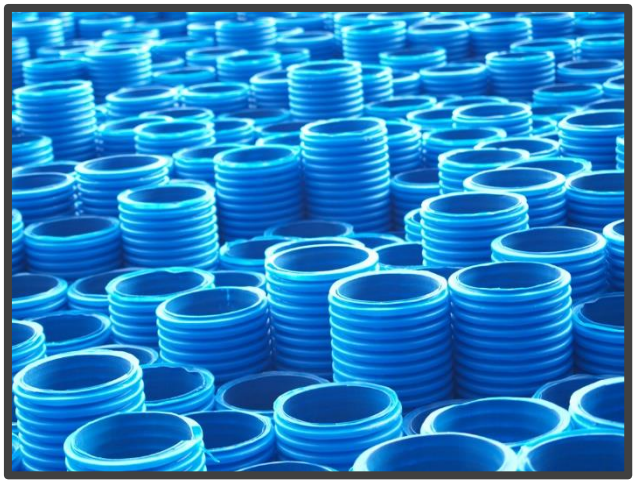
SANBOR®

PLASTIC PIPING SYSTEMS

Product Catalogue



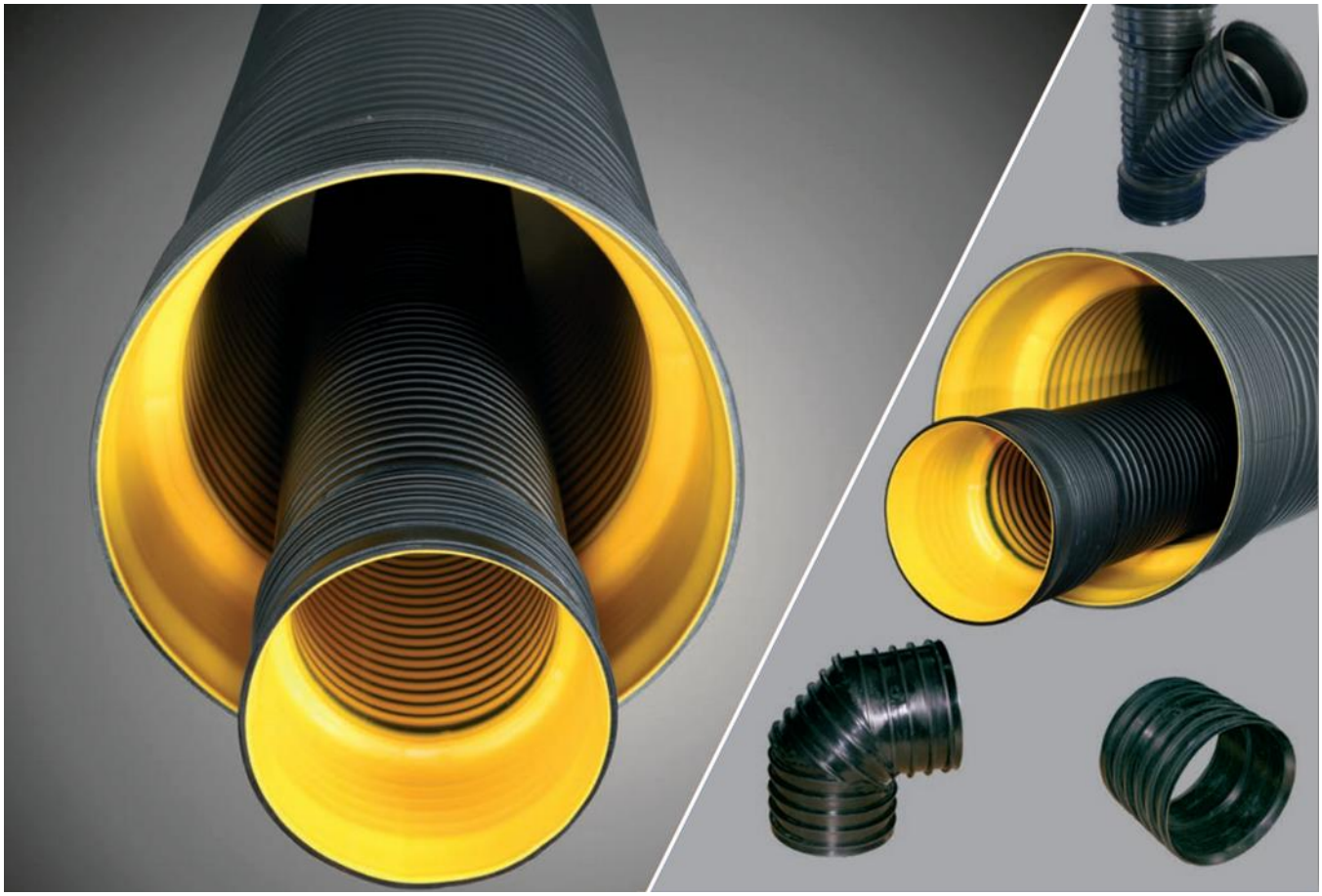
infrastructure, water and sewage pipes and fittings

