.0	788	45.4	+4.7	468.4	70.0	12.0	10	24
D560	560	+3.4	882	50.8	+5.2	542.7	90.0	12.0	10	24
D630	630	+3.8	992	57.2	+5.9	582.9	90.0	12.0	10	24

PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | END CAP



· Cap (Butt)



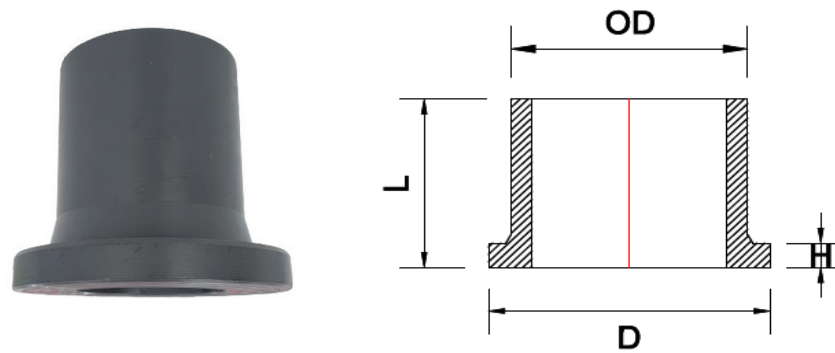
SIZE	SDR	Length (L)	Height (H)
D90	11	66	52
D110	11	88	81
D140	11	86	70
D160	11	85	70
D225	11	135	115
D280	11	136	115
D315	11	107	87
D355	11	140	115
D400	11	145	100
D450	11	140	108
D500	11	140	118
D560	11	150	115
D630	11	135	120



PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | Adapter



· Adapter(Butt)



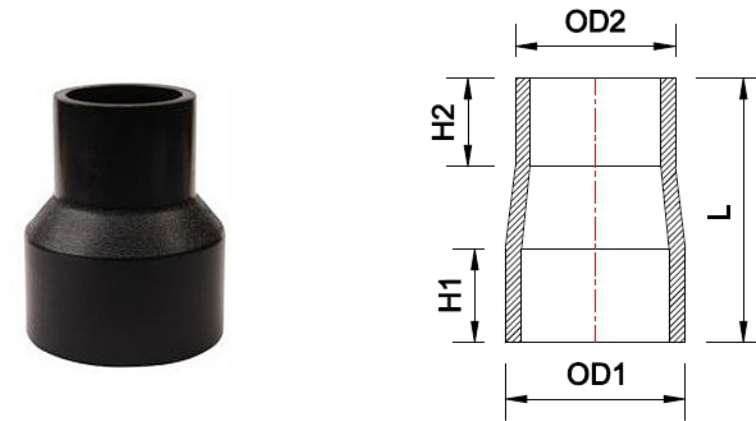
SIZE	Outside Diameter (OD)	SDR	Length (L)	Height (H)	Diameter (D)
D63	63.0~63.4	11	84	15	101
D75	75.0~75.5	11	84	12	107
D90	90.0~90.6	11	98	15	130
D110	110.0~110.7	11	126	20	156
D140	140.0~140.9	11	134	22	187
D160	160.0~161.0	11	148	29	208
D180	180.0~181.1	11	155	24	210
D225	225.0~226.4	11	161	35	265
D280	280.0~281.7	11	165	33	320
D315	315.0~316.9	11	165	33	369
D355	355.0~357.2	11	216	45	413
D400	400.0~402.4	11	215	42	469
D450	450.0~452.7	11	178	43	517
D500	500.0~503.0	11	206	47	583
D560	560.0~563.4	11	220	45	620
D630	630.0~633.8	11	220	52	682
D710	710.0~716.4	11	120	60	800
D710	710.0~716.4	11	280	80	800
D800	800.0~807.2	11	120	65	905

**NOTICE** Above measurements are as per KS Standard and can be consulted.  
Adaptors for connecting Butterfly Valve can be consulted separately.

PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | Concentric Reducer



· Concentric Reducer (Butt)



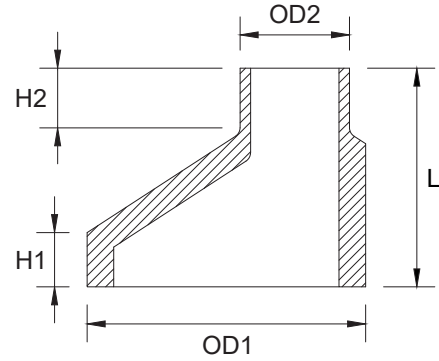
SIZE	SDR	Length (L)	Height1 (H1)	Height2 (H2)
D75x50	11	133	57	61
D75x63	11	133	59	64
D90x50	11	127	55	55
D90x63	11	124	55	55
D90x75	11	125	56	56
D110x50	11	160	81	53
D110x63	11	165	81	61
D110x75	11	171	81	70
D110x90	11	171	78	71
D140x63	11	186	90	62
D140x75	11	190	91	71
D140x90	11	196	89	77
D140x110	11	193	94	84
D160x63	11	202	96	67
D160x75	11	203	97	69
D160x90	11	209	98	81
D160x110	11	211	99	83
D160x140	11	205	95	85
D225x90	11	221	82	79
D225x110	11	217	81	82
D225x140	11	216	82	83
D225x160	11	216	82	83
D280x110	11	234	90	90
D280x140	11	230	90	100
D280x160	11	246	110	102
D280x225	11	214	90	112
D315x110	11	242	93	85
D315x160	11	235	94	87
D315x225	11	240	91	108
D315x280	11	235	91	114



**PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | Eccentric Reducer**



**Eccentric Reducer(Butt)**



Size	SDR	Length (L)	Height (H1)	Height (H2)
D32x25	11	102	44	50
D50x40	11	102	43	50
D50x32	11	107	43	50
D50x25	11	111	43	50
D63x25	11	118	43	50
D63x32	11	112	43	50
D63x40	11	110	43	50
D63x50	11	114	43	60
D75x25	11	126	44	50
D75x32	11	121	44	50
D75x40	11	117	44	50
D75x50	11	121	44	60
D75x63	11	114	44	60
D90x32	11	149	52	60
D90x40	11	134	52	50
D90x50	11	138	52	60
D90x63	11	133	52	60
D90x75	11	126	52	60
D110x40	11	165	58	60
D110x50	11	159	58	60
D110x63	11	151	58	60
D110x75	11	144	58	60
D110x90	11	135	58	60
D140x50	11	166	47	60
D140x63	11	158	47	60
D140x75	11	151	47	60
D140x90	11	142	47	60
D140x110	11	130	47	60
D160x50	11	178	48	60
D160x63	11	171	48	60
D160x75	11	164	48	60
D160x90	11	155	48	60
D160x110	11	143	48	60
D160x140	11	125	43	60
D225x75	11	230	70	60
D225x75	11	223	70	60
D225x90	11	215	70	60
D225x110	11	199	66	60
D225x125	11	194	70	60
D225x140	11	182	66	60
D225x160	11	174	70	60
D280x63	11	247	55	60
D280x75	11	240	55	60
D280x90	11	232	55	60
D280x110	11	220	55	60
D280x125	11	211	55	60

Size	SDR	Length (L)	Height (H1)	Height (H2)
D280x140	11	202	55	60
D280x160	11	200	64	60
D280x180	11	201	64	70
D280x225	11	162	55	70
D315x75	11	276	70	60
D315x90	11	268	70	60
D315x110	11	251	70	55
D315x140	11	238	70	60
D315x160	11	227	70	60
D315x180	11	216	73	60
D315x225	11	200	72	70
D315x280	11	159	73	60
D355x90	11	280	58	60
D355x110	11	268	58	60
D355x140	11	250	58	60
D355x160	11	238	58	60
D355x180	11	227	58	60
D355x225	11	211	60	70
D355x280	11	179	59	70
D355x315	11	158	59	70
D400x90	11	304	55	60
D400x110	11	292	55	60
D400x140	11	274	55	60
D400x160	11	273	55	70
D400x180	11	261	55	70
D400x225	11	234	55	70
D400x280	11	201	54	70
D400x315	11	200	73	70
D400x355	11	200	80	90
D450x110	11	329	63	60
D450x160	11	309	63	70
D450x225	11	271	63	70
D450x280	11	238	63	70
D450x315	11	218	63	70
D450x355	11	195	63	70
D500x110	11	360	66	60
D500x140	11	343	66	60
D500x160	11	342	66	70
D500x180	11	331	66	70
D500x225	11	304	66	70
D500x280	11	270	66	70
D500x315	11	250	66	70
D500x355	11	227	66	70
D500x400	11	200	66	70
D560x110	11	399	69	60
D560x140	11	381	69	60
D560x160	11	380	69	70
D560x225	11	341	69	70
D560x280	11	308	69	70
D560x315	11	288	69	70
D560x355	11	265	69	70
D560x400	11	238	69	70
D560x450	11	212	57	70
D560x500	11	211	111	90
D630x280	11	386	73	70
D630x280	11	356	73	70
D630x315	11	336	73	70
D630x355	11	312	73	70
D630x400	11	285	73	70
D630x450	11	269	73	85
D630x500	11	224	73	70
D630x560	11	232	73	110
D710x630	11	290	118	120
D710x630	11	285	81	110
D710x500	11	316	87	100
D710x450	11	330	87	85
D710x400	11	343	87	70
D710x355	11	371	87	70

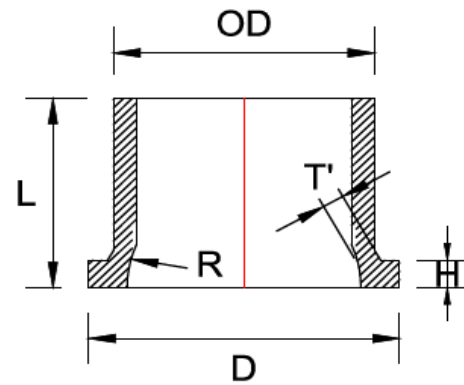
\* Any inquiries are welcome for further SDRs and Dimensions.



PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | V-R Adapter



V-R Adapter(Butt)

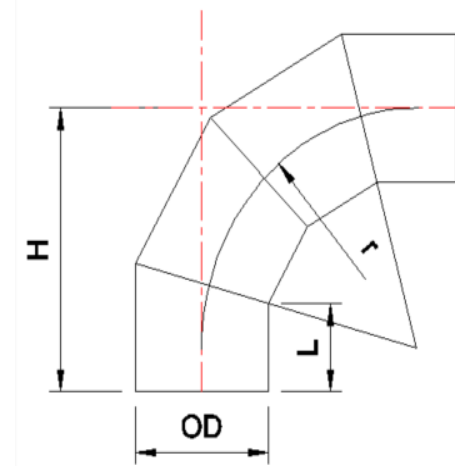


SIZE	SDR	Length (L)	Height (H)	Thickness (T')	Radius (R)	Diameter (D)
D110	11	126	22	20	57	156
D140	11	143	23	21	69	187
D160	11	152	29	23	78	208
D225	11	165	35	26	106	265
D280	11	168	35	30	127	315
D315	11	215	57	35	152	369
D355	11	224	73	37	179	413
D400	11	234	77	45	196	480
D450	11	238	93	45	226	535
D500	11	255	100	51	251	583
D630	11	252	104	62	301	682

Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 90° ELBOW



90° Elbow (Butt, 4 segments, derating factor 0.8)

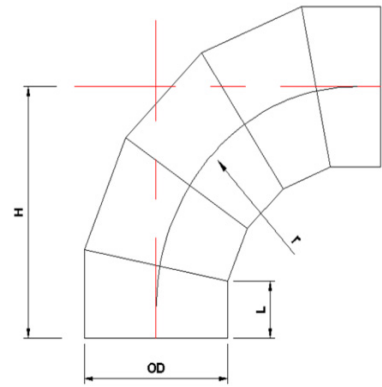


SIZE	Outside Diameter (OD)	Height (H)	Length (L)	Radius (r)
D710	710.0-716.4	1301	400	1101
D800	800.0-807.2	1346	400	1146
D900	900.0-908.1	1942	400	1943
D1000	1000.0-1009.0	1919	600	1619
D1200	1200.0-1210.8	2493	800	2093
D1400	1400.0-1412.6	2593	800	2193
D1600	1600.0-1614.4	2693	800	2293

**Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 90° ELBOW**



· 90° Elbow (Butt, 5 segments, derating factor 0.8)

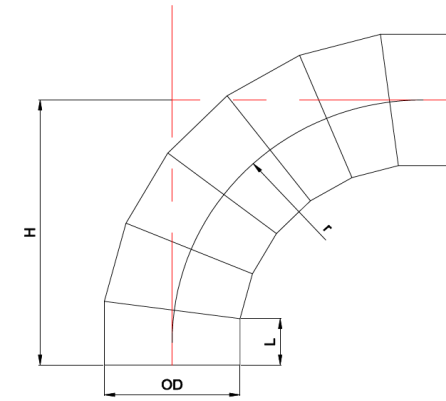


SIZE	Outside Diameter (OD)	Height (H)	Length (L)	Radius (r)
D710	710.0~716.4	1560	400	1360
D800	800.0~807.2	1605	400	1406
D900	900.0~908.1	2258	600	1959
D1000	1000.0~1009.0	2308	600	2009
D1200	1200.0~1210.8	3011	800	2611
D1400	1400.0~1412.6	3111	800	2711
D1600	1600.0~1614.4	3211	800	2812
D1800	1800.0~1816.2	3311	800	2912
D2000	2000.0~2018.0	3772	920	3313
D2200	2250.0~2270.3	3872	920	3413
D2250	2250.0~2270.3	3898	920	3443
D2400	2400.0~2421.6	3973	920	3513
D2500	2500.0~2522.5	4023	920	3563

**Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 90° ELBOW**



· 90° Elbow (Butt, 7 segments, derating factor 1.0)



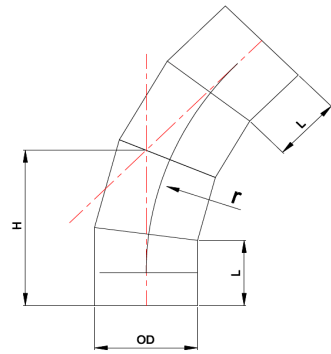
SIZE	Outside Diameter (OD)	Height (H)	Length (L)	Radius (r)
D710	710.0~716.4	2074	400	1874
D800	800.0~807.2	2119	400	1919
D900	900.0~908.1	3028	600	2729
D1000	1000.0~1009.0	3078	600	2779
D1200	1200.0~1210.8	4038	800	3639
D1400	1400.0~1412.6	4138	800	3740
D1600	1600.0~1614.4	4238	800	3840
D1800	1800.0~1816.2	4338	800	3938
D2000	2000.0~2018.0	4954	920	4494
D2200	2250.0~2270.3	5054	920	4594
D2250	2250.0~2270.3	5079	920	4619
D2400	2400.0~2421.6	5154	920	4695
D2500	2500.0~2522.5	5204	920	4744



Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 45° ELBOW



· 45° Elbow (Butt, 4 segments, derating factor 0.8)

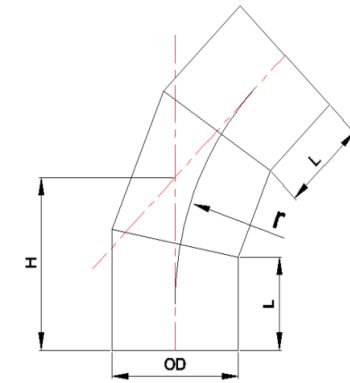


SIZE	Outside Diameter (OD)	Height (H)	Length (L)	Radius (r)
D710	710.0~716.4	976	400	1874
D800	800.0~807.2	995	400	1919
D900	900.0~908.1	1445	400	3488
D1000	1000.0~1009.0	1451	600	2779
D1200	1200.0~1210.8	1907	800	3638
D1400	1400.0~1412.6	1948	800	3738
D1600	1600.0~1614.4	1990	800	3841
D1800	1800.0~1816.2	2031	800	3943
D2000	2000.0~2018.0	2322	920	4494
D2250	2250.0~2270.3	2373	920	4619
D2400	2400.0~2421.6	2404	920	4694
D2500	2500.0~2522.5	2425	920	4744
D2400	2400.0~2421.6	2404	920	4694
D2500	2500.0~2522.5	2425	920	4744

Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 45° ELBOW



· 45° Elbow (Butt, 3 segments, derating factor 0.8)

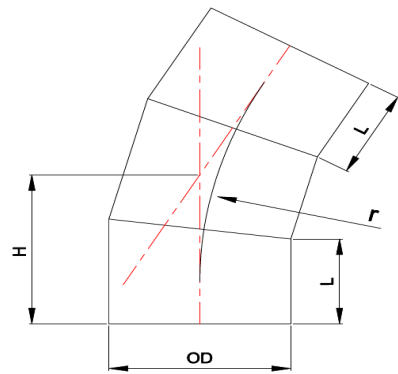


SIZE	Outside Diameter (OD)	Height (H)	Length (L)	Radius (r)
D710	710.0~716.4	764	400	1362
D800	800.0~807.2	782	400	1406
D900	900.0~908.1	803	400	1456
D1000	1000.0~1009.0	1132	600	2010
D1200	1200.0~1210.8	1482	800	2612
D1400	1400.0~1412.6	1523	800	2711
D1600	1600.0~1614.4	1564	800	2813
D1800	1800.0~1816.2	1606	800	2913
D2000	2000.0~2018.0	1832	920	3314
D2250	2250.0~2270.3	1884	920	3441
D2400	2400.0~2421.6	1915	920	3516
D2500	2500.0~2522.5	1936	920	3563

**Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | 30° ELBOW**



· 30° Elbow (Butt, 3 segments, derating factor 1.0)

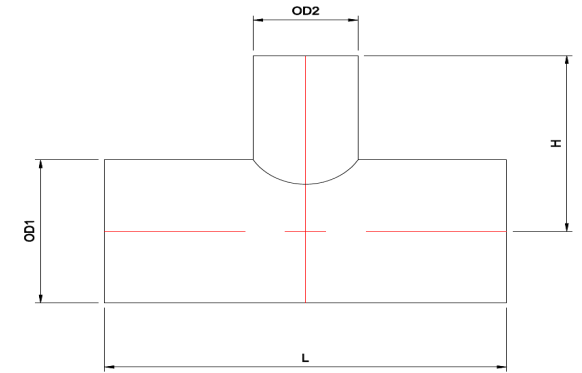


SIZE	Outside Diameter (OD)	Height (H)	Length (L)	Radius (r)
D710	710.0~716.4	702	400	1875
D800	800.0~807.2	714	400	1919
D900	900.0~908.1	728	400	1969
D1000	1000.0~1009.0	1045	600	2781
D1200	1200.0~1210.8	1071	600	2879
D1400	1400.0~1412.6	1098	600	2981
D1600	1600.0~1614.4	1429	800	3839
D1800	1800.0~1816.2	1455	800	3940
D2000	2000.0~2018.0	1664	920	4494
D2250	2250.0~2270.3	1698	920	4621
D2400	2400.0~2421.6	1718	920	4694
D2500	2500.0~2522.5	1731	920	4744

**Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | REDUCING TEE**



· Reducing Tee (Butt, Saddle Type, derating factor ≥ 0.5)



SIZE1	SIZE2	Height (H)	Length (L)
D355	D63	320	710
D355	D75	320	710
D355	D90	320	710
D355	D110	320	710
D355	D140	320	710
D355	D160	320	710
D355	D225	380	710
D355	D280	430	710
D400	D63	360	800
D400	D75	360	800
D400	D90	360	800
D400	D110	360	800
D400	D140	360	800
D400	D160	360	800
D400	D225	430	800
D400	D280	430	800
D400	D315	480	800
D400	D355	480	800
D450	D63	430	900
D450	D75	430	900
D450	D90	430	900
D450	D110	430	900
D450	D140	430	900
D450	D160	430	900
D450	D225	430	900
D450	D280	480	900
D450	D315	480	900
D450	D355	540	900
D500	D63	450	1000
D500	D75	450	1000
D500	D90	450	1000
D500	D110	450	1000
D500	D140	450	1000
D500	D160	450	1000
D500	D225	450	1000
D500	D280	480	1000
D500	D315	480	1000
D500	D355	540	1000
D500	D400	540	1000
D500	D450	540	1000
D560	D63	530	1120
D560	D75	530	1120
D560	D90	530	1120
D560	D110	530	1120



SIZE1	SIZE2	Height (H)	Length (L)
D560	D140	530	1120
D560	D160	530	1120
D560	D225	530	1120
D560	D280	530	1120
D560	D315	530	1120
D560	D355	600	1120
D560	D400	600	1120
D560	D450	680	1120
D630	D63	560	1250
D630	D75	560	1250
D630	D90	560	1250
D630	D110	560	1250
D630	D140	560	1250
D630	D160	560	1250
D630	D225	560	1250
D630	D280	560	1250
D630	D315	560	1250
D630	D355	560	1250
D630	D400	680	1250
D630	D450	680	1250
D630	D500	760	1250
D710	D63	680	1420
D710	D75	680	1420
D710	D90	680	1420
D710	D110	680	1420
D710	D140	680	1420
D710	D160	680	1420
D710	D225	680	1420
D710	D280	680	1420
D710	D315	680	1420
D710	D355	680	1420
D710	D400	680	1420
D710	D450	760	1420
D710	D500	760	1420
D710	D560	860	1420
D710	D630	860	1420
D800	D63	720	1500
D800	D75	720	1500
D800	D90	720	1600
D800	D110	720	1600
D800	D140	720	1600
D800	D160	720	1600
D800	D225	720	1600
D800	D280	720	1600
D800	D315	720	1600
D800	D355	720	1600
D800	D400	720	1600
D800	D450	760	1600
D800	D500	760	1600
D800	D560	860	1600
D800	D630	860	1600
D900	D63	770	1500
D900	D75	770	1500
D900	D90	770	1500
D900	D110	770	1600
D900	D140	770	1600
D900	D160	770	1600
D900	D225	770	1700
D900	D280	770	1700
D900	D315	770	1800
D900	D355	770	1800
D900	D400	770	1800
D900	D450	850	1800
D900	D500	850	1800
D900	D560	950	1800
D900	D630	950	1800

**Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | REDUCING TEE**



SIZE1	SIZE2	Height (H)	Length (L)
D900	D710	950	2000
D1000	D63	820	1500
D1000	D75	820	1500
D1000	D90	820	1500
D1000	D110	820	1600
D1000	D140	820	1600
D1000	D160	820	1600
D1000	D225	820	1700
D1000	D280	820	1700
D1000	D315	820	1800
D1000	D355	820	1800
D1000	D400	820	1800
D1000	D450	900	1900
D1000	D500	900	1900
D1000	D560	1000	2000
D1000	D630	1000	2000
D1000	D710	1100	2000
D1000	D800	1200	2000
D1200	D63	920	1500
D1200	D75	920	1500
D1200	D90	920	1500
D1200	D110	920	1600
D1200	D140	920	1600
D1200	D160	920	1600
D1200	D225	920	1700
D1200	D280	920	1700
D1200	D315	920	1800
D1200	D355	920	1800
D1200	D400	920	1800
D1200	D450	1000	1900
D1200	D500	1000	1900
D1200	D560	1100	2000
D1200	D630	1100	2100
D1200	D710	1200	2200
D1200	D800	1300	2200
D1200	D900	1300	2300
D1400	D63	1820	1500
D1400	D75	1820	1500
D1400	D90	1820	1500
D1400	D110	1820	1600
D1400	D140	1820	1600
D1400	D160	1820	1600
D1400	D225	1820	1700
D1400	D280	1820	1700
D1400	D315	1820	1800
D1400	D355	1820	1800
D1400	D400	1820	1800
D1400	D450	1900	1900
D1400	D500	1900	1900
D1400	D560	2000	2000
D1400	D630	2000	2100
D1400	D710	2100	2200
D1400	D800	2200	2200
D1400	D900	2200	2300
D1400	D1000	2200	2400
D1600	D63	1120	1500
D1600	D75	1120	1500
D1600	D90	1120	1500
D1600	D110	1120	1600
D1600	D140	1120	1600
D1600	D160	1120	1600

SIZE1	SIZE2	Height (H)	Length (L)
D1600	D225	1120	1700
D1600	D280	1120	1700
D1600	D315	1120	1800
D1600	D355	1120	1800
D1600	D400	1120	1800
D1600	D450	1200	1900
D1600	D500	1200	1900
D1600	D560	1300	2000
D1600	D630	1300	2100
D1600	D710	1400	2200
D1600	D800	1500	2200
D1600	D900	1500	2300
D1600	D1000	1500	2400
D1600	D1200	1500	2600
D1800	D63	1220	1500
D1800	D75	1220	1500
D1800	D90	1220	1500
D1800	D110	1220	1600
D1800	D140	1220	1600
D1800	D160	1220	1600
D1800	D225	1220	1700
D1800	D280	1220	1700
D1800	D315	1220	1800
D1800	D355	1220	1800
D1800	D400	1220	1800
D1800	D450	1300	1900
D1800	D500	1300	1900
D1800	D560	1400	2000
D1800	D630	1400	2100
D1800	D710	1500	2200
D1800	D800	1600	2200
D1800	D900	1600	2300
D1800	D1000	1600	2400
D1800	D1200	1600	2600
D1800	D1400	1600	2800
D2000	D63	1320	1500
D2000	D75	1320	1500
D2000	D90	1320	1500
D2000	D110	1320	1600
D2000	D140	1320	1600
D2000	D160	1320	1600
D2000	D225	1320	1700
D2000	D280	1320	1700
D2000	D315	1320	1800
D2000	D355	1320	1800
D2000	D400	1320	1800
D2000	D450	1400	1900
D2000	D500	1400	1900
D2000	D560	1500	2000
D2000	D630	1500	2100
D2000	D710	1600	2200
D2000	D800	1700	2200
D2000	D900	1700	2300
D2000	D1000	1700	2400
D2000	D1200	1700	2600
D2000	D1400	1700	2800
D2000	D1600	1800	3000
D2250	D63	1420	1500
D2250	D75	1420	1500
D2250	D90	1420	1500
D2250	D110	1420	1600
D2250	D140	1420	1600
D2250	D160	1420	1600
D2250	D225	1420	1700
D2250	D280	1420	1700
D2250	D315	1420	1800

**Fabricated PE Fittings for Water Supply(KS 3408-3, ISO 4427-3) | REDUCING TEE**



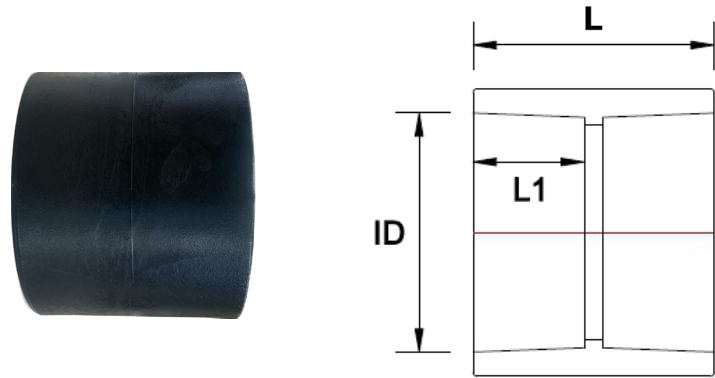
SIZE1	SIZE2	Height (H)	Length (L)
D2250	D355	1420	1800
D2250	D400	1420	1800
D2250	D450	1500	1900
D2250	D500	1500	1900
D2250	D560	1600	2000
D2250	D630	1600	2100
D2250	D710	1700	2200
D2250	D800	1800	2200
D2250	D900	1800	2300
D2250	D1000	1800	2400
D2250	D1200	1800	2600
D2250	D1400	1800	2800
D2250	D1600	1900	3000
D2250	D1800	2000	3200
D2500	D63	1520	1500
D2500	D75	1520	1500
D2500	D90	1520	1500
D2500	D110	1520	1600
D2500	D140	1520	1600
D2500	D160	1520	1600
D2500	D225	1520	1700
D2500	D280	1520	1700
D2500	D315	1520	1800
D2500	D355	1520	1800
D2500	D400	1520	1800
D2500	D450	1600	1900
D2500	D500	1600	1900
D2500	D560	1700	2000
D2500	D630	1700	2100
D2500	D710	1800	2200
D2500	D800	1900	2200
D2500	D900	1900	2300
D2500	D1000	1900	2400
D2500	D1200	1900	2600
D2500	D1400	1900	2800
D2500	D1600	2000	3000
D2500	D1800	2100	3200
D2600	D63	1620	1500
D2600	D75	1620	1500
D2600	D90	1620	1500
D2600	D110	1620	1600
D2600	D140	1620	1600
D2600	D160	1620	1600
D2600	D225	1620	1700
D2600	D280	1620	1700
D2600	D315	1620	1800
D2600	D355	1620	1800
D2600	D400	1620	1800
D2600	D450	1700	1900
D2600	D500	1700	1900
D2600	D560	1800	2000
D2600	D630	1800	2100
D2600	D710	1900	2200
D2600	D800	2000	2200
D2600	D900	2000	2300
D2600	D1000	2000	2400
D2600	D1200	2000	2600
D2600	D1400	2000	2800
D2600	D1600	2100	3000
D2600	D1800	2200	3200



Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | SOCKET



· Socket(Socket)

