

U-PVC SEWAGE & DRAINAGE PIPING SYSTEM



Kalister

Al Sagar Pipes Factory

IN TECHNICAL COLLABORATION WITH

Kalister TECHNOLOGIES LTD.

www.kalistergroup.com



Flagship Unit of Kalister Technology Limited, UK

Having a broad spectrum of manufacturing, trading and construction activities encompassing a wide range of field from Cable Management system to solar systems and procurement to construction services, we are driving a new wave of sustainable growth as we develop and acquire the technologies that will power tomorrows high-tech growth industries.

Kalister is a global provider of innovative, cost effective products and services through their operating facilities across the globe. Our products are used in a variety of facilities for the commercial, industrial, utility and OEM markets. In addition, Kalister offers supply, procurement and construction services to commercial and industrial construction sectors.

Kalister began as a Cable Management System Manufacturer in the Middle East, and arose producing value added products to the cater to the entire need of the industry.

Cable Management System - Today, customers look to kalister as a trusted advisor who works with them to address their most critical business in the Cable Management field. Our proven reputation for quality and technology leadership coupled with an array of products like, PVC Conduit & Fittings, UPVC Cable Ducts and Accessories, PVC Trunking, Metal Cable Tray and Trunking, GI Flush outlet boxes, GI Conduit and Fittings and effective sales network across the world enables Kalister to deliver comprehensive solutions that unify the physical infrastructure to help our customers achieve operational and financial goals.

Water and Waste Water System - Growth and development has always been a strong feature of the history of Kalister. We as always were at the forefront of innovation and product development in the piping industry. An active part of the advancement of plastics pipe systems in the Middle East, Kalister revolutionized the manufacture of UPVC Pipes for Water and Waste Water applications.

Today, Kalister has state-of-the-art manufacturing facilities and a Global distribution network. Our experience and reputation for the highest quality products and exceptional service means Kalister will continue to lead the industry in the development, manufacture and delivery of pipeline systems.

Kalister employs a highly skilled team of employees who are dedicated to their work and are capable of providing high quality services tailored to the specific needs and requirements of customers.

Great emphasis is placed on delivering customer satisfaction through quality products. The company's operational excellence is highlighted by its well-established Quality Management System, which complies with the ISO 9001 standard.

Today, Kalsiter manufacturers pipes and fittings of world-class quality that are exported globally, to regions including GCC Kuwait, Mena, East and West Africa and Asia. We started our new factory in Kuwait five years ago.

PVC (POLY VINYL CHLORIDE)

IS A HYDROCARBON VINYL WITH CHLORINE TO MAKE UNPLASTICIZED PVC (UPVC), A RIGID PVC

FEATURES

- Firm core structure gives added die electric properties
- Self extinguishing PVC
- Standard Electrical Black
- Impact Resistant PVC
- Non Corroding
- Non Combustible 2 Hours (Optional)
- Fire Resistant
- Flexible enough to be bend by hand, yet tough enough to withstand crushing and breaking
- Smooth interior surface significantly reduces the amount of friction when pulling cables through long runs, even in runs with 90° bends.

STRENGTH

Kalister PVC Fittings offer both high impact and high tensile strength.

CORROSION RESISTANT

PVC is resistant to external corrosion and pitting and will not rust. This ensures a lower maintenance cost longer performance life.

NON CONDUCTIVE

PVC eliminates the most dangerous second point to contact in phase to ground faults. The use of separate ground conductor gives a complete and positive ground for the entire system.

CHEMICAL RESISTANT

Kalister conduit and fittings are resistant to a wide range of chemicals such as acids, alkalies, or salt solutions.