PRODUCT CATALOGUE

SANBOR®

PLASTİK İNŞ. SAN. VE TİC. LTD. ŞTİ.

30 YEARS



for cable and
waste water applications

HDPE Corrugated Pipes and fittings

Double layer corrugated pipes made of high density polyethylene, SANBOR Corrugates Pipes are produced depending on TS EN 13476-3+A1 standard. In recent years, the use of corrugated Pipes has become widespread thanks to their resistance to chemicals created in the pipeline or produced outside and transferred to the system, long life span, easy assembly, maintenance and repair, eco-friendly structure with impermeability and high endurance.

AREAS OF USE OF CORRUGATED PIPES

- Sewage water removal systems
- Municipal sewage and domestic sewage removal systems
- Rain and snow water carriage and drainage pipelines
- Drainage and ground water carriage pipelines
- Industrial sewer systems
- Unpressured, gravity water carriage systems
- Chemical and biological sewer systems
- Cable protection for energy and communication system

ADVANTAGES OF CORRUGATED PIPES

External Load Resistance
SANBOR Corrugated Pipes have high resistance to heavy earth loads thanks to its special design profile and body structure. Thanks to the molecular structure of polyethylene, corrugated pipes are highly flexible. Its elastic structure does not get affected from seismic ground motions and deformed. It absorbs the load and takes its previous form back.

Long Service Life
The life span of SANBOR Corrugated pipes is minimum 50 years thanks to their high level of abrasion and chemical resistance, elasticity and temperature resistance up to 60 C. They do not require maintenance for long years.

Easy Montage
SANBOR Corrugated pipes have spigot and sealed joints. They can be connected in every worksite. Since corrugate pipes are light, no heavy equipment is required during pipe-laying. Electricity, welding machine, adhesives etc. are not necessary.

Impermeability
Produced according to EN 681 standards, pipe seals do not leak. Sewage does not mix into underground water. Moreover, external water mixture to the sewer system is prevented in the places with high ground water. Thus, this prevents the pipeline from being overfilled and overflowing.

Easy Transportation and Piling
Thanks to its light weight, it can be transported or piled via nesting. Since the shortest pieces can be used during the montage thanks to the variety of the spare parts, no loss is experienced. No loss is observed due to damages or falling during transportation and piling since corrugated pipes are light and have impact resistance.

Production at the Desired Length
Bellmouth pipes are produced at the standard length of 6 meters. Pipes with no bell mouths can be produced at the length depending on the demand of the customers.

CORRUGATED PIPE WITH MUFF

Dia (ID): 150 Ø, 200 Ø, 300 Ø
400 Ø, 500 Ø, 600 Ø, 800 Ø, 1000 Ø
Rigidness: SN4, SN8
(SN4: 16 KN/M2 SN8: 31.5 KN/M2)

CORRUGATED PIPE

Dia (ID): 100 Ø, 150 Ø, 200 Ø, 300 Ø
400 Ø, 500 Ø, 600 Ø, 800 Ø, 1000 Ø
Rigidness: SN4, SN8
(SN4: 16 KN/M2 SN8: 31.5 KN/M2)

90" ELBOW

Code	Dia (mm)
K10090D	100
K15090D	150
K20090D	200
K30090D	300
K40090D	400
K50090D	500
K60090D	600

45" ELBOW

Code	Dia (mm)
K10045D	100
K15045D	150
K20045D	200
K30045D	300
K40045D	400
K50045KD	500
K60045D	600