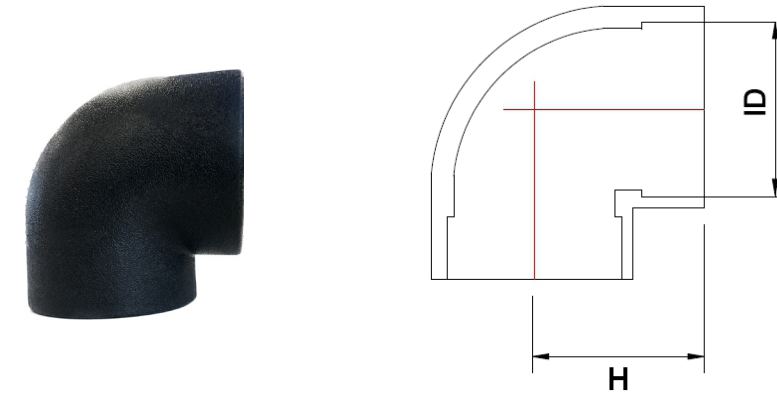


SIZE	Inside Diameter (ID)	SDR	Length (L)	Length1 (L1)
D20	19.2~19.5	Socket	29	14
D25	24.1~24.5	Socket	36	17
D32	31.1~31.5	Socket	41	18
D40	39.0~39.4	Socket	46	21
D50	48.9~49.4	Socket	51	23
D63	62.0~62.4	Socket	55	26
D75	74.3~74.8	Socket	70	34

Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | 90° ELBO



· 90° Elbow(Socket)

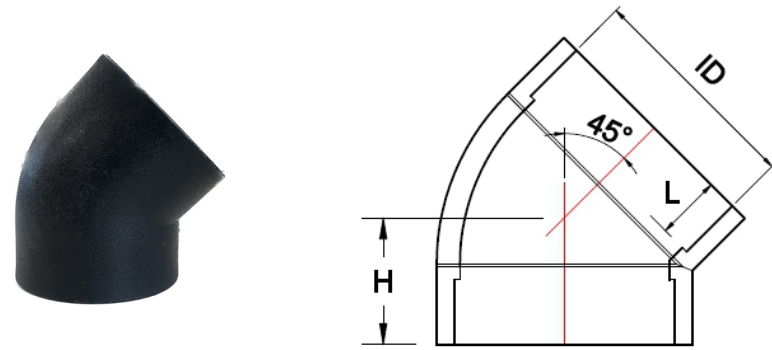


SIZE	SDR	Height (H)	Length (L)
D20	Socket	22	15
D25	Socket	28	17
D32	Socket	33	18
D40	Socket	41	22
D50	Socket	48	22
D63	Socket	57	26
D75	Socket	75	32

Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | 45° ELBOW



· 45° Elbow(Socket)

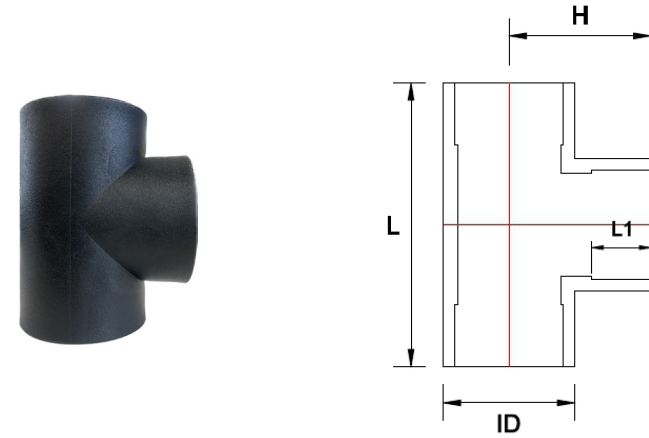


SIZE	SDR	Height (H)	Length (L)
D20	Socket	22	15
D25	Socket	25	18
D32	Socket	30	19
D40	Socket	31	20
D50	Socket	40	25
D63	Socket	45	27
D75	Socket	48	32

Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | EQUAL TEE



· Equal Tee(Socket)



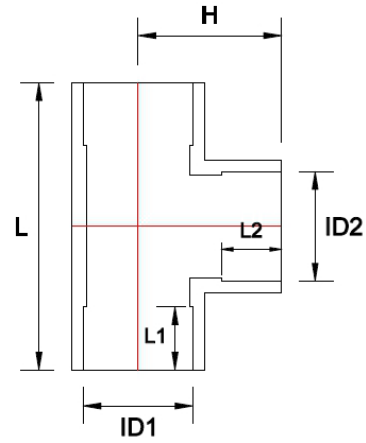
SIZE	SDR	Length (L)	Length1 (L1)	Height (H)
D25	Socket	62	16	34
D32	Socket	73	19	35
D40	Socket	87	20	45
D50	Socket	100	23	52
D63	Socket	116	26	65
D75	Socket	143	32	70



Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | Reducing Tee



· Reducing Tee(Socket)

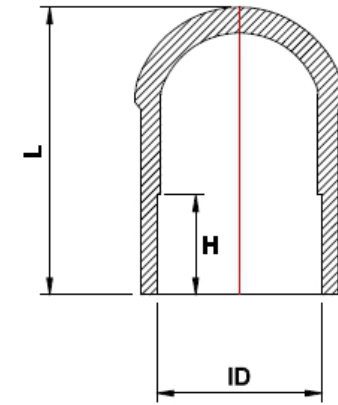


SIZE	SDR	Length (L)	Length1 (L1)	Length2 (L2)	Height (H)
D25x20	Socket	59	17	16	30
D32x20	Socket	65	19	16	32
D32x25	Socket	64	19	17	34
D40x20	Socket	60	20	15	33
D40x25	Socket	65	20	16	35
D40x32	Socket	72	20	18	40
D50x20	Socket	76	23	15	50
D50x25	Socket	74	24	17	42
D50x32	Socket	79	23	18	42
D50x40	Socket	93	23	20	47
D63x20	Socket	73	27	15	50
D63x25	Socket	80	27	16	48.0
D63x32	Socket	94	27	19	52
D63x40	Socket	90	26	20	54
D63x50	Socket	105	27	23	55
D75x20	Socket	88	28	16	60
D75x25	Socket	93	27	16	60
D75x32	Socket	93	27	18	60
D75x40	Socket	107	31	20	64
D75x50	Socket	110	31	23	60
D75x63	Socket	130	31	26	68

Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | End CAP



· End Cap(Socket)

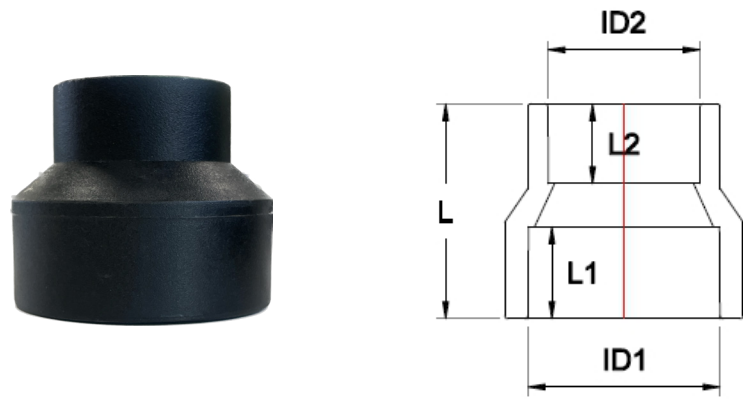


SIZE	SDR	Length (L)	Height (H)
D20	Socket	22	15
D25	Socket	23	18
D32	Socket	26	19
D40	Socket	35	21
D50	Socket	33	22
D63	Socket	46	24
D75	Socket	51	30

Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | Concentric Reducer



· Concentric Reducer(Socket)

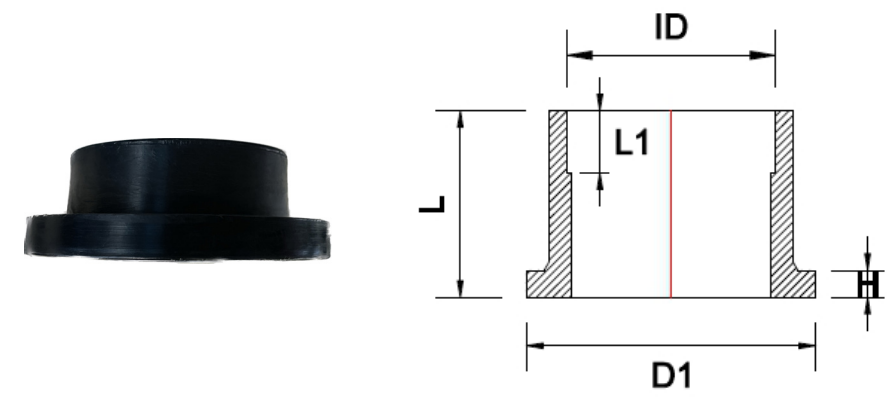


SIZE	SDR	Length (L)	Length1 (L1)	Length2 (L2)
D25x20	Socket	34	17	15
D32x20	Socket	36	20	15
D32x25	Socket	39	19	16
D40x25	Socket	48	22	17
D40x32	Socket	43	22	17
D50x25	Socket	49	22	16
D50x32	Socket	50	23	21
D50x40	Socket	49	24	21
D63x20	Socket	60	28	15
D63x25	Socket	65	28	17
D63x32	Socket	64	26	19
D63x40	Socket	65	27	20
D63x50	Socket	58	26	23
D75x32	Socket	65	30	18
D75x40	Socket	64	30	20
D75x50	Socket	70	35	25
D75x63	Socket	68	35	26

Socket PE Fittings for Water Supply(KS M 3408-3, ISO 4427-3) | Adapter



· Adapter(Socket)

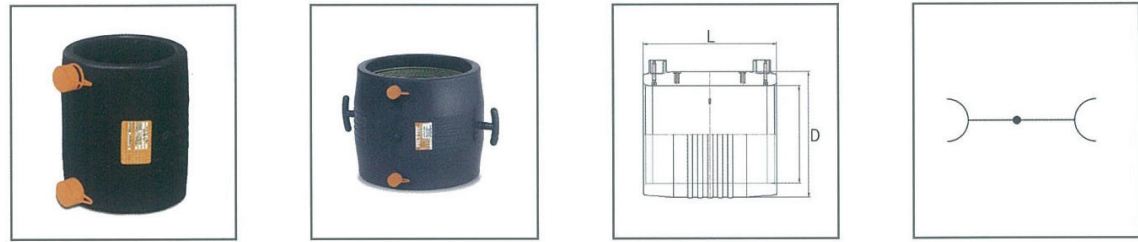


SIZE	SDR	Length(L)	Length1(L1)	Height(H)	Diameter1(D1)	비고
D20	Socket	24	18	7	46	Short Type
D25	Socket	25	19	7	50	Short Type
D32	Socket	26	23	8	60	Short Type
D40	Socket	30	23	9	70	Short Type
D50	Socket	30	24	10	80	Short Type
D63	Socket	33	27	13	99	Short Type
D75	Socket	40	32	13	120	Short Type
D20	Socket	60	18	10	50	Long Type
D25	Socket	60	20	11	60	Long Type
D32	Socket	59	22	11	69	Long Type
D40	Socket	69	24	13	79	Long Type
D50	Socket	71	25	15	85	Long Type
D63	Socket	103	28	15	97	Long Type
D75	Socket	103	28	15	116	Long Type

Electric PE Fittings for Water Supply (KS M 3408-3)

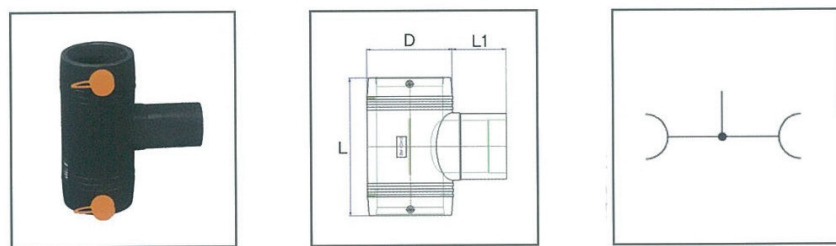


· EF Coupler



Dimensions	Measurement(mm)		Code number	Working Time		EA per Box	Weight
	D	L		Welding	Cooling		
20mm	28	78		45sec	10min	60	44
25mm	35	80		45sec	10min	60	51
32mm	46	81	22121676	25sec	10min	50	75
40mm	56	92	22121677	45sec	10min	50	106
50mm	64	99	22121678	45sec	10min	50	134
63mm	84	120	22121679	50sec	10min	60	247
90mm	119	140	22121680	140sec	10min	30	560
110mm	143	160	22121681	180sec	10min	16	886
160mm	207	200	22121682	500sec	20min	8	2,118
225mm	285	230	22121683	600sec	20min	2	4,402
280mm	347	265	22121684	900sec	20min	1	6,820
315mm	391	280	22121685	900sec	30min	1	9,246
355mm(80v)	443	350	22121686	900sec	30min	1	13,976
400mm(80v)	497	380	22121687	900sec	30min	1	24,243

· EF Tee

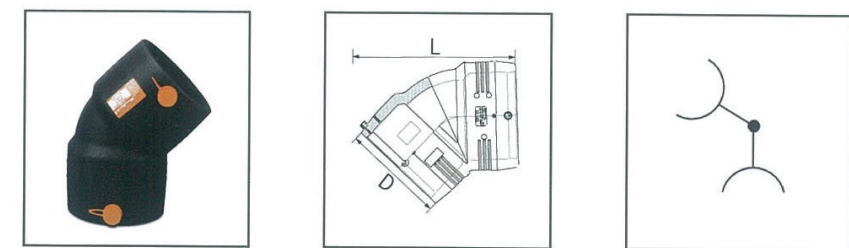


Dimensions	Measurement(mm)			Working Time		EA per Box	Weight
	D	L1	L	Welding	Cooling		
50mmx50mm	64	70	147	60sec	10min	60	205
63mmx63mm	82	70	175	60sec	10min	34	468
90mmx63mm	119	65	230	120sec	10min	18	971
90mmx90mm	119	85	230	120sec	10min	18	1,238
110mmx63mm	143	65	265	180sec	10min	6	1,574
110mmx90mm	143	85	265	180sec	10min	6	1,714
110mmx110mm	143	90	265	180sec	10min	6	1,842
160mmx160mm	207	110	335	500sec	20min	2	4,200
225mmx90mm	284	84	430	750sec	20min	1	8,692
225mmx110mm	284	87	430	750sec	20min	1	8,886
225mmx225mm	284	130	430	750sec	20min	1	11,000

Electric PE Fittings for Water Supply (KS M 3408-3)