FIRE RESISTANCE

As a building material PVC offers outstanding performance characteristics. PVC will not burn unless an external flame source is applied, and will not sustain ignition once the flame source is removed. Kalister PVC conduits and fittings has a flash ignition temperature of 850° F

U_PVC Sewage & Drainage Pipes Dimensions as per DIN 19531, 19534, 8062 & KUWAIT Standard 1092

Nominal outside diameter	Wall thickness, s, mm			Socket Dimensions mm			
O.D, mm	N	R ₁	R ₂	d ₂	d ₃	LSS,t	LRS,t
50	1.8	-	-	50.3	59.6	50.0	48
75	1.8	-	2.2	75.4	84.6	70.0	55
110	2.2	3	3.2	110.4	120.6	100.0	76
160	3.2	3.6	4.7	160.5	174.3	125	100
200	-	-	4.5	200.6	216.0	150	120
250	7.3	-	6.1	250.6	272.9	165	140
315	9.2	-	7.7	315.7	338.9	200	160
400	11.7	-	9.8	400.8	427.1	220	190

LSS - Length of Solvent Cement Socket

LRS - Length of Rubber Ring Socket

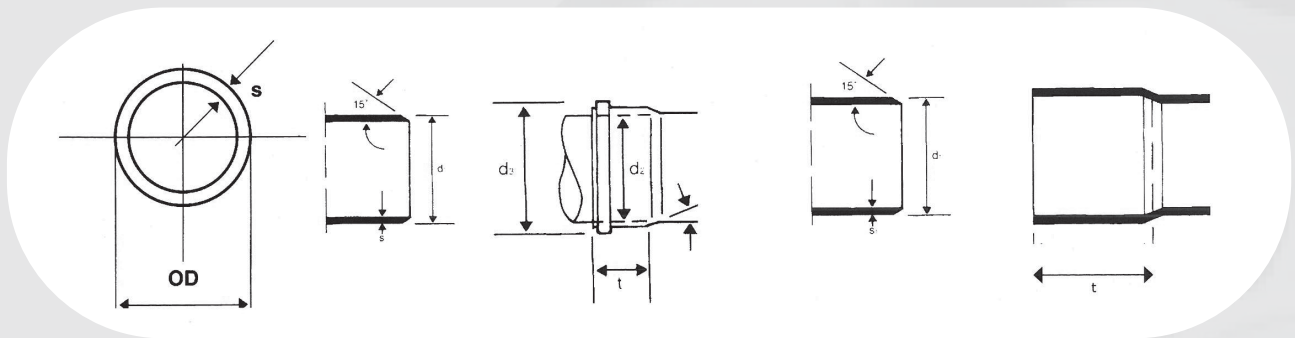
N, R1, R2 wall thickness according to DIN 19531 / 19534 / 8062

Dimensions of Sewage & Drainage Pipes as per BS, DIN EN and BS EN Standards

DN (inch)	BS.ST. W.T.(S) mm					BS EN / DIN EN W.T.(S) mm					
	O.D mm	5255	4514	4660	5481	DN/OD	1329-1		1401-1		
							B	BD	SDR 51 SN2	SDR 41 SN4	SDR 34 SN8
-	-	-	-	-	-	32	3.0	-	-	-	-
1	36	1.8	-	-	-	36	3.0	-	-	-	-
1¼	-	-	-	-	-	40	3.0	-	-	-	-
1	43	1.9	-	-	-	43	3.0	-	-	-	-
1½	-	-	-	-	-	50	3.0	-	-	-	-
2	56	2.0	-	-	-	56	3.0	-	-	-	-
-	-	-	-	-	-	75	3.0	3.0	-	-	-
3	82	-	3.2	-	-	82	3.0	3.0	-	-	-
4	110	-	3.2	3.2	-	110	3.2	3.2	-	3.2	3.2
-	-	-	-	-	-	125	3.2	3.2	-	3.2	3.7
6	160	-	3.2	4.1	-	160	3.2	4.0	3.2	4.0	4.7
8	200	-	-	-	4.9	200	3.9	4.9	3.9	4.9	5.9
10	250	-	-	-	6.1	250	4.9	6.2	4.9	6.2	7.3
12	315	-	-	-	7.7	315	6.2	7.7	6.2	7.7	9.2
16	400	-	-	-	9.8	400	-	-	7.9	9.8	11.7

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- B:** Application area code for components intended for use above ground inside building or for components outside buildings fixed onto the wall.
- D:** Application code for the area under and within 1m from the building where the pipes and fittings are buried in ground and are connected to the underground drainage and sewerage system.
- BD:** Application area code for components intended for use for both code B and code D application area.
- SN:** Ring Stiffness.