UNEQUAL TEE

Code	Dia (mm)
K150100IT	150/100
K200100IT	200/100
K200150IT	200/150
K300150IT	300/150
K300200IT	300/200
K400100IT	400/100
K400150IT	400/150
K400200IT	400/200
K400300IT	400/300
K500100IT	500/100
K500200IT	500/150
K500300IT	500/200
K500400IT	500/300
K500400IT	500/400
K600100IT	600/100
K600150IT	600/150
K600200IT	600/200
K600300IT	600/300
K600400IT	600/400
K600500IT	600/500

EQUAL TEE

Code	Dia (mm)
K100100KET	100/100
K150150KET	150/150
K200200KET	200/200
K300300KET	300/300
K400400KET	400/400
K500500KET	500/500
K600600KET	600/600

END CAP

Code	Dia (mm)
K100KT	100
K150KT	150
K200KT	200
K300KT	300
K400KT	400
K500KT	500
K600KT	600

45" CORRUGATED BRANCH

Code	Dia (mm)
K100100KC	100/100
K150100KC	150/100
K150150KC	150/150
K200100KC	200/100
K200150KC	200/150
K200200KC	200/200
K300100KC	300/100
K300150KC	300/150
K300200KC	300/200
K300300KC	300/300
K400100KC	400/100
K400150KC	400/150
K400200KC	400/200
K400300KC	400/300
K400400KC	400/400
K500100KC	500/100
K500150KC	500/150
K500200KC	500/200
K500300KC	500/300
K500400KC	500/400
K500500KC	500/500
K600100KC	600/100
K600150KC	600/150
K600200KC	600/200
K600300KC	600/300
K600400KC	600/400
K600500KC	600/500
K600600KC	600/600

O-RING

Code	Dia (mm)
K100C	100
K150C	150
K200C	200
K300C	300
K400C	400
K500C	500
K600C	600

45" BRANCH WITH PVC OUT

Code	Dia (mm)
K100100C	100/100
K150100C	150/100
K200100C	200/100
K20015KC	200/150
K200200C	200/200
K300100C	300/100
K300150C	300/150
K300200C	300/200
K400100C	400/100
K400150C	400/150
K400200C	400/200
K500100C	500/100
K500150C	500/150
K500200C	500/200
K600100C	600/100
K600150C	600/150
K600200C	600/200

TEE WITH PVC OUT

Code	Dia (mm)
K150100PT	150/100
K200100PT	200/100
K200150PT	200/150
K300100PT	300/100
K300150PT	300/150
K300200PT	300/200
K400100PT	400/100
K400150PT	400/150
K400200PT	400/200
K500100PT	500/100
K500150PT	500/150
K500200PT	500/200
K600100PT	600/100
K600150PT	600/150
K600200PT	600/200

REDUCTION

Code	Dia (mm)
K150100R	150/100
K200100R	200/100
K200150R	200/150
K300100R	300/100
K300150R	300/150
K300200R	300/200
K400100R	400/100
K400150R	400/150
K400200R	400/200
K400300R	400/300
K500100R	500/100
K500150R	500/150
K500200R	500/200
K500300R	500/300
K500400R	500/400
K600100R	600/100
K600150R	600/150
K600200R	600/200
K600300R	600/300
K600400R	600/400
K600500R	600/500

SOCKET

Code	Dia (mm)
K100M	100
K150M	150
K200M	200
K300M	300
K400M	400
K500M	500
K600M	600

TESTS APPLIED ON CORRUGATED PIPES

Test Name	Test Method	Unit	Test Result
Density Test	EN ISO 1183	kg/m3	≥ 930
Melting Flow Rate	EN ISO 1133	gr./10 min.	≤ 1.6
Temperature Resistance	ISO 12091	-	Proper
Ring Flexibility	EN 1446	-	Proper
Ring Stifness	EN ISO 9969	kN/m2	≥ Sn value
Impact Resistance	EN 744	-	Proper
Leakfprofing Test (0.5 bar 15 min.)	EN 1053	-	No leakage
Thermal Stability (OIT) (200ºC)	EN 728	Min.	≥ 20