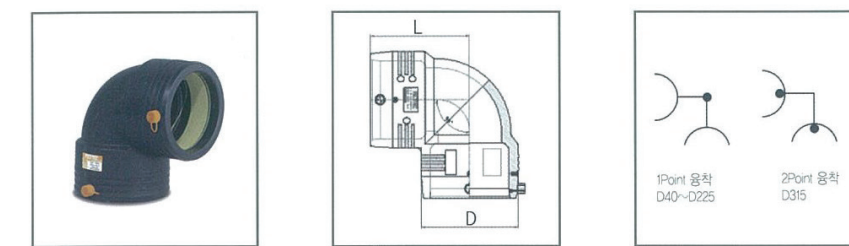


· EF Elbow 45°(Socket)



Dimensions	Measurement(mm)		Working Time		EA per Box	Weight
	D	L	Welding	Cooling		
110mm	143	242	180sec	10min	10	1,640
160mm	200	321	500sec	20min	4	3,460
225mm	294	408	750sec	20min	1	8,730

· EF Elbow 90°(Socket)



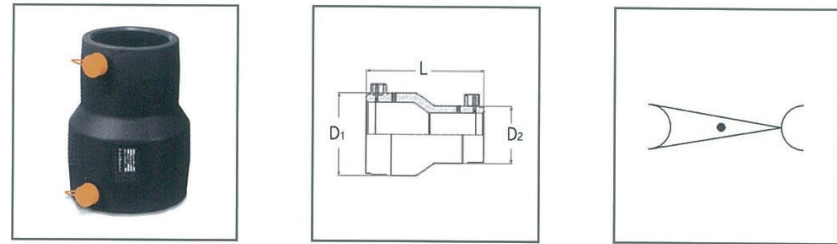
Dimensions	Measurement(mm)		Working Time		EA per Box	Weight
	D	L	Welding	Cooling		
40mm	54	74	50sec	10min	100	146
50mm	65	84	50sec	10min	50	210
63mm	82	101	60sec	10min	40	396
90mm	119	129	140sec	10min	10	1,012
110mm	143	151	180sec	10min	10	1,640
160mm	207	203	500sec	20min	4	3,458
225mm	285	257	750sec	20min	1	8,730
315mm	397	338	900sec	30min	1	22,700



### Electric PE Fittings for Water Supply (KS M 3408-3)

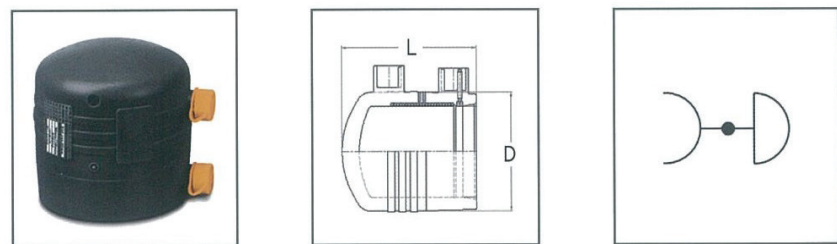


#### · EF Reducer



Dimensions	Measurement(mm)			Working Time		EA per Box	Weight
	D1	D2	L	Welding	Cooling		
63mmx50mm	82.7	66.6	144	50sec	10min	50	431
90mmx50mm	116.4	66.6	165	110sec	10min	36	36
90mmx63mm	116.4	82.7	165	120sec	10min	25	25
110mmx90mm	145	115.1	190	220sec	10min	10	16

#### · EF End Cap



Dimensions	Measurement(mm)		Working Time		EA per Box	Weight
	D	L	Welding	Cooling		
63mm	82	94	60sec	10min	80	253
90mm	115	120	100sec	10min	40	534
110mm	141	129	120sec	10min	20	834
160mm	200	167	360sec	20min	8	1,920

### Tightening PE Fittings for Water Supply (KS M 3408-3)



#### · Socket



Dimensions(OD)	
16	65
20	75
25	100
30	125
40	150
50	

#### · Reduced Tee



Dimensions(OD)	
20X16	
25X16 ~ 20	
30X16 ~ 25	
40X16 ~ 30	
50X16 ~ 40	
75X16 ~ 40	

#### · Equal Tee



Dimensions(OD)	
16	65
20	75
25	100
30	125
40	150
50	

#### · 45° Elbow



Dimensions(OD)	
50	
65	
75	
100	
125	

#### · 90° Elbow



Dimensions(OD)	
16	65
20	75
25	100
30	
40	
50	

#### · End Cap



Dimensions(OD)	
16	65
20	75
25	
30	
40	
50	

#### · Reducer



Dimensions(OD)	
20X16	50X16
25X16	50X20
25X20	50X25
30X16	50X30
30X20	50X40
30X25	75X16
40X16	75X20
40X20	75X25
40X25	75X30
40X30	75X40

#### · Valve Socket



Dimensions(OD)	
16	
20	
25	
30	
40	
50	
65	

**NOTICE** Above measurements are as per KS Standard and can be consulted.

## Synthetic Resin Pipe for Fire Fighting



### References

- POSCO LNG complex power plant (2009.08)
- Hadong thermal power plant (2010.01)
- Young-Heung thermal power plant (2010.04)
- Young-Kwang nuclear plant (2010.05)
- Shingori nuclear plant (2010.05)
- Shinwolsung nuclear plant (2010.08)
- Samchuk Green Power (2013.10)
- Bookpyung thermal power plant (2013.08)
- Tae-an thermal power plant (2014.03)
- Dangjin thermal power plant (2014.04)

### KPI Certification

- 13-1
- 13-2
- 13-3
- 13-9
- 15-8

### Dimensions (SDR11- PE100)

Pressure-rating: 1.5MPa

DN	Pipes for outdoor fire hydrant equipment			Certification
	OD(mm)	Thickness(mm)	Length(m)	
50	60.0 ~ 61.1	5.5 ~ 6.3	6, 9, 12	13-1
75	89.0 ~ 90.5	8.1 ~ 9.2	6, 9, 12	13-1
100	114.0 ~ 115.9	10.4 ~ 11.7	6, 9, 12	13-1
150	165.0 ~ 167.6	15.3 ~ 17.0	6, 9, 12	13-1
200	216.0 ~ 218.8	19.5 ~ 21.7	6, 9, 12	13-1
250	267.0 ~ 270.1	24.3 ~ 26.8	6, 9, 12	13-1
300	318.0 ~ 321.3	28.9 ~ 32.2	6, 9, 12	13-1

DN	Pipes for outdoor fire hydrant equipment			Certification	
	OD(mm)	Thickness(mm)	Length(m)	Genral	매설탐지
63	63.0 ~ 63.4	5.8 ~ 6.5	6, 9, 12	13-2	13-3
75	75.0 ~ 75.5	6.8 ~ 7.6	6, 9, 12	13-2	13-3
90	90.0 ~ 90.6	8.2 ~ 9.2	6, 9, 12	13-2	13-3
110	110.0 ~ 110.7	10.0 ~ 11.1	6, 9, 12	13-2	13-3
125	125.0 ~ 125.8	11.4 ~ 12.7	6, 9, 12	13-2	13-3
140	140.0 ~ 140.9	12.7 ~ 14.1	6, 9, 12	13-2	13-3
160	160.0 ~ 161.0	14.6 ~ 16.2	6, 9, 12	13-2	13-3
180	180.0 ~ 181.1	16.4 ~ 18.2	6, 9, 12	13-2	13-3
200	200.0 ~ 201.2	18.2 ~ 20.2	6, 9, 12	13-2	13-3
225	225.0 ~ 226.4	20.5 ~ 22.7	6, 9, 12	13-2	13-3
250	250.0 ~ 251.5	22.7 ~ 25.1	6, 9, 12	13-2	13-3
280	280.0 ~ 281.7	25.4 ~ 28.1	6, 9, 12	13-2	13-3
315	315.0 ~ 316.9	28.6 ~ 31.6	6, 9, 12	13-2	13-3
355	355.0 ~ 357.2	32.3 ~ 35.6	6, 9, 12	13-9	-
400	400.0 ~ 402.4	36.3 ~ 40.1	6, 9, 12	13-9	-
450	450.0 ~ 452.7	40.9 ~ 45.1	6, 9, 12	13-9	-
500	500.0 ~ 503.0	45.4 ~ 50.1	6, 9, 12	13-9	-
560	560.0 ~ 563.4	50.8 ~ 56.0	6, 9, 12	15-8	-
630	630.0 ~ 633.8	57.2 ~ 63.1	6, 9, 12	13-9	-

## Underground Pipe for Detection



### Features

- Detects pipe, its depth and length
- Prevents accidents during construction
- Cost saving for repair
- Applied for GIS(Geographic Information System)

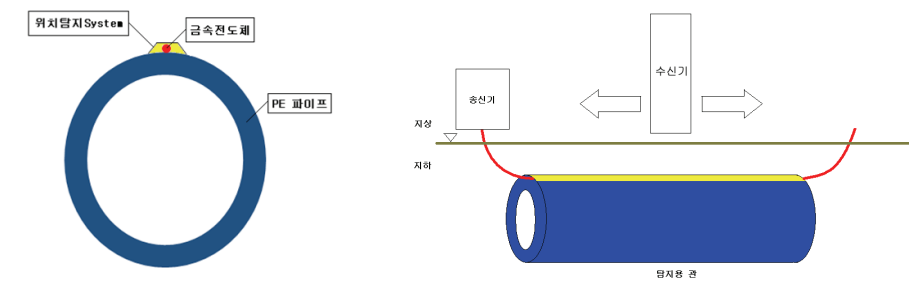
### Pipe Dimensions

- PE pipe for water supply, all dimensions for double-wall sewer pipes



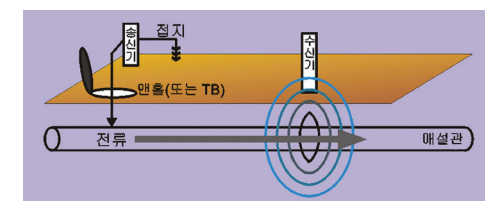
No. 10-1376818  
Apparatus for attaching metallic conductor for locating underground pipe

### Product cross section and Detection principle



### Detection Method - Direct

- Through a transmitter, accurate line is detected by grounding metal pipes or metal wire.
- Detects up to 5m depth



(직접법 개략도)

### 탐지순서



1) Connect the socket after positioning transmitter on ground

2) Detect underground materials with receiver

### References

- Power plant : Samchuk Green Power
- Municipal: Sangjusi, Ansansi water and wastewater system
- Agricultural : Chil-gok, Sangju, Uisung, Gunui, etc



## Adapter for Valve Connection



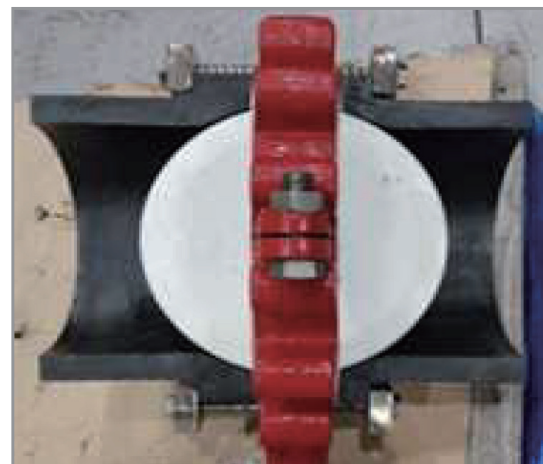
### · Features

- Resolves interference between valve disk and PE adapter during the valve opening/closing when connecting valves between PE pipes.
- Increases stability of fluid flow



Patent of The Adapter for Butterfly Valve and The Butterfly Valve Pipe Conjunction

### · Shape and Form



## PE Bellows



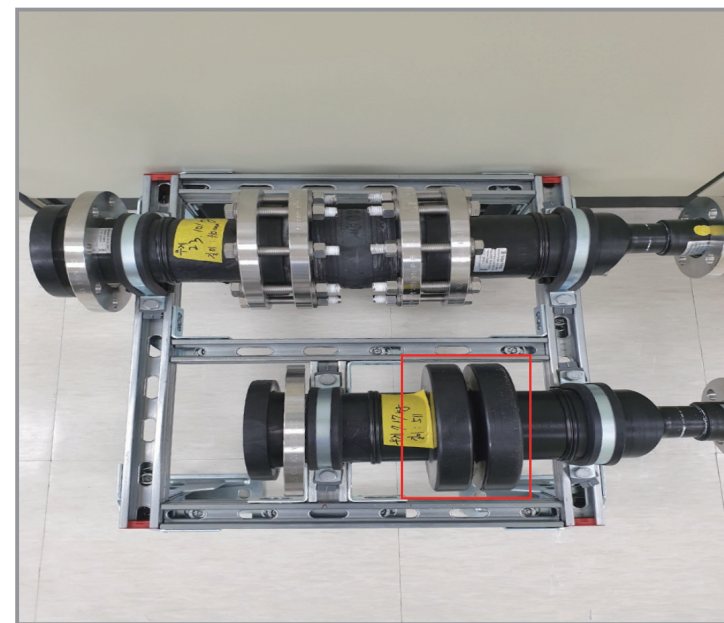
### · Features

- Development of bellows with a PE material
- Increases safety, reduces spool weight, reduces on-site bolt fastening needs
- Saves cost, reduces spool length, deletes STS joints
- Quality improvement  
Flange tightening deletion reduces leak points.  
Change of material from Rubber to PE leads to prevention of hardening.