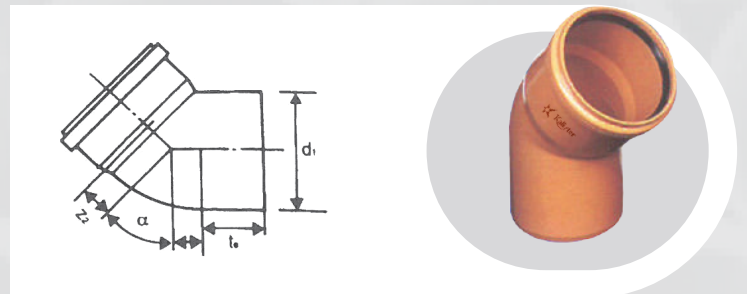


U-PVC Sewage & Drainage Fittings

DIN 19531, 19534 DIN EN/ BS EN 1329/1401 and the Public Authority for Housing Welfare - Kuwait

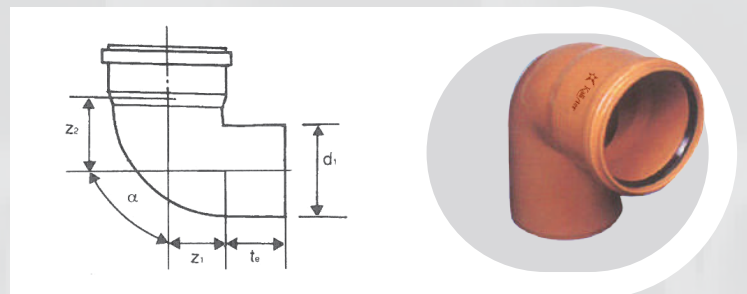
BENDS 45° *(BER)

d ₁	α=45°		W.T. S ₁	te
	z ₁	z ₂		
50	13	19	3.5	53
75	18	24	3.5	61
110	25	31	3.5	80
160	36	44	4.8	95
200	41.0	55.0	5.90	108.50



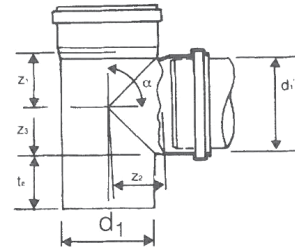
BENDS 87.50° *(BER)

d ₁	α=87.50°		W.T. S ₁	te
	z ₁	z ₂		
50	28	31	3.5	54
75	40	43	3.5	64
110	57	61	3.5	80
160	83	89	4.5	85
200	103.5	120.0	5.90	109.0



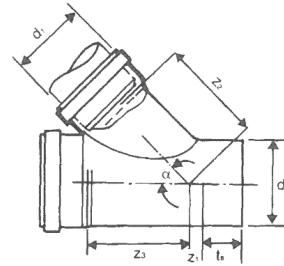
TEE BRANCH 87.5° *(TR & TRR)

d ₁	d ₂	$\alpha=87.50^\circ$			W.T. S ₁	te
		z ₁	z ₂	z ₃		
50	50	25	32	39	3.5	53
75	50	27	43	47	3.5	62
75	75	43	51	51	3.5	62
110	50	43	68	45	3.5	80
110	75	40	68	45	3.5	78
110	110	57	68	62	3.5	80
160	160	83	90	83	4.5	81
160	110	62	86	59	4.5	92