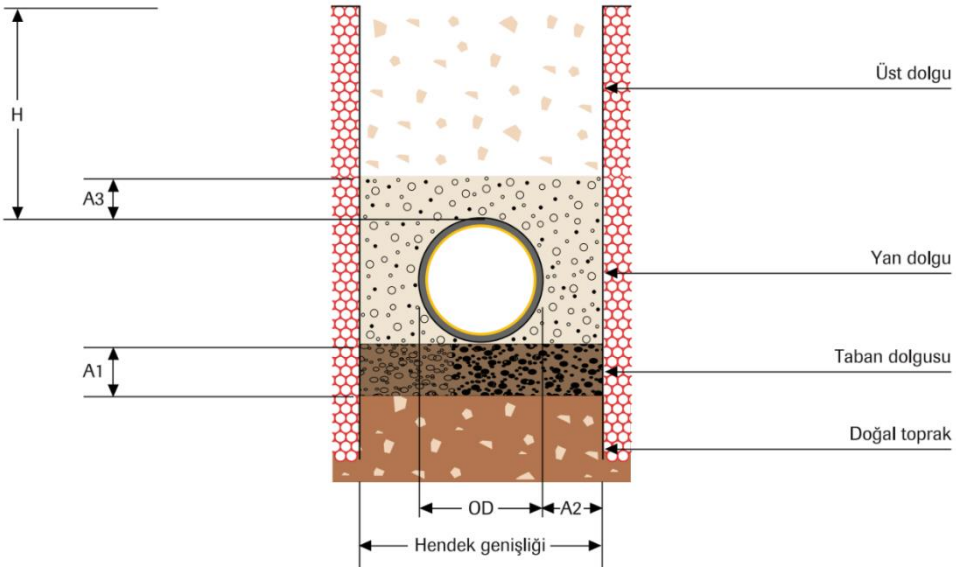
FEATURES OF CORRUGATED PIPE'S RAW MATERIAL

Specifications	Test Conditions	Unit	Test Method	Test Result
Density	23ºC	g/cm3	ISO 1183	≥ 0.930
Melt Flow Index (MFI)	190ºC, 5 kg	g/10 min	ISO 1133	≤ 1.6
Elasticity Module	23ºC, 1 mm/min	Mpa	ISO 527	≥ 800
Thermal Stability	200ºC	min	ISO 11357-6	≥ 20
Vicat Softening Temperature	10N	ºC	ISO 306	125 – 135

LOADING QUANTITIES OF CORRUGATED PIPES ON TRUCKS

Diameter	100 mm	150 mm	200 mm	300 mm	400 mm	500 mm	600 mm	800 mm	1000 mm
Semi-Truck	550	230	125	64	34	20	12	8	2
Truck	1000	460	250	128	68	40	24	16	4

INSTALLATION OF CORRUGATED PIPES



Base Filling: It should be 15 cm and apply minimum 95% compression.
Side Filling Width: It should be A2=50 cm**.**
Side Filling: It should be in every 30 cm ve apply minimum 95% compression.
Top Filling: It should be minimum 30 cm and apply normal compression**.**
Material: It should be materials with 0-20 mm diameter and maximum 20% moisture which can be comppressed.

PRODUCT CATALOGUE

SANBOR®

PLASTİK İNŞ. SAN. VE TİC. LTD. ŞTİ.

30 YEARS

for drinking water applications

HDPE, LDPE

Polyethylene Pipes

PE 100 Pipes

Polyethylene 100 is the most powerful PE pipe material with high pressure resistance. Compared to PE 40 and PE 80 pipes with the same operating pressure and caliber, it has more wall thickness, which means it has a bigger internal diameter. One size smaller pipes can be used for the same flow.

The colors of PE 100 pipes are blue and black. PE 100 pipes can be delivered as tube coils with 125 mm diameter and 6 or 12 meter long plain tubes with bigger diameters.

SANBOR produces PE 100 having these features with the guarantee of ISO 9001:2008 and according to the standards of TS EN 12201-2+A1, ISO 4427, DIN 8074.

Areas of Use of PE 100 Pipes

- Underground and over ground drinking and tap water supply network
- Agricultural irrigation systems
- Sea discharge systems
- Waste water and solid waste discharge systems
- Fire-protection water and cooling systems
- Subsea pipelines
- Pharmaceutical and chemical industry
- Petrochemical industry
- Food sector
- Navigation and fishing
- Telecommunication cabling systems and more

General Features of PE 100 Pipes

- It has a long life span. It is resistant to high pressure and impact. It is easy to load, transfer and lay.
- High level of elasticity provides an easy montage.
- It is durable. It does not get affected from underground movements and break.
- Appropriate to be laid undersea. It does not get affected from sea water and sea movements.
- It has resistance to chemicals and ability to work in acidic, basic and salty environments. It does not get affected from corrosion, decay and it is not abraded.
- Due to the catalysts it includes, it has high resistance to solar rays.
- It can be produced as coil or length.
- Due to its perfect welding ability, it does not break from the joints under pressure and provides impermeability.
- It can be produced at any pressure class from PN 4 to PN 25 and depending on the request.