Patent of High-pressure fluid transport Bellows and its manufacturing process

### · The application example and the examination report of authorized internal-pressure test



시험성적서			
KRISS (Korea Research Institute of Standards and Science)			
1. 용도	원고의뢰	시험목적	시험조건
2. 시험종류	내압시험	시험방법	시험장비
3. 시험대상	PE 벨로우즈	시험재료	시험장소
4. 시험일자	2021. 03. 11	시험결과	시험인원
5. 시험장소	원고의뢰	시험비율	시험장비
6. 시험결과	합격	시험비율	시험장비
7. 시험결과	합격	시험비율	시험장비

2021. 03. 11

한국플라스틱시험원  
KOREA PLASTIC TESTING INSTITUTE



**Eccentric Reducer**



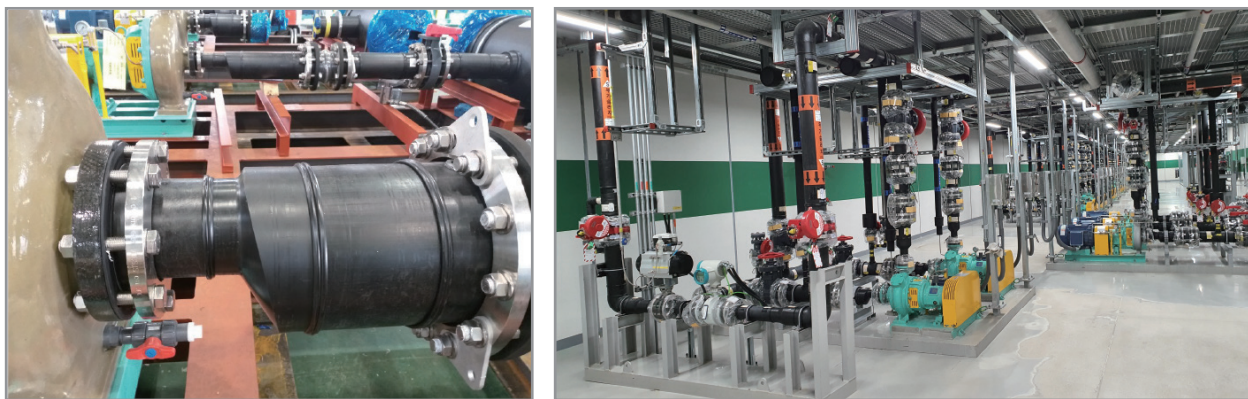
· **Features**

- Securing product quality by using extruded preform as the base material rather than the general processing production method
- Shortens pipe length at valve or pump
- Reduces fluid swirling in horizontal pipes
- Production of various specifications is possible by preform processing



Patent of the Preform manufacturing device of Reducer, the Preform, and the Reducer

· **Use**



**Advanced Anti-Abrasion(AAA) Pipe**

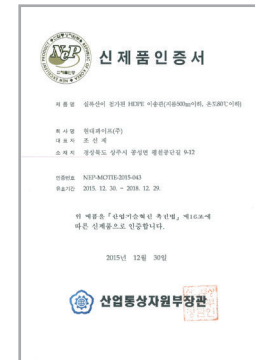


· **Overview**

- Eco-friendly product that uses HDPE as a base material and dramatically improves the wear resistance of the product by adding Si

· **Overview**

- More than twice the wear resistance of existing HDPE pipes
- Excellent acid resistance and alkali resistance
- Infringement with salt, oil, and etc / Corrosion resistant
- Eco-Friendly Material(PE, Si)
- Light weight and Flexible



NEP Certificate



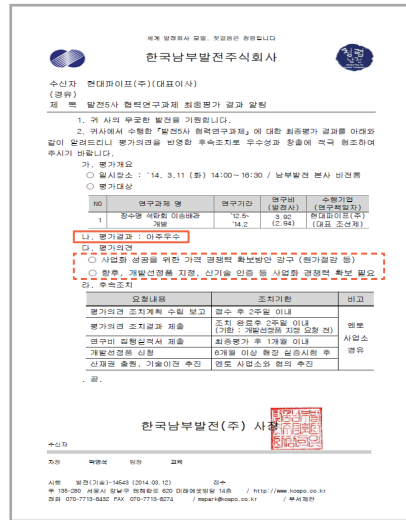
Patent

· **Pipe Dimensions (Material: PE100 GRADE)**

SDR	SDR11		SDR13.6		SDR17		SDR21		SDR26	
	PN16		PN12.5		PN10		PN8		PN6	
Operating Pressure(PE100)	Thickness	G2B code number	Thickness	G2B code number	Thickness	G2B code number	Thickness	G2B code number	Thickness	G2B code number
20	2.0~2.3	23015351	-	-	-	-	-	-	-	-
25	2.3~2.7	23015352	2.0~2.3	-	-	-	-	-	-	-
32	3.0~3.4	23015353	2.4~2.8	-	2.0~2.3	-	-	-	-	-
40	3.7~4.2	23015354	3.0~3.5	-	2.4~2.8	-	2.0~2.3	-	-	-
50	4.6~5.2	23015355	3.7~4.2	-	3.0~3.4	-	2.4~2.8	-	-	-
63	5.8~6.5	23015356	4.7~5.3	-	3.8~4.3	-	3.0~3.4	-	-	-
75	6.8~7.6	23015357	5.6~6.3	-	4.5~5.1	-	3.6~4.1	-	-	-
90	8.2~9.2	23015358	6.7~7.5	-	5.4~6.1	-	4.3~4.9	-	-	-
110	10.0~11.1	23015359	8.1~9.1	23015367	6.6~7.4	23015464	5.3~6.0	23015473	4.2~4.8	23182129
125	11.4~12.7	23015360	9.2~10.3	23015368	7.4~8.3	-	6.0~6.7	-	-	-
140	12.7~14.1	23015361	10.3~11.5	23015369	8.3~9.3	-	6.7~7.5	-	-	-
160	14.6~16.2	23015362	11.8~13.1	23015370	9.5~10.6	23015465	7.7~8.6	23015474	6.2~7.0	23182130
180	16.4~18.2	23015363	13.3~14.8	23015371	10.7~11.9	-	8.6~9.6	-	-	-
200	18.2~20.2	23015364	14.7~16.3	23015372	11.9~13.2	-	9.6~10.7	-	-	-
225	20.5~22.7	23015365	16.6~18.4	23015373	13.4~14.9	23015466	10.8~12.0	23015475	8.6~9.6	23182131
250	22.7~25.1	-	18.4~20.4	-	14.8~16.4	-	11.9~13.2	-	-	-
280	25.4~28.1	23015366	20.6~22.8	23015374	16.6~18.4	23015467	13.4~14.9	23015476	10.7~11.9	23182132
315	28.6~31.6	22969163	23.2~25.7	23015380	18.7~20.7	23015468	15.0~16.6	23015477	12.1~13.5	23182133
355	32.2~35.6	22969164	26.1~28.9	23015381	21.1~23.4	23015469	16.9~18.7	23015478	13.6~15.1	23182134
400	36.3~40.1	22969160	29.4~32.5	23015382	23.7~26.2	23015470	19.1~21.2	23015479	15.3~17.0	23182135
450	40.9~45.1	22969161	33.1~36.6	23015383	26.7~29.5	23015471	21.5~23.8	23015480	17.2~19.1	23182136
500	45.4~50.1	22969162	36.8~40.6	23015384	29.7~32.8	23015472	23.9~26.4	23015481	19.1~21.2	23182137
560	50.8~56.0	23126011	41.2~45.5	23125763	33.2~36.7	23125767	26.7~29.5	23126009	21.4~23.7	23182138
630	57.2~63.1	23126008	46.3~51.1	23125764	37.4~41.3	23125768	30.0~33.1	23126010	24.1~26.7	23182139
710	64.5~71.1	23220935	52.2~57.6	23125765	42.1~46.5	23125769	33.9~37.4	23126758	27.2~30.1	23182140
800	72.6~80.0	23220936	58.8~64.8	23125766	47.4~52.3	23125770	38.1~42.1	23126759	30.6~33.8	23182141
900	81.7~90.0	23220937	66.2~73.0	23220939	53.3~58.8	23220941	42.9~47.3	23220943	34.4~38.3	23220945
1000	90.2~99.4	23220938	72.5~79.9	23220940	59.3~65.4	23220942	47.7~52.6	23220944	38.2~42.2	23220946

· Advanced Anti-Abrasion performance verified

- On-site test : 2013~2015  
Verified the high abrasion resistance by Installing transport pipe in a coal-fired electrical power plant and successfully proving its performance. - Reduces fluid swirling in horizontal pipes
- Acquired Patent
- Acquired NEP certificate
- Registered as official 'Excellent procurement product'



Received Highest grade in evaluations from the five National Power Corporations of Korea

- Development period: 2012.05~2014.05
- Development background: Co-research subject with the five National Corp. of Korea
- Result: Received Highest Grade in all evaluations



· Coal transport pipe applications



· Applicable scope



Development Industry

Trenching

Mining Industry

Agricultural Industry

PE Pipe for Gas Supply (KS M 3514)

- Semi-permanent lifecycle with no corrosion or electric corrosion

· Use

- Supply pipe of LNG and LPG for Apartment and Housing Complex



· Pipe Dimensions (KS M 3514)

DN (OD)	Min. Average OD(mm)	Max. Average OD(mm)	Min. Thickness(mm)
			SDR11
16	16.0	16.3	3.0
20	20.0	20.3	3.0
25	25.0	25.3	3.0
32	32.0	32.3	3.0
40	40.0	40.4	3.7
50	50.0	50.4	4.6
63	63.0	63.4	5.8
75	75.0	75.5	6.8
90	90.0	90.6	8.2
110	110.0	110.7	10.0
125	125.0	125.8	11.4
140	140.0	140.9	12.7
160	160.0	161.0	14.6
180	180.0	181.1	16.4
200	200.0	201.2	18.2
225	225.0	226.4	20.5
250	250.0	251.5	22.7
280	280.0	281.7	25.4
315	315.0	316.9	28.6
355	355.0	357.2	32.3
400	400.0	402.4	36.4
450	450.0	452.7	40.9
500	500.0	503.0	45.5
560	560.0	563.4	50.9
630	630.0	633.8	57.3



**PE Fittings for Gas Supply (KS M ISO8085-2)**



· ELBOW 90°



Dimensions	
63	280
90	315
110	355
160	400
225	

· ELBOW 45°



Dimensions	
63	280
90	315
110	355
160	400
225	

· REDUCING TEE



Dimensions	
90x63	315x63 ~ 280
110x63 ~ 90	355x280 ~ 315
160x63 ~ 110	400x315 ~ 355
225x63 ~ 160	
280x63 ~ 225	

· EQUAL TEE



Dimensions	
63	280
90	315
110	355
160	400
225	

· END CAP



Dimensions	
63	280
90	315
110	355
160	400
225	

· REDUCER



Dimensions	
90x63	315x225 ~ 280
110x63 ~ 90	355x280 ~ 315
160x90 ~ 110	400x315 ~ 355
225x110 ~ 160	
280x160 ~ 225	

· T/F (TRANSITION FITTING)



Dimensions	
40	280
50	315
63	355
90	400
110	90x65
160	

- NOTICE**
1. T/F(W) : TRANSITION FITTING (WEDDING TYPE)
  2. Length of LONG TYPE: 1000m of steel extension

**PE Fittings for Gas Supply (KS M ISO8085-2)**



· E/F SOCKET



Dimensions		
40	110	315
50	160	355
63	225	400
90	280	

· E/F COMBINATED



Dimensions	
30x40	150x160
40x50	200x225
50x63	250x280
75x90	300x315
100x100	

· E/F 90° ELBOW



Dimensions	
40	110
50	160
63	225
90	315

· E/F 45° ELBOW



Dimensions	
63	225
90	315
110	
160	

· REDUCING TEE



Dimensions	
50x40	225x90 ~ 160
90x40 ~ 63	315x90 ~ 225
110x40 ~ 90	
160x40 ~ 110	

· EQUAL TEE



Dimensions	
50	160
63	225
90	315
110	

· CAP



Dimensions	
50	
63	
90	
110	
160	

· REDUCER



Dimensions	
90x50	
90x63	
110x90	

· E/F SADDLE



Dimensions	
160x90 ~ 110	280x90 ~ 110
200x110	300x100
225x90 ~ 110	315x90 ~ 110
250x110	

· E/F PATCH



Dimensions	
90	280
110	315
160	
225	



### Double Wall Corrugated Sewer Pipe (KS M 3500-1)



· Features

- Little deformation with higher structural strength
- Cost-effective for construction

· Use

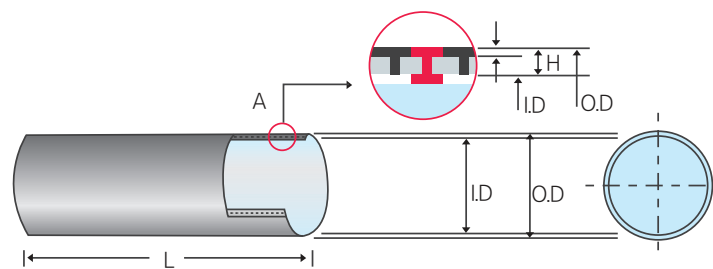
- rainwater, waste water, separate sewer main, terminal disposal plant of sewerage, slurry pipeline



· Joint Method

- E/F sheet, PE band, Stainless Band, Heat contraction sheet, Insert-Rubber socket

· Cross sectional view



· Pipe dimensions (KS M 3500-1, KPS M 2009)

(Unit: mm)

DN	1st Class PE Double Wall Sewer pipe			2nd Class PE Double Wall Sewer pipe			Length(m)
	OD	ID	Thickness	OD	ID	Thickness	
150	176	150	13	-	-	-	6
200	228	200	14	224	200	12	6
250	280	250	15	278	250	14	6
300	338	300	19	328	300	14	6
350	394	350	22	380	350	15	6
400	450	400	25	438	400	19	6
450	508	450	29	494	450	22	6
500	562	500	31	550	500	25	6
600	678	600	39	662	600	31	6
700	788	700	44	778	700	39	6
800	900	800	50	888	800	44	6
900	1012	900	56	1000	900	50	6
1000	1124	1000	62	1112	1000	56	6
1200	1350	1200	75	1324	1200	62	6
1500	1690	1500	95	1650	1500	75	6

- NOTICE**
1. Average ID tolerance : #150 +/- 4.5mm, #200~600 +/-5.1mm, #700~1200 +/-6.4mm, #1500 +/- 7.6mm
  2. Thickness tolerance : #150~250 +/-8%, over #300 +/- 5%,
  3. Length tolerance : within 2%
  4. Cutting length of pipes can be consulted.

### Multiple Wall Corrugated Sewer Pipe(KS M 3500-2)



· Features

- Stiffness by forming cross-shaped stiffener within profile
- Prevents deformation from earth pressure and vehicle load pressure

· Use

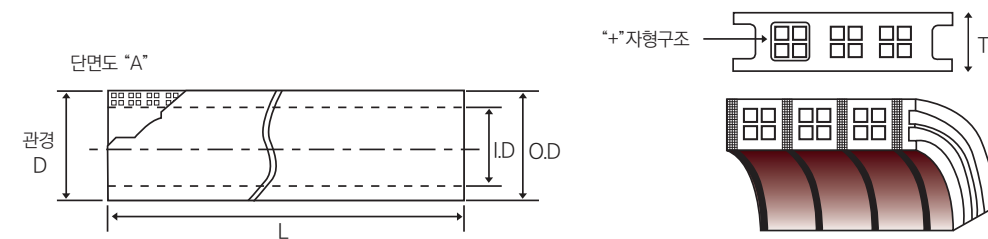
- rainwater, waste water, separate sewer main, terminal disposal plant of sewerage, slurry pipeline



· Joint Method

- E/F sheet, PE band, Stainless Band, Heat contraction sheet, Insert-Rubber socket

· Cross sectional view



· Pipe dimensions (KS M 3500-2, KPS M 2009)

(Unit: mm)

DN	PE Multi-Wall Sewer pipe			Length(m)
	OD	ID	Thickness	
150	180	150	15	6
200	232	200	16	6
250	284	250	17	6
300	340	300	20	6
350	398	350	24	6
400	460	400	30	6
450	510	450	30	6
500	570	500	35	6
600	694	600	47	6
700	800	700	50	6
800	916	800	58	6
900	1024	900	62	6
1000	1150	1000	75	6
1200	1390	1200	95	6
1500	1710	1500	105	6

- NOTICE**
1. Average ID tolerance : #150~600 +/- 5.1mm, #700~1200 +/-6.4mm, #1500 +/- 7.6mm
  2. Thickness tolerance : #150~250 +/-8%, Over #300 +/-5%
  3. Length tolerance : within 2%
  4. Cutting Length of pipes can be consulted.