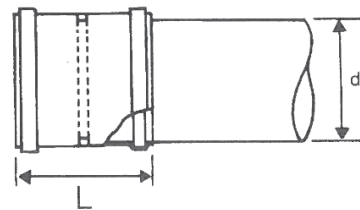
TEE BRANCH 45° *(YR & YRR)

d ₁	d ₁ '	$\alpha=45^\circ$			W.T. S ₁	te
		z ₁	z ₂	z ₃		
50	50	13	60	60	3.5	55.5
75	50	1	78	73	3.5	62.0
75	75	19	91	91	3.5	64.0
110	50	17	103	91	3.5	81.0
110	75	1	116	108	4.0	80.0
110	110	25	133	133	4.0	81.0
160	110	2	167	159	4.8	96.0
160	160	36	193	193	4.8	96.0
200	200	42.0	200	241.0	5.90	108.0
200	160	14	159	213	5.90	105.0



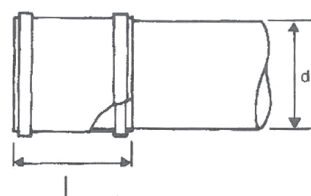
COUPLER WITH SLEEVE *(CORS)

d ₁	W.T. s ₁	L
50	3.3	113
75	3.3	134
110	3.5	160
160	4.8	200
200	5.90	162.0



REPAIR COUPLER WITHOUT SLEEVE *(COR)

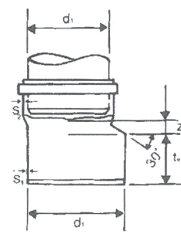
d ₁	W.T. s ₁	L
50	3.3	113
75	3.3	134
110	3.5	160
160	4.8	200



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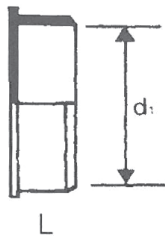
CONNECTING REDUCER *(RER)

d ₁	d ₁ '	W.T.			te
		s ₁	s ₂	z ₁	
75	50	3.3	3.3	28	64
110	50	3.3	3.3	42	78
110	75	3.5	3.3	26	77
160	110	4.8	3.5	42	97



SOCKET PLUGS (SP)

d ₁	W.T.	L
	s ₁	
50	2.5	20.0
75	2.8	25.0
110	3.5	31.5
160	4.2	40.0



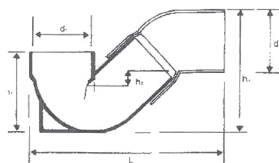
UNIVERSAL END PLUG (OR)

Size	L
110x3.2/2.2	35
160x4.7/3.2	45



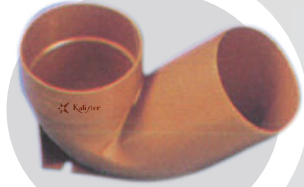
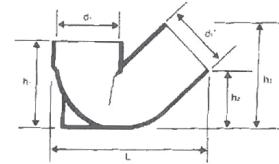
WC- P - TRAPS (PT)*

d ₁	h ₁	h ₂	h ₃	L
110	150	25	222	360



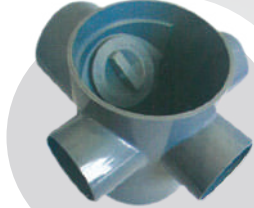
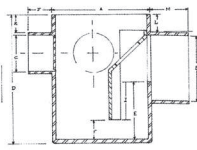
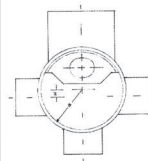
WC- U - TRAPS (UT)*

d ₁	h ₁	h ₂	h ₃	L
110	150	108	182	263



FLOOR TRAPS (FT-BS)

Size (mm)	110x82x56	E	74.0	J	30.0
A	117.5	F	26.0	K	23.0
B	82	G	110.0	L	23.0
C	56	G	10.0	M	43.0
D	163.0	I	48.0	N	2°





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