Features of PE 100 Raw Materials

Specifications	Test Conditions	Unit	Test Method	Test Result
MRS Classifications	20ºC, extrapolation 50 years	Mpa	ISO 9080	10
Density	23ºC	g/cm3	ISO 1183	≥ 0.930
Melt Flow Index	5 kg	g/10 min	ISO 1133	0.2 – 1.4
Elasticity Module	23ºC, 1 mm/min	Mpa	ISO 527	800 – 1200
Carbon Black Rate	550 +- 50 ºC	%	ISO 6964	2- 2.5
Carbon Black Dispersion	100x	-	ISO 18553	≤ 3 A1, A2, A3, B
Oxidation-Reduction Time	200ºC,	min	ISO 11357-6	≥ 20

Tests Applied on PE 100 Pipes

The tests below are applied to PE 100 pipes during production periodically depending on **TS EN 12201-2 +A1** standard.

Specifications	Unit	Test Method	Result
Melt Flow Index Change (190 ºC, 5 kg)	%	ISO 1133	± 20
Elongation at Break	%	TS EN ISO 6259	≥ 350
Hydrostatic Stress (20ºC) 12 Mpa	hour	ISO 1167	≥ 100
Hydrostatic Stress (80ºC) 5.4 Mpa	hour	ISO 1167	≥ 165
Hydrostatic Stress (80ºC) 5 Mpa	hour	ISO 1167	≥ 1000
Oxidation-Reduction Time	min	ISO 11357-6	≥ 20
Longitudinal Reversion	%	EN ISO 2505	≤ 3
Effect on Drinking Water Quality	-	National Regulation	Proper