## Insert Rubber Socket Sewer Pipe



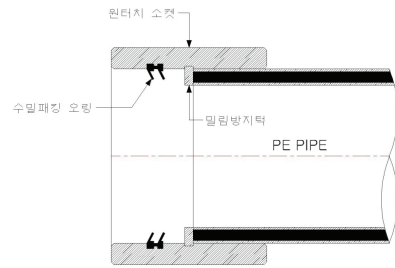
### · Features

- Injection with an insert of watertight rubber into the socket
- Construction-effective with one-touch joint
- Better watertight effect with inserted rubber

### · Types

- Double-wall IR socket sewer pipe
- Multi-wall IR socket sewer pipe
- Filled-wall IR socket sewer pipe

### · Shape and Form



### · Build-up Sequence

- Alignment of pipe
- Set Clamp Band
- Spray soap water on insert section
- Set lever block on clamp band
- Tighten by pulling lever block
- Disassemble Clamp band and lever block
- Complete

### · References

- Daechung Dam Sewer system
- Sanjusi sewer main repair
- Ohsang Public sewer treatment facility
- Gongsungmyun waste water main
- Kyungchundae parking lot
- Sambaek agricultural theme park
- Chungri sewer main repair

## PE Fittings for Sewer



### · Elbow 11,22,45,90°



Dimensions	
150	600
200	700
250	800
300	900
350	1000
400	1200
450	1500
500	

### · Reduced Tee



Dimensions			
main pipe	branch pipe	main pipe	branch pipe
150	-	600	150-500
200	150	700	150-600
250	150	800	150-700
300	150-250	900	150-800
350	150-250	1000	150-900
400	150-350	1200	150-1000
450	150-400	1500	150-1200
500	150-450		

### · IR Socket Elbow (11,22,45,90°) and Reduced/Equal Tee



Elbow	Dimensions	
	main pipe	branch pipe
150	150	-
200	200	150
250	250	150
300	300	150-250
350	350	150-250
400	400	150-350
500	450	150-400
600	500	150-450
	600	150-500

### · IR Socket Integral Reduced/Equal Tee



Dimensions	
main pipe	branch pipe
150	-
200	150

### · Integral Reduced/Equal Tee



Dimensions	
main pipe	branch pipe
150	-
200	150

**NOTICE** Above measurements are as per KS Standard, can be consulted.



**Integral House Inlet**



**· Features**

- Use of PE material with durability
- Injection manufactured
- Adjustable height at site
- Stiffened outer rib
- Prevents offset of iron cap
- New concept deodorization trap
- Easily adjustable branch angle



**· Performance**

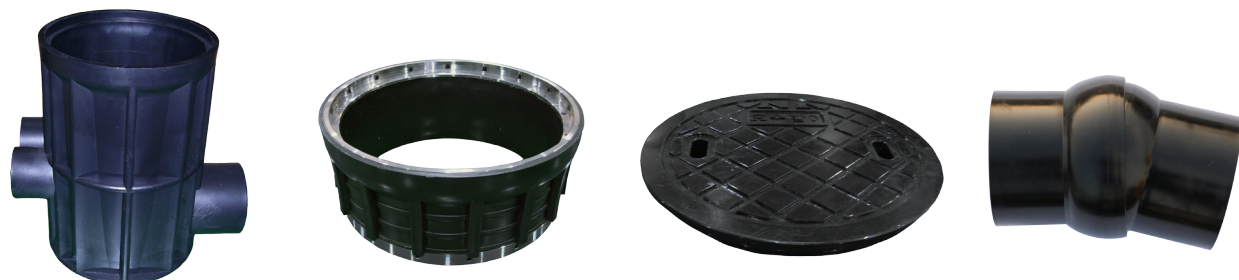
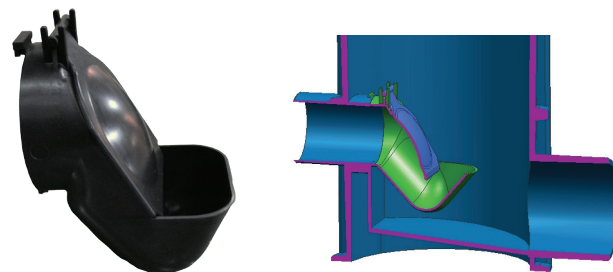
Product	Test item	Dimensions	Strength
House Inlet	Max. Compressed Load	Ø368X515(h)	4,500kgf

**· Product and Data**

Components		Dimensions	Material	Manufacturing Method
Iron Cap		Ø368X34(t)	Iron	Cast molding
House Inlet	Body	Ø340X515(h)	PE	Injection molding
	Inlet	Ø100		
	Outlet	Ø150		
Height adjusting pipe		Ø368X130(h)	PE	Injection molding
Watertight rubber ring		Ø340X10(t)	EPDM Rubber	Press
Metal ring		Ø340	Iron	Cast

**· Deodorization Trap**

- utilized both Flap and Trap method
- easily installed inside house inlet
- Prevents sediments (sludge) by streamline design
- Detachable, easily cleaned



**PE Pipe for Golf Course**



**· Features**

- Construction-effective
- Cost-effective
- Convenient maintenance
- Long-term durability



**· Use**



**· References**

- Marine Corp. C.C.
- Shiney Hills C.C.
- Paganica C.C.
- Star Valley C.C.
- Hampton C.C.
- Daegu C.C.
- Muju Ansong C.C.
- Sun Valley C.C.
- Nobel C.C.
- Sukjung Fountain C.C.
- Hue Nest C.C.
- Island Zone C.C.
- SouthCape C.C.
- Daebu Island C.C.
- Benest C.C.
- Daeyoung Base C.C.
- Yeoju C.C.
- Saejong C.C.
- Cheongnam C.C.
- Yoomyung Mt. C.C.
- Cheil C.C.
- Rexfield C.C.
- Choongang C.C.
- Shineville C.C.
- Phoenix Park C.C.
- Bear Creek C.C.
- Pine Valley C.C.
- Jakcheonjung C.C.
- Gaya C.C.
- JungSan C.C.
- The Honors C.C.
- Jeju Ora C.C.
- Teachland C.C.
- Ophel C.C.
- Wolsung Public C.C.
- Sangju C.C.
- Choongju Daeyoung C.C.
- Venezia C.C.
- DongBusan G.C.
- Salt Bay G.C.
- Lavie est Belle G.C.



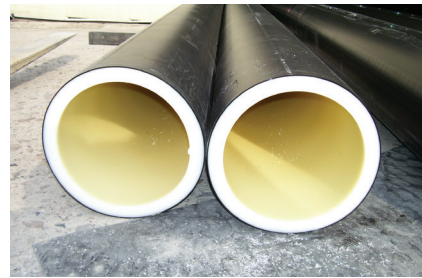


**Deep Sea water Line**



**· Features**

- No corrosion by salt
- No organic growth such as bacteria or marine plants
- No scaling or rusting inside the pipe
- High hydraulic efficiency due to smooth surface
- Low Handling and Construction cost



**· References**



- Name: Ulleung Island deep seawater intake installation
- Client: Ulleung Deepwater, Ulleung Mineral
- Pipe Dimensions : D200, D300 water pipes
- Total length: 4.5km



Intake equipment of deep sea water



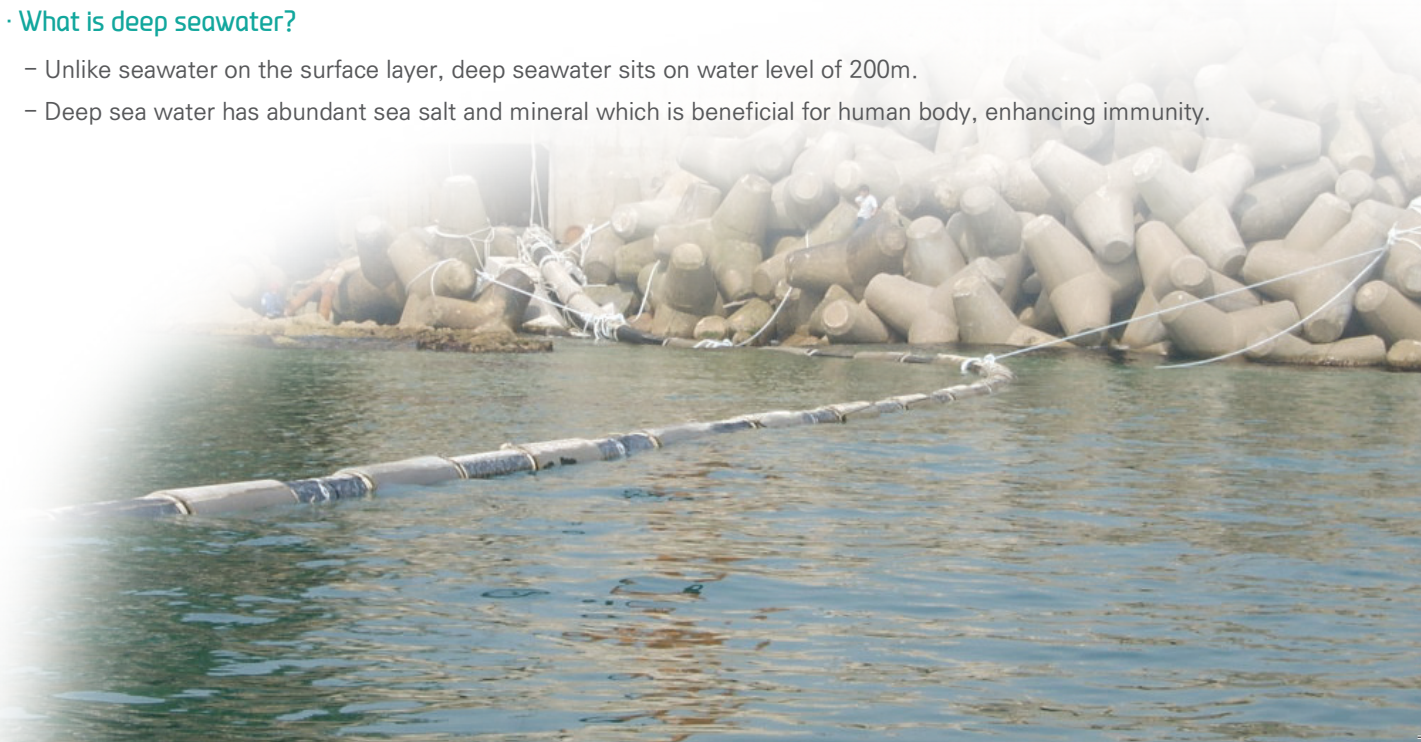
- Name: East Sea deep seawater Line installation
- Client: Haebong Co.,Ltd
- Pipe Dimensions: D400 water pipes, D300 pressure pipes
- Total length: 5.6km



- Name: Yangyang deep seawater line installation
- Client: Watervis Co.,Ltd, Jungsuk Marine Construction Co., Ltd
- Pipe Dimensions: D350 water pipes and pressure pipes
- Total length: 20km

**· What is deep seawater?**

- Unlike seawater on the surface layer, deep seawater sits on water level of 200m.
- Deep sea water has abundant sea salt and mineral which is beneficial for human body, enhancing immunity.



**Wave-Resistant Marine Fish Cage**



**· Features**

- No corrosion by seawater
- Minimize maintenance by long-term durability
- No environmental pollution by self-floating system
- Minimized installation cost
- Possible enlargement to increase number of marine fish per area
- Minimize the damage on marine ecosystem

**· References**

- Tongyoung, Geojae (2008)
- Tongyoung, 6 others (2009)
- Tongyoung, 11 others (2010)
- Kangwon, Gosung, Sokcho
- Tongyoung (2015)
- Tongyoung City Hall, 3 others (2015)

**· Types**

- Wave-resistant Square fish cage, Circular fish cage, abalone cage

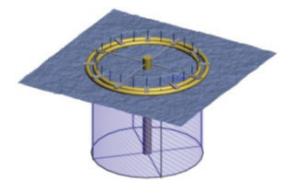
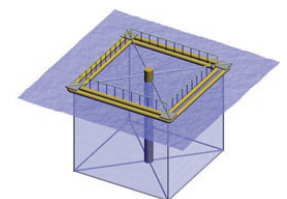
**· Comparison between HYUNDAIPIPE's Wave-resistant Marine fish cage and other fish cage**

Designation	General Fish Cage (Bamboo, lumber)	Wave-resistant Fish Cage
General	Bamboo or lumber as a platform and styrofoam at the bottom	PE at the bottom for buoyancy PE or lumber platform
Dimensions	5m x 5m 7m x 7m	5m x 5m 7m x 7m 14m x 14m
Maintenance	Repair and replace every one year	None
Life cycle	2-3 years	over 10 years
Mobility	Impossible	Possible
Environment	Pollution from Styrofoam debris	No Pollution
Fish growth rate	Slow	4-5 months faster
Capacity (fish)	10,000	30,000
Wave-resistance	Diffused by storm	No damage
Marine Weather Response	Vulnerable to Storm and Red tide	Resistant to Red tide (Subsiding installation)

**· Subsiding Red tide resistant wave-resistant fish cage (National Project of Korean Marine Laboratory)**

**· Features**

- Install Spar Buoy (stabilize ebb and flow)
- Install square or circular frame at the bottom (fish net shape)
- Fish cage ebb and flow by controlling period of compressed air



**· Benefits**

- Prevents damage by Red tide
- Prevents damage by storm and wind
- Minimizes harm to marine ecosystem





## Floating Fishing Platform



### · Features

- Install fish shelter in the water then install floating platform on top
- Popular water sports facility
- Can be applied to marin ranching