Wall Thickness of PE 100 Pipes Depending on Pressures, Tolerance Table

Dış Çap	Basınç 4 bar (SDR 41/S-20)		Basınç 5 bar (SDR 33/S-16)		Basınç 6 bar (SDR 26/S-12,5)		Basınç 8 bar (SDR 21/S-10)		Basınç 10 bar (SDR 17/S-8)		Basınç 12,5 bar (SDR 13,6/S-6,3)		Basınç 16 bar (SDR 11/S-5)		Basınç 20 bar (SDR 9/S-4)		Basınç 25 bar (SDR 7,4/S-3,2)	
	Et Kalınlığı		Et Kalınlığı		Et Kalınlığı		Et Kalınlığı		Et Kalınlığı		Et Kalınlığı		Et Kalınlığı		Et Kalınlığı		Et Kalınlığı	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
16															2,0	2,3	2,3	2,7
20													2,0	2,3	2,3	2,7	3,0	3,4
25											2,0	2,3	2,3	2,7	3,0	3,4	3,5	4,0
32									2,0	2,3	2,4	2,8	3,0	3,4	3,6	4,1	4,4	5,0
40							2,0	2,3	2,4	2,8	3,0	3,5	3,7	4,2	4,5	5,1	5,5	6,2
50					2,0	2,3	2,4	2,8	3,0	3,4	3,7	4,2	4,6	5,2	5,6	6,3	6,9	7,7
63			2,0	2,3	2,5	2,9	3,0	3,4	3,8	4,3	4,7	5,3	5,8	6,5	7,1	8,0	8,6	9,6
75			2,3	2,7	2,9	3,3	3,6	4,1	4,5	5,1	5,6	6,3	6,8	7,6	8,4	9,4	10,3	11,5
90	2,3	2,6	2,8	3,2	3,5	4,0	4,3	4,9	5,4	6,1	6,7	7,5	8,2	9,2	10,1	11,3	12,3	13,7
110	2,7	3,1	3,4	3,9	4,2	4,8	5,3	6,0	6,6	7,4	8,1	9,1	10,0	11,1	12,3	13,7	15,1	16,8
125	3,1	3,6	3,9	4,4	4,8	5,4	6,0	6,7	7,4	8,3	9,2	10,3	11,4	12,7	14,0	15,6	17,1	19,0
140	3,5	4,0	4,3	4,9	5,4	6,1	6,7	7,5	8,3	9,3	10,3	11,5	12,7	14,1	15,7	17,4	19,2	21,3
160	4,0	4,5	4,9	5,5	6,2	7,0	7,7	8,6	9,5	10,6	11,8	13,1	14,6	16,2	17,9	19,8	21,9	24,2
180	4,4	5,0	5,5	6,2	6,9	7,7	8,6	9,6	10,7	11,9	13,3	14,8	16,4	18,2	20,1	22,3	24,6	27,2
200	4,9	5,5	6,2	7,0	7,7	8,6	9,6	10,7	11,9	13,2	14,7	16,3	18,2	20,2	22,4	24,8	27,4	30,3
225	5,5	6,2	6,9	7,7	8,6	9,6	10,8	12,0	13,4	14,9	16,6	18,4	20,5	22,7	25,2	27,9	30,8	34,0
250	6,2	7,0	7,7	8,6	9,6	10,7	11,9	13,2	14,8	16,4	18,4	20,4	22,7	25,1	27,9	30,8	34,2	37,8
280	6,9	7,7	8,6	9,6	10,7	11,9	13,4	14,9	16,6	18,4	20,6	22,8	25,4	28,1	31,3	34,6	38,3	42,3
315	7,7	8,6	9,7	10,8	12,1	13,5	15,0	16,6	18,7	20,7	23,2	25,7	28,6	31,6	35,2	38,9	43,1	47,6
355	8,7	9,7	10,9	12,1	13,6	15,1	16,9	18,7	21,1	23,4	26,1	28,9	32,2	35,6	39,7	43,8	48,5	53,5
400	9,8	10,9	12,3	13,7	15,3	17,0	19,1	21,2	23,7	26,2	29,4	32,5	36,3	40,1	44,7	49,3	54,7	60,3
450	11,0	12,2	13,8	15,3	17,2	19,1	21,5	23,8	26,7	29,5	33,1	36,6	40,9	45,1	50,3	55,5	61,5	67,8
500	12,3	13,7	15,3	17,0	19,1	21,2	23,9	26,4	29,7	32,8	36,8	40,6	45,4	50,1	55,8	61,5		
560	13,7	15,2	17,2	19,1	21,4	23,7	26,7	29,5	33,2	36,7	41,2	45,5	50,8	56,0				
630	15,4	17,1	19,3	21,4	24,1	26,7	30,0	33,1	37,4	41,3	46,3	51,1	57,2	63,1				
710	17,4	19,3	21,8	24,1	27,2	30,1	33,9	37,4	42,1	46,5	52,2	57,6						
800	19,6	21,7	24,5	27,1	30,6	33,8	38,1	42,1	47,4	52,3	58,8	64,8						

Özel üretim

PE 40 Pipes

PE 40 pipes are produced according to TS EN 12201-2 +A1 standard. Their most significant feature is their resistance to impact and easiness to e laid. It does not get affected from weather conditions, smell or produce bacteria.

Thanks to their elasticity, PE 40 pipes provide safely use in drink water transportation, agricultural irrigation and the transfer of liquid chemicals and food product at the rocky and rough lands and regions with the danger of landslide.

PE 40 Pipe's Technical Chart

DIA	THICKNESS	
OUTER DIA	PN 10	
	SDR 7,4	S
20	3,0	
25	3,5	
32	4,4	

Winding Sizes of PE 40 Pipes

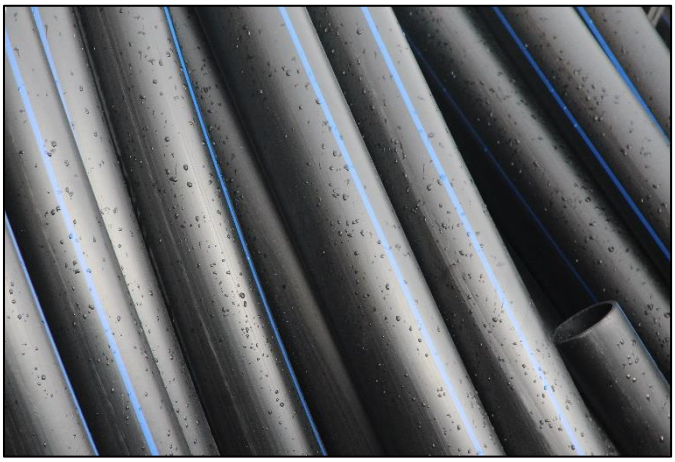
Diameter (mm)	Inner Dia (cm)	Outer Dia (cm)	Coil Width (cm)	Coil Length (mt)
16	40	55	21	100
	40	70	21	200
20	40	65	21	100
	40	85	21	200
	60	80	21	100
	60	90	21	200
25	40	75	21	100
	40	100	21	200
	60	85	21	100
	60	110	21	200
32	60	95	26	100
40	60	100	36	100
50	60	115	36	100
63	100	140	40	100
75	100	145	40	100
90	165	200	50	100
110	165	210	50	100

PE 80 Agricultural Irrigation Pipes

PE 80 pipes are produced according to TS EN 12201-2 +A1 standard. PE 80 pipes are resistant to impact and easy to lay. It does not get affected from weather conditions, smell or produce bacteria.
The color of PE 80 pipe is black. PE 80 pipes are produced as tube coils up to 90 mm diameter. Thanks to their elasticity, PE 80 pipes provide safely use in drink water transportation, agricultural irrigation at the rocky and rough lands and regions with the danger of landslide.

PE 80 Pipe's Technical Chart

DIA	THICKNESS		
OUTER DIA	PN 6	PN 10	PN 12,5
	SDR 21	SDR 13,6	SDR 11
	mm	mm	mm
20	-	-	2,0
25	-	2,0	-
32	2,0	2,4	-
40	2,0	-	-
50	2,4	-	-
63	3,0	-	-
75	3,7	-	-



Plastic Manhole Boxes

Plastic manhole boxes are highly durable. They are used often by municipalities.
They can be easily used in park and landscape gardening, electricity, data and infrastructure regulations.

Plastic manhole boxes are available in 5 sizes; 20x20, 30x30, 40x40, 50x50, 55x55 cm

PRODUCT CATALOGUE

SANBOR®

PLASTİK İNŞ. SAN. VE TİC. LTD. ŞTİ.

30 YEARS

for the removal of the water
that is not wanted above the ground

PVC Drainage Pipes

PVC Drainage Pipes

PVC drainage pipes are circular tubes made of U-PVC for the removal of the harmful slack water created under ground and above ground. They are used for the transfer of the water coming via collective pipes to places such as drainage canals, streams or rivers.

Areas of Use of PVC Drainage Pipes

They are used for:

- Rehabilitation works of muddy and slimy lands,
- Infrastructures of grass pitches
- Protection of building and constructions whose foundations include water
- Basic drainage of the construction sites
- Drainage of muddy and slimy lands
- Shoulder drainage of high ways.

General Features of PVC Drainage Pipes

- Its underground lifespan is 50 years.
- Easy transportation and laying.
- Since the holes on the pipes are opened to the internal surface of wall rings, it is not clogged.
- No loss during laying.
- It can be used without filtering materials in sandy soils.
- It can be produced without holes upon request.
- It is packaged as 50 meter coils or 100 meter coils depending on the sizes.
- There are elbow, y branch, double branch, t branch, and sleeve and pipe stopper fittings.

PVC Drainage Pipe's Technical Chart

Size (mm)	Inner Dia (mm)	Outer Dia (mm)	Coil Length (mt)
100	92,5	100	100
160	146	160	50
200	183	200	50