### · References

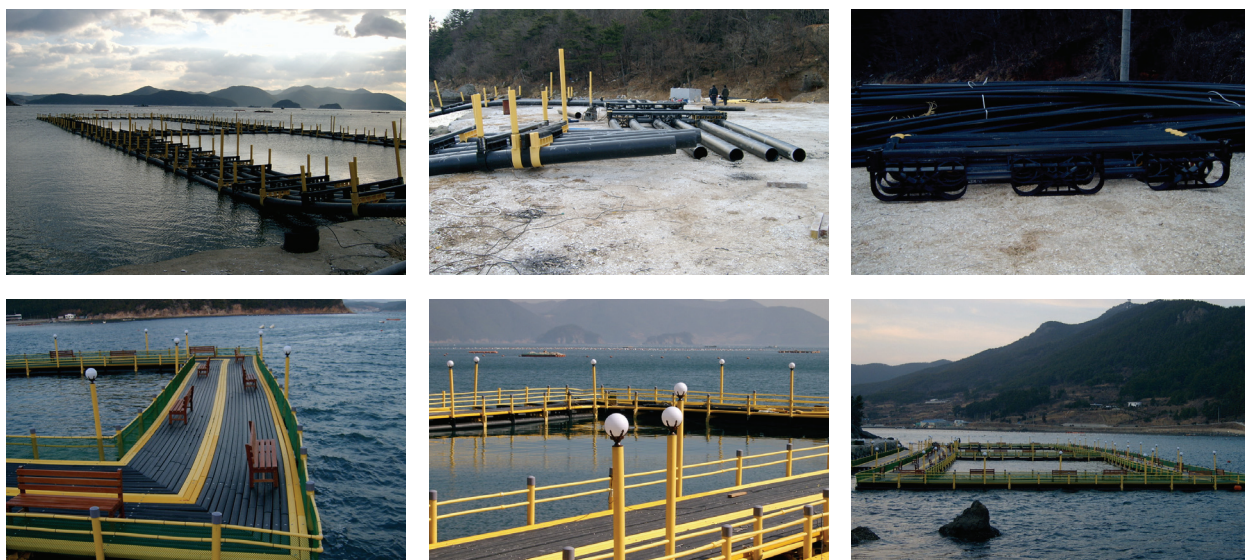
- Tongyoung (2009,2010)
- Busan Bay Office (2011)

### · Construction Process

- Tongyoung Sea Fishing Platform (Ministry of Maritime Affairs and Fisheries)



- Joonghwa Fishing Platform (Tongyoung City Hall)



A floating structure of an assembly type

## Reference List by Hyundai Pipe Co.,Ltd



### · POWER PLANT

Year	Pipe Size	Project	Location	Contractor	Client	Use
2022	D630-1400	Seawater Desalination Project	Seosan	GS Engineering & Construction	K-water	Water
2022	D32-280	Tongyeong Eco Power Plant	Tongyoung	Hanwha Engineering&Construction	Tongyoung Eco Power Co.,Ltd.	Water
2021	D560	Gimpo Combined Heat and Power Generation Plant	Gimpo	Korea West Power Corp.	Korea West Power Corp.	Water
2019	D25-2600	Gangneung Anin Coal-fired power plant	Gangneung	Samsung C&T	KEPCO E&C	Water, Firefighting, Chlorine pipes
2017	D1000	Dangjin Coal Fired Power Plant	Dangjin	Korea East-West Power Co.	Korea East-West Power Co.	HDPE SPOOL
2016	D400 HWR Pipe	Tae-an Coal Fired Power Plant	Tae-an	Korea West Power Corp.	Korea West Power Corp.	HWR Pipe for transportation of ash
2016	D350 HWR Pipe	Dangjin Coal Fired Power Plant	Dangjin	Korea East-West Power Co.	Korea East-West Power Co.	HWR Pipe for transportation of ash
2015	D560 & others	Boryung Thermal Power Plant #9.10	Boryung	Korea Middle Power Corp.	Korea Middle Power Corp.	Water, Firefighting pipes
2015	D355 & others	Dongduchun LNG CCGP	Dongduchun	Korea West Power Corp.	Korea West Power Corp.	Water, Firefighting pipes
2015	D400 & others	Bukpyung Thermal Power Plant #1.2	Donghae	STX Heavy Industries	STX Heavy Industries	firefighting pipes
2015	D450 & others	Tae-an Thermal Power Plant #9.10	Tae-an	Korea West Power Corp.	Korea West Power Corp.	Water, Firefighting pipes
2014	D900 & others	Dangjin Thermal Power Plant #9.10	Dangjin	Samsung C&T	Korea East-west Power Co.	Water pipes
2014	D200	Ulsan Nuclear Power Plant	Ulsan	KNHP	KNHP	Water pipes
2014	D500 & others	POSCO Power LNG CCGP	Inchun	POSCO	POSCO	Water pipes
2014	D400 & others	Samchuk Green Thermal Power Plant #1.2	Samchuk	Korea South Power Co.	Korea South Power Co.	Water, Firefighting pipes
2014	D315 & others	Pyungtak CCGP #1.2	Pyungtak	Korea West Power Co.	Korea West Power Co.	Firefighting pipes
2014	D150	Yusu Thermal Power Plant	Yusu	Korea South Power Co.	Korea South Power Co.	Water pipes
2013	D200 & others	Dongduchun LNG CCGP	Dongduchun	Korea West Power Corp.	Korea West Power Corp.	Water, Firefighting pipes
2013	D225 & others	Andong CCGP #1.2	Andong	Korea South Power Co.	Korea South Power Co.	firefighting pipes
2013	D100 & others	Namhae Namyun Road Repair Works	Namhae	Namhae-gun County Authority	Namhae-gun County	Water pipes
2013	D450 & others	Dangjin Thermal Power Plant #9.10	Dangjin	Halla Industry Development Co.	Korea East-west Power Co.	firefighting pipes
2013	D315 & others	Pyungtak CCGP #1.2	Pyungtak	Korea West Power Co.	Korea West Power Co.	Water, Firefighting pipes
2013	D280 & others	Ulsan CCGP #3.4	Ulsan	Korea East-West Power Co.	Korea East-West Power Co.	firefighting pipes
2013	D500 & others	Samchuk Green Thermal Power Plant #1.2	Samchuk	Korea South Power Co.	Korea South Power Co.	Water, Firefighting pipes
2012	D50	Yongwol CCGP	Yongwol	Korea East-West Power Co.	Korea East-West Power Co.	Water pipes
2013	D350	Yangyang Deep Seawater Development Works	Yangyang	Watervice Co.	Watervice Co.	Water pipes



## · SEMI-CONDUCTOR PLANT

Year	Pipe Size	Project	Location	Contractor	Client	Use
2022	D1400	Samsung Electronics P-PJT Water Purifier	Pyeongtaek	Samsung Engineering Co.,Ltd	Samsung Electronics Ltd	Water pipes
2022	D32-500	Samsung Electronics Semiconductor Plant P4 Fab Dong P-PJT	Pyeongtaek	Samsung C&T	Samsung Electronics Ltd	Water pipes (Including PE100RC)
2022	D32-1000	Samsung Electronics Semiconductor Plant P4 Green Dong P-PJT	Pyeongtaek	Samsung Engineering Co.,Ltd	Samsung Electronics Ltd	Water pipes (Including PE100RC)
2021	D32-630	Samsung Electronics Semiconductor Plant P3 Fab Dong P-PJT	Pyeongtaek	Samsung C&T	Samsung Electronics Ltd	Water pipes (Including PE100RC)
2021	D32-1000	Samsung Electronics Semiconductor Plant P3 Green Dong P-PJT	Pyeongtaek	Samsung Engineering Co.,Ltd	Samsung Electronics Ltd	Water pipes (Including PE100RC)
2018	D32-500	Samsung Electronics Semiconductor Plant P2 Fab Dong P-PJT	Pyeongtaek	Samsung C&T	Samsung Electronics Ltd	Water pipes
2018	D32-1000	Samsung Electronics Semiconductor Plant P2 Green Dong P-PJT	Pyeongtaek	Samsung Engineering Co.,Ltd	Samsung Electronics Ltd	Water pipes
2016	D32-500	Samsung Electronics Semiconductor Plant P1 Fab Dong P-PJT	Pyeongtaek	Samsung C&T	Samsung Electronics Ltd	Water pipes
2016	D32-1000	Samsung Electronics Semiconductor Plant P1 Green Dong P-PJT	Pyeongtaek	Samsung Engineering Co.,Ltd	Samsung Electronics Ltd	Water pipes
2012	D630	Paju LCD Complex Facilitie Works	Paju	LG Electric	LG Electric	Water pipes

## · PETROCHEMICAL PLANT

Year	Pipe Size	Project	Location	Contractor	Client	Use
2022	D32-800	Tongyeong Eco LNG	Tongyoung	Hanwha Engineering&Construction	Tongyoung Eco Power Co.,Ltd.	Water, Firefighting
2021	D900-1800	Ulsan LNG Terminal Construction	Ulsan	Daewoo E&C, SK E&C	Korea Energy Terminal (KET)	Water, Firefighting
2019	D110, 160	heavy ion accelerator PJT	Sejong	Paratech Co.,Ltd	Posco Construction Co.,Ltd	Firefighting pipes
2016	D225-630	Yeosu LNG tank PJT	Yeosu	Lotte Construction Co.,Ltd	Lotte Construction Co.,Ltd	Water & Firefighting pipes
2015	D300 & others	Naju-si Hwachun Plant Site	Naju	Lotte Construction Co.	Lotte Construction Co.	Water pipes
2015	D450 & others	Yusu-si Hwahidong Housing block	Yusu	Lotte Construction Co.	Lotte Construction Co.	firefighting pipes
2015	D110	Inchun GS Caltex Tank Farm Storage 4.5	Inchun	GS Caltex	GS Caltex	Water pipe
2015	D355	LG Chemical Yeosu Yongsung Extension-4 Block	Yeosu	LG Chemical Co.	LG Chemical Co.	Water pipe
2015	D300 & others	Inchun GS Caltex Tank Farm Storage 4.5	Inchun	GS Caltex	GS Caltex	firefighting pipes
2014	D355	Yusu Chemical Firefighting Pipes Works	Yusu	LG Chemical	LG Chemical	firefighting pipes
2014	D500	Daesan Petro-Chemical Water Supply Works	Daesan	Samsung Total Chemical	Samsung Total Chemical	Water pipes
2012	D550	Yuchun Honam Petro-chemical B-PROJECT	Yusu	Honam Petro-Chemical Co.	Honam Petro-Chemical Co.	firefighting pipes

## · OVERSEAS EXPORT PJT

Year	Pipe Size	Project	Location	Contractor	Client	Use
2023	D32-400	Guam Ukudu 200MW Combined Cycle Power Plant	Guam	Doosan Enerbility	Korea Electric Power Corporation (KEPCO) Korea Ease-West(EWP) consortium	Water, Firefighting (FM) pipes
2023	D400	Colon LNG Expansion Project	Panama	Posco E&C	Costa Norte LNG Terminal, S. de R.L.	Firefighting (FM) pipes
2022	D32-450	TUCF_Ultra Fuel (UCF) Diesel Euro V Project for New Unit	Thailand	Hyundai Engineering Co.,Ltd	IRPC	Water pipes
2021	D110-1200	Purified Terephthalic Acid (PTA) plant for Sasa Polyester(Petrochemical)	Adana, Turkey	Técnicas Reunidas	Sasa Polyester	Firefighting (FM) pipes
2020	D25-315	COWA Water Supply System Development for The Lembalumbu Region in Kinshasa City	Congo	Hyundai Engineering Co.,Ltd	REGIDESO S.A	Water
2020	D110-630	Chemical and Refining Integrated Singapore Plant (CRISP)	Singapore	Aliaxis Iberia S.A.U	Técnicas Reunidas	Firefighting (FM) pipes
2019	D25-1200	CIREBON II 1000MW Coal Fired Power Plant	Indonesia	Hyundai Engineering & Construction	Cirebon Power	Water, Firefighting (FM) pipes
2018	D180-315	West Connex M5 Fire Hydrant&Deluge Mains HDPE Pipe	Australia	WestConnex	CPB Samsung	Firefighting pipes
2018	D90-160	Kalselteng 2 CFSP (2X100MW)	Indonesia	Hyundai Engineering Co.,Ltd	PT PLN (PERSERO)	Water
2017	D110-630	Al-Zour LNG Import terminal Phase5	Kuwait	SK E&C	KIPIC	Water Pipes
2017	D20-315	Shuqaiq Steam Power Plant (SSPP)	Saudi Arabia	Hyundai Heavy Industries Co.,Ltd	Hyundai Heavy Industries Co.,Ltd	Water pipes
2017	D63-315	Shuqaiq Steam Power Plant (SSPP)	Iraq	S&P Forwarder		Water Pipes
2016	D63-315	JIMAH EAST POWER 2X1000MW Coal Fired Power Plant	Malaysia	Hyundai Engineering Co.,Ltd	JIMAH EAST POWER	Water, Firefighting pipes
2016	D25-315	Shuqaiq Stem Power Plant PJT	Saudi Arabia	Hanhwa Construction	SnP World Networks (Hanhwa)	Water pipes
2016	D25-315	Bismayah New City PJT	Iraq	Hanhwa Engineering & Construction	Iraq National Investment Commission	Water pipes
2015	D800 & others	Duc Hoa Water Supply Pipeline	Vietnam	Taeyoung	Long An Province	Water pipes
2015	D355 & others	Chile Tarapaca SDA	Chile	STX HI	STX HI	Water pipes
2014	D355 & others	Iraq Amara Plant	Iraq	STX HI	Iraq Power Castle	Water pipes/others
2014	D355 & others	Iraq 0.1 Mil. Housing Construction	Iraq	Han Hwa Eng. & Cons.	Iraq Power Castle	Water pipes
2013	D710 & others	Ghana Takoradi 2	Ghana	KOPEC E&C	Takoradi Int'l Co.	Water pipes
2013	D315 & others	Algeria Power Plant - HVAC & FF	Algeria	GS Construction	Sonelgaz	Water pipes



## Local Government Supply

Year	Pipe Size	Project	Location	Contractor	Client	Use
2017	D560	Daechun Multipurpose rural water development project	Jinju	Korea Rural Community Corp.-Jinju	Korea Rural Community Corp.-Jinju	Water Pipes
2017	D500	Water industry cluster creation project	Daegu	Ministry of Environment	Ministry of Environment	Water Pipes
2017	D560	Saemangeum Project, Korea Rural Community Corprator	Gunsan	Korea Rural Community Cop.-Gunsan	Korea Rural Community Cop.-Gunsan	Water Pipes
2017	D500	Wonhong Rural Water Supply Works	Sangju	Korea Rural Community Corp.-Sangju	Korea Rural Community Corp.-Sangju	Water Pipes
2016	D300-400	Kyungju Cheongun District Housing Development	Kyungju	Kyungshin Urban Development	Orange Engineering Co.,Ltd	Sewer pipes
2015	D50 & others	Umomyun Gunja Water Supply Facilities	Kimchun	Kimchunsi Authority	Kimchunsi Authority	Water pipes
2015	D225 & others	Inchun Airport Firefighting Pipe Works Ph.3	Inchun	Inchun Airport Corp.	Inchun Airport Corp.	firefighting pipes
2015	D150 & others	Sangju Water & Waste water Pipe works	Sanju	Sanjusi Authority	Sanjusi Authority	Water pipes
2015	D315	Chunnam Haenam Water Supply Pipe Line Works	Haenam	Dongbu Construction Co.	Dongbu Construction Co.	Water pipes
2015	D300	Yusu-si Rental Housing Complex	Yusu	Lotte Construction Co.	Yusu Rental Housing Complex	firefighting pipes
2015	D450 & others	Yusu Firefighting Pipes Works	Yusu	Lotte Chemical Co.	Lotte Chemical Co.	firefighting pipes
2015	D50 & others	Sanju-si Water Supply Works for draught control	Sanju	Sanju-si Gongsung County	Sanju-si Gongsung County	Water pipe
2015	D300 & others	Sanju-si Water Supply Works for draught control	Sanju	Sanju-si Gongum County	Sanju-si Gongum County	Water pipes
2015	D50 & others	Sanju-si Water Supply Works for draught control	Sanju	Saju-si Nasu County	Saju-si Nasu County	Water pipes
2015	D100 & others	Cheju Aewol-distribution Center	Cheju	Aewol Angriculture Cooperation Corp.	Aewol Angriculture Cooperation Corp.	Water pipes
2015	D160	Namhae Sanju Water Supply Works	Namhae	Namdonghae National Fisheries Science Reserarch	Namdonghae National Fisheries Science Reserarch	Water pipes
2015	D150	Chungsong Gusan District Reform Works	Chungsong	Gyungbuk Chungsong-gun	Chungsong-gun Authority	Water pipe
2015	D400	Gunsan Saemangeum Industrial Coplex	Kunsan	Solbesilica Korea Co.	Solbesilica Korea Co.	Water pipe
2015	D90 & others	Donghwa 2nd street Water Supply Reform Works	Asan	Asan-si KWWA	Asan-si KWWA	Water pipe
2015	D400	Songpyungchun River Conservation Works	Gyungbuk	Gyungbuk Province Authority	Gyungbuk Province Authority	Water pipe
2015	D50 & others	Dukga District Fruit Process Complex	Sanju	Korea Rual Community Corp.-Sanju	Korea Rual Community Corp.-Sanju	Water pipe
2015	D100 & others	Mungyung-si Sanyang Water Supply Pipe Works	Munkyoung	AEM Co.	Munkyoung-si County	Water pipe
2015	D250	Dohwangri Drainage Work Reform	Taeon	Chungnam Taeon-gun	Taeon-gun County	Water pipe
2015	D225	Chilsung District Irrigation Facilities Maintenance	Sanchung	Korea Rural Community Corp.-Chinju	Korea Rural Community Corp.-Chinju	Water pipe
2015	D150	Sanju-si Water Supply Works for draught control	Sangju	Sangju-si Authority	Sangju-si Authority	Water pipe

Year	Pipe Size	Project	Location	Contractor	Client	Use
2015	D225	Uisung Angyu Upper Water Supply Works	Uisung	Korea Rural Community Corp.-Uisung	Korea Rural Community Corp.-Uisung	Water pipe
2014	D280	Sudong District Water Facility Maintenance	Uisung	Korea Rural Community Corp.-Uisung	Korea Rural Community Corp.-Uisung	Water pipe
2014	D100	Asan Shingildong Water Supply Pipe Works	Ansan	Ansan-si Water Authority branch	Ansan-si W Authority	Water pipes
2014	D450	Dangjin River Recycle Facilities Works	Dangjin	Dangjin-gun County Authority	Dangjin-gun County	Water pipes
2014	D500	Tongyoung Sanitary Landfill Works	Tongyoung	Korea Environment Resource Corp.	Korea Environment Resource Corp.	Water pipes
2014	D400 & others	Donghae Port Intake Facility Works	Donghae	Ocean Tech. Co.	Donghae Port Authority	Water pipes
2013	D315 & others	Shihung Sihwa Industrial Complex	Shihung	Dongwoo EST Co.	Dongwoo EST	Water pipes
2013	D200 & others	Daeho District Fields Maintenance Works	Jinju	Jinju-si Authority	Jinju-si Authority	Water pipes
2013	D280 & others	Shihung Sihwa Industrial Complex	Shihung	Dongwoo EST Co.	Dongwoo EST	Water Pipe
2013	D315 & others	Daebu Central Road - Water Supply Works	Ansan	Ansan-si Water Authority branch	Ansan-si Water Authority	Water Pipes
2013	D225	Daebu Central Road - Water Supply Works	Ansan	Ansan-si Water Authority branch	Ansan-si Water Authority	Water Pipes
2013	D150 & others	Yusuam 2nd District Field Readjusment woks	Cheju	Cheju-si Authority	Cheju-si Authority	Water pipes
2013	D150	Daebu Outfall Pipes Installation Works	Ansan	Ansan-si WW Authority	Ansan-si WW Authority	Water pipes
2013	D110	Nonsan Chiam Water Supply Pipe Works	Nonsan	K- Water Corp.	K- Water Corp.	Water pipes
2012	D800 & others	Ulsan Yuchun-chun Outfalls Pipe Works	Ulsan	Ulsan-si WW Authority	Ulsan-si WW Authority	Water pipes
2012	D800	Ulsan Yuchun-chun Outfalls Pipe Works	Ulsan	Ulsan-si WW Authority	Ulsan-si WW Authority	Water pipes
2012	D560	Samankem Reclamation Development Works	Saemankeum	Daewoo E & C	Korea Rural Community Corp.-Sanju	Water pipes
2012	D710	Ansim River Water Reutilization Works	Daegu	Daegu Metropolitan City Authority	Daegu Metropolitan City	Water pipe
2012	D110 & others	Chungeub Gamkokmyun Water Supply Works	Chungeub	Chungeub-si W.W. Authority	Chungeub-si W.W. Authority	Water pipes
2012	D200 & others	Ansan Ildong Water Supply Pipe Replacement	Ansan	Ansan-si W.W. Authority	Ansan-si W.W. Authority	Water pipes
2012	D800	Ulsan Yuchun-chun Outfalls Pipe Works	Ulsan	Ulsan-si W.W. Authority	Ulsan-si W.W. Authority	Water pipes
2012	D200	Suyu District Irrigation Water Supply Works	Chindo	Chindo-gun W.W. Authority	Chindo-gun W.W. Authority	Water pipes
2012	D280	Kimchun KCC Apartment Complex	Kimchun	Hyundai Engineering Const. Co.	Hyundai Engineering Const. Co.	Water pipes
2012	D400	Taeon Keunhung-Sowon Water Supply Pipes	Taeon	Taeon-gun W.W. Authority	Taeon-gun W.W. Authority	Water pipes
2012	D125	Yongdong Rural Waste Water Disposal Works	Youndong	Youndong W.W. Authority	Youndong W.W. Authority	Water pipes
2012	D300	Base Port Seawater Supply Pipes Works	Taeon	Taeon Port Authority	Taeon Port Authority	Water pipes

Year	Pipe Size	Project	Location	Contractor	Client	Use
2012	D90	Cheju Chunwondong Housing Water Supply Pipe Works	Cheju	Cheju W.W. Authority	Cheju W.W. Authority	Water pipes
2012	D65 & others	Cheju Shindori Water Supply Pipes Replacement Works	Cheju	Cheju W.W. Authority	Cheju W.W. Authority	Water pipes
2012	D300	Ulsan Onsan Outfalls Pipe Works	Ulsan	Ulsan-si W.W. Authority	Ulsan-si W.W. Authority	Water pipes
2012	D110	Sudokwon 2nd Landfill Site Works	Seoul	Sudokwon Landfill Site Management Corporation, SLC	SLC	Water pipes
2013	D600	Yulchon Industrial Waste Disposal Complex	Yulchon	Hanmaekdeco	Hanmaekdeco	Water pipes
2013	D200 & others	Chungreung River Refrom Works	Seoul	Sungbuk-gu Authority	Sungbuk-gu Authority	Water pipes
2012	D500	Namyun Water Supply Pipe Extension Works	Namyun	Kangjin-gun Authority	Kangjin-gun Authority	Water pipes

2014	D315 & others	Chungchung Energy Service	Daejun	Chungchung Energy Service	SK E&S	Gas pipes
2014	D315 & others	Chungnam Chungbu City-Gas Pipes	Chunan	Chungbu City-Gas Co.	SK E&S	Gas pipes
2014	D280 & others	Chunbuk Energy Service	Chunju	Chunbuk Energy Service Co.	Chunbuk Energy Service	Gas pipes
2014	D315 & others	Chunnam City-Gas Pipes Works	Kwangju	Chunnam City-Gas Co.	SK E&S	Gas pipes
2014	D315 & others	Yongnam Energy Service	Gumi	Yongnam Energy Service	Yongnam Energy Service	Gas pipes
2014	D315 & others	SK E&S Busan City-Gas Pipe	Busan	SK E&S	Busan City-Gas Co.	Gas pipes
2014	D315 & others	Daegu Daesung Clean Engery	Daegu	Daesung Clean Engery	Daesung Clean Engery	Gas pipes
2014	D315 & others	Chungnam City-Gas Pipes	Chungnam	Chungnam City-Gas Co.	SK E&S	Gas pipes
2014	D315 & others	Chungnam Chungbu City-Gas Pipes	Asan	Chungbu City-Gas Co.	SK E&S	Gas pipes
2014	D315 & others	Seoul City-Gas Pipes	Seoul	Seoul City-Gas Co.	Seoul City-Gas Co.	Gas pipes
2014	D315 & others	Ulsan Kyungdong Energy Service	Ulsan	Kyungdong City-Gas Co.	Kyungdong City-Gas Co.	Gas pipes

#### · GAS PLANT

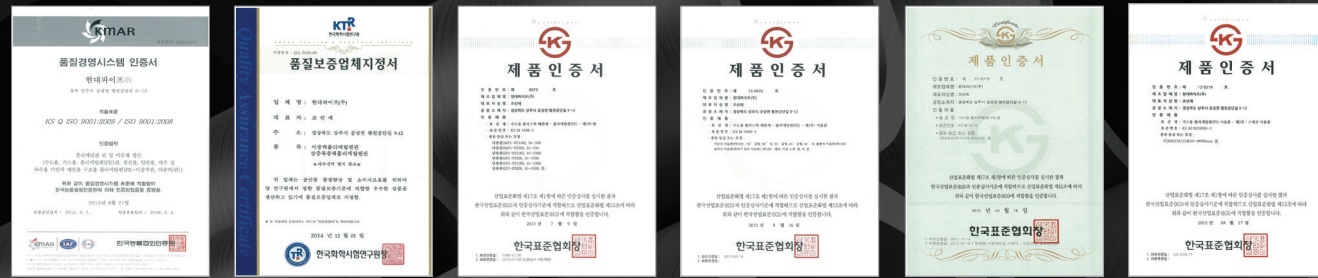
Year	Pipe Size	Project	Location	Contractor	Client	Use
2015	D315 & others	Ulsan city Ansim street 1.2 phase	Ulsan	Kyungdong City-Gas	Kyungdong City-Gas	Gas pipes
2015	D100 & others	Andong-si Water Supply works	Andong	Kyungdong City-Gas	Kyungdong City-Gas	Gas pipes
2015	D110 & others	Chungchung Energy Service	Daejun	Chungchung Energy Services	SK E&S	Gas pipes
2015	D315 & others	Daesung Clean Engery	Daegu	Daesung Clean Engery	Daesung Clean Engery	Gas pipes
2015	D280 & others	Chunbuk Energy Service	Chunbuk	Chunbuk Energy Services	Chunbuk Energy Services	Gas pipes
2015	D160 & others	Youngnam Energy Services	Youngnam	Youngnam Energy Services	Youngnam Energy Services	Gas pipes
2015	D225 & others	SK E&S Busan City-Gas Pipe	Busan	SK E&S	Busan City-Gas	Gas pipes
2015	D110	Haman Sanin County Water Supply Works	Gyungnam	Senako Corpation	Senako Corpation	Water pipe
2015	D160 & others	Kyungju Shinhwarang Culture Theme-Park	Kyungju	SK E&S	Kyungju-si Authority	Gas pipes
2015	D315 & others	Ko-One Energy Service Works site	Seoul	Koone Engery Service Co.	SK E&S	Gas pipes
2015	D450 & others	Shin-Boryung TPP Site	Boryung	Korea Middle Power Corp.	Korea Middle Power Corp.	Water, Firefighting pipes
2015	D280 & others	Chunnam City-Gas	Chunju	Chunnam City-Gas	SK E&S	Gas pipes
2015	D160 & others	Seoul Magko Housing Development Works	Seoul	CHK Co.	CHK Co.	Gas pipes
2015	D315 & others	Ulsan Kyungdong City-Gas	Ulsan	Kyungdong City-Gas	Kyungdong City-Gas	Gas pipes
2014	D300 & others	Songdo I'PARK Housing Site	Songdo	Hyundai Industry Development Co.	Hyundai Industry Development Co.	Gas pipes
2014	D315 & others	Ko-One Energy Service Works site	Seoul	Ko-One Engery Service Co.	SK E&S	Gas pipes

#### · OTHERS

Year	Pipe Size	Project	Location	Contractor	Client	Use
2023	D1800~D2400	Yangyang Salmon Smart Farming Project	Yangyang	KSF (K-Smart Farming, Dongwon Co. & Salmon Evolution)	KSF (K-Smart Farming, Dongwon Co. & Salmon Evolution)	Intake and Discharge pipes



Certification & Patents



ISO9001:2008 Quality Assurance KS M 3408-2 KS M 3408-3 KS M 3514 KS M ISO8085-2



KS M 3407 KS C-8454 KS M 3500-1 KS M 3500-2 KPS M 2017 KFI 13-1



KFI 13-2 KFI 13-3 KFI 13-9 KFI 15-8 KFI 16-3 Venture Business



KWWA Sanitation and Safety (KC) Pipe and Fittings INNO-BIZ MAIN-BIZ Clean Workplace R&D Center (Koita)



NEP Certification FM Approval (Firefighting Pipe) GOST Certification (Russia) OHSAS 18001

Patents



Apparatus for attaching metallic conductor for locating underground Sewer pipe with watertight and airtight functions Connection pipe with watertight and airtight functions Slurry feed tube for thermal power plants Complex synthetic resin pipe and its manufacturing method



A manufacturing device and a way of the polyethylene solid cesspipe which took advantage of lungs synthetic resin A floating structure of an assembly type Intake equipment of deep sea water Sprial bellows pipe with hollow and manufacturing apparatus Connecting pipe using flange

The Choice for the Next Generation HYUNDAI PIPE

HYUNDAI PIPE continues to research and develop for Highly Advanced, Innovative Polyethylene. We pursue Customer Satisfaction by Best Quality.