PRODUCT CATALOGUE

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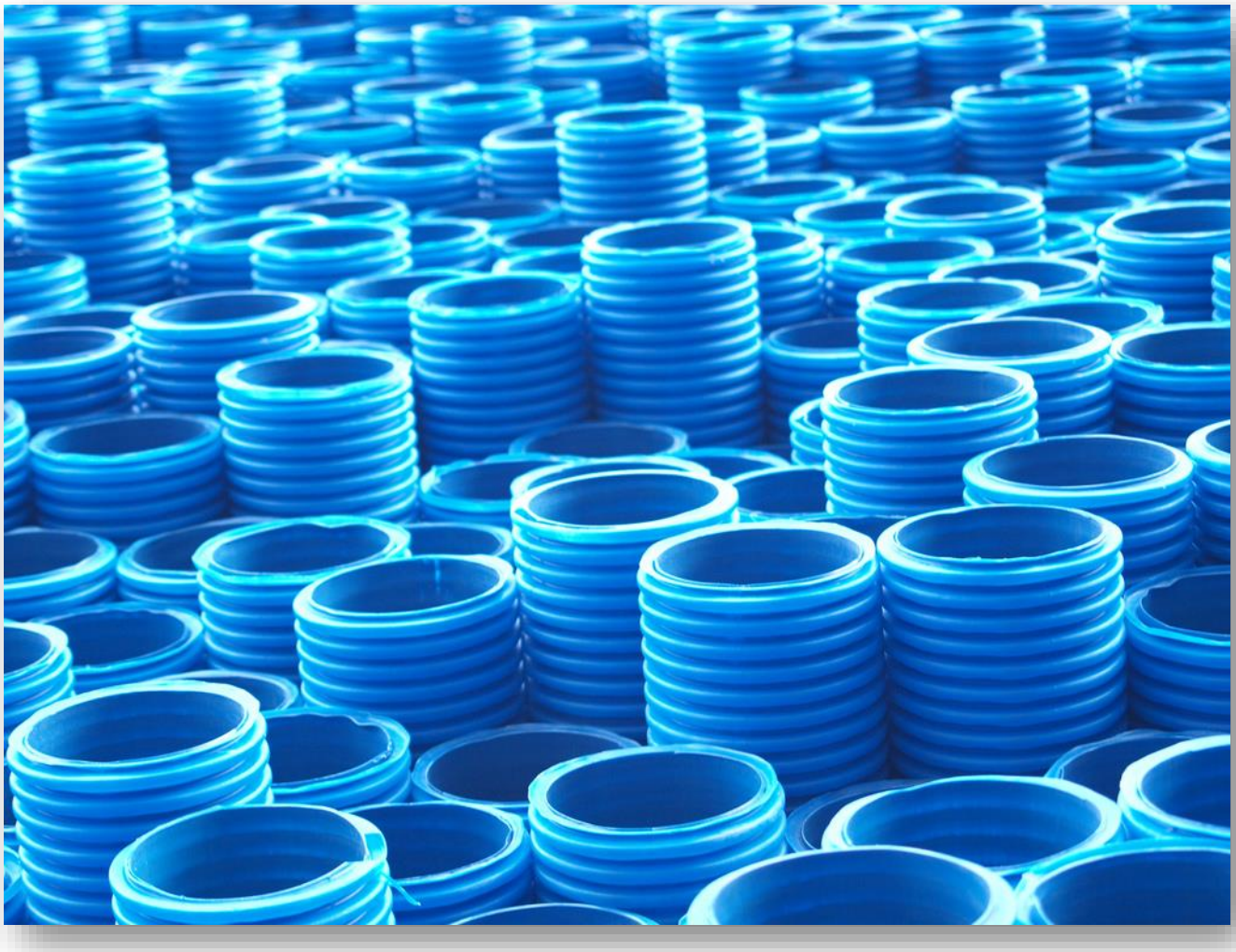
30 YEARS



Approved by Türk Telekom A.Ş

PE Telecommunication Cable Protection and Data Pipes

PE Telecommunication Pipes

- They can be produced as 6 meter long pipes with 90 mm and 110 mm outside diameter.
- They can be used as cable protection pipes in telecommunication pipes.
- Made of high density polyethylene, double walled cable protection pipes protect telecommunication pipes from traffic, soil compression, underground freezing, excavation damages, water and glaciations.
- The most important feature for telecommunication cable protection pipes is the resistance to deformation it has during peak loading.
- Easy and fast laying thanks to its elasticity and light structure.

Telecommunication Pipe

PE Fiberoptic Cable Pipes

- Made of high density material as black and blue elastic coil.
- They can be produced with the ability to be buried underground with 32 mm and 40 mm diameters.
- They can be easily used in infrastructure, energy and water transportation.
- They can be easily laid thanks to its elasticity.
- They are resistant to impact and have a long lifespan.
- They are not affected from seismic ground movements.
- They are resistance to heat up to 80 C.
- They have a minimum 50 year long span like their first day against corrosion.

Single Fiberoptic Pipe

Socket

Pipe End Plug

Double Support (Clip)

SANBOR®

PLASTİK İNŞ. SAN. VE TİC. LTD. ŞTİ.

İZMİR PRODUCTION FACILITY

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sunpipe®