



TRUSTED PIPELINE PRODUCTS

www.rare.co.za



Rare Plastics manufacture and distribute HDPE pipe, fittings and backing rings from our factory in Meyerton, Gauteng. Pipes are manufactured to SANS ISO 4427 standards and range from 16mm to 2000mm. The PE100 raw material is sourced from reputable manufacturers who comply to SANS ISO 4427 Part 1.



rare plastics

Benefits

HDPE piping systems offer many benefits when compared to most other materials; which typically include the following:

- High impact strength
- Resistance against chemicals, corrosion and abrasion
- Chemically inert and unaffected by acidic soil conditions
- Biologically inert against micro organisms
- Available in long lengths, reducing the number of joints
- Flexibility and toughness
- Inherent resistance to the effect of ground water movement
- Excellent hydraulic properties with low friction resistance throughout life
- Non-toxic and safe for drinking water
- Low installation cost and maintenance free
- Environmentally friendly
- Can be fusion welded, ensuring absolutely leak free joints
- Very suitable for rehabilitation of old pipelines

Applications

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Some typical applications of HDPE pipe include the following:

- Mining (surface and underground)
- Water supply
- Agriculture / irrigation
- High temperature liquids and gases – usually not above 60°C
- Corrosive water and effluents
- Dewatering
- Drainage and sub-soil drainage
- Protection of electrical and telephone cables
- Hydraulic transport
- Pipeline rehabilitation



Jointing methods

HDPE allows for a range of jointing systems to suit various applications. Permanent and detachable jointing methods are used, with several options available under each method.

Permanent jointing



Butt welding



Electro-fusion

Detachable jointing



Stub & Flange

Compression fittings



Saddles



Tak and Victaulic system

Mechanical couplings



HDPE Double Wall Corrugated / Spiral Winding pipe

The Strong, Reliable, Cost-Effective Solution for Drainage

Over the past several years, the use of dual wall HDPE corrugated pipes for storm water has increased dramatically. This is because of their strength, durability, joint integrity and long-term cost-effectiveness. HDPE double wall pipes are well proven in some of the world's toughest environments.

Results show that forward-thinking municipalities realise the future of storm water management relies on the best technology. HDPE corrugated pipes are manufactured from the highest quality materials and are the most technologically advanced product available for moving storm water and wastewater.

The pipes have two layers; the outer layer is corrugated to enhance the pipe's stiffness while reducing weight and cost; while the inner layer is smooth to improve flow efficiency and lower operational costs.

HDPE corrugated pipes can replace other piping material such as concrete, GRP and clay pipes as well as traditional pipes.

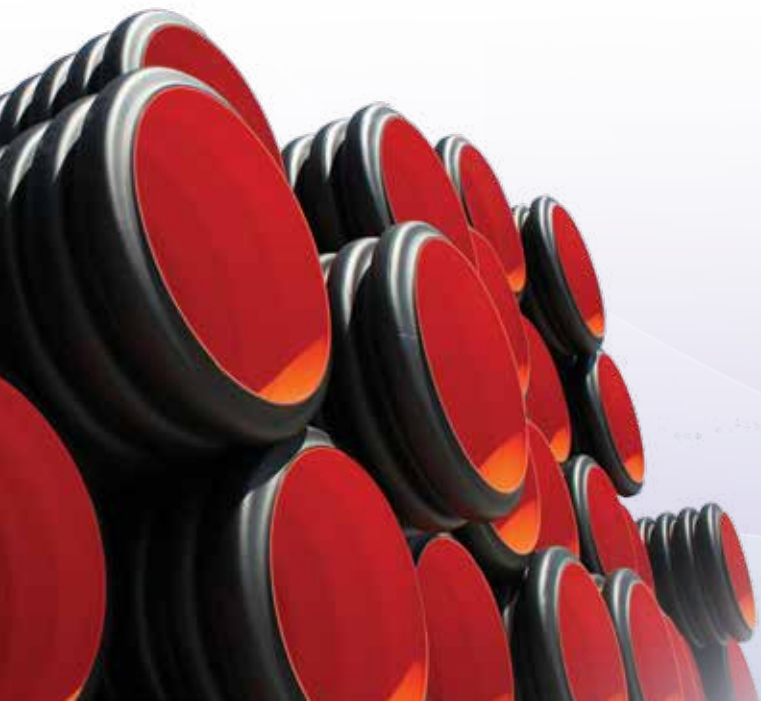
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HDPE DOUBLE WALL CORRUGATED PIPE

	Diameter	100	150	200	250	300	400	500	600	800
SN8	Pipe Weight (kg/m)	0,6	1,1	1,94	3	4,2	7,4	12,1	17,8	30,9

HDPE SPIRAL WINDING PIPE

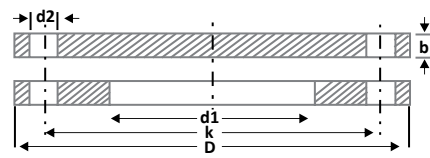
	Diameter	1000	1200	1400	1600	1800	2000	2300	2400
SN8	Pipe Weight (kg/m)	66,5	85,83	136,6	198,3	275	322	502	570
SN4	Pipe Weight (kg/m)	62,5	81,25	105,3	139,5	190,75	269,75	336,25	377,5



HOT DIPPED GALVANISED BACKING RINGS

Flanges

PIPE OD	SABS 1123 1000/3								SABS 1123 1600/3							
	DIMENSIONS				BOLTS				DIMENSIONS				BOLTS			
	D	d1	b	PCD (k)	Qty	d2	P-P	P-S	D	d1	b	PCD (k)	Qty	d2	P-P	P-S
20	95	30	10	65	4	M12	65	50	95	30	10	65	4	M12	65	50
25	105	38	10	75	4	M12	65	50	105	38	10	75	4	M12	65	50
32	115	45	10	85	4	M12	65	50	115	45	10	85	4	M12	65	50
40	140	52	10	100	4	M16	80	60	140	52	10	100	4	M16	80	60
50	150	63	10	110	4	M16	80	60	150	63	10	110	4	M16	80	60
63	165	74	12	125	4	M16	90	65	165	74	12	125	4	M16	90	65
75	185	86	12	145	4	M16	90	65	185	86	12	145	4	M16	90	65
90	200	103	12	160	8	M16	90	65	200	103	14	160	8	M16	90	65
110	220	136	12	180	8	M16	100	70	220	136	14	180	8	M16	100	70
125	220	136	12	180	8	M16	120	80	220	136	14	180	8	M16	120	80
140	250	158	14	210	8	M16	120	90	250	158	16	210	8	M16	120	90
160	285	190	16	240	8	M20	130	90	285	190	18	240	8	M20	130	90
180	285	190	16	240	8	M20	140	100	285	190	18	240	8	M20	140	100
200	340	237	18	295	8	M20	140	100	340	237	22	295	12	M20	150	100
225	340	237	20	295	8	M20	150	110	340	237	22	295	12	M20	160	120
250	395	279	18	350	12	M20	160	120	405	279	22	355	12	M24	170	120
280	395	292	20	350	12	M20	160	120	405	292	25	355	12	M24	170	130
315	445	330	22	400	12	M20	190	130	460	330	28	410	12	M24	190	140
355	505	376	25	460	16	M20	190	140	520	376	30	470	16	M24	200	150
400	565	430	25	515	16	M24	210	150	580	430	35	525	16	M24	240	170
450	615	476	30	565	20	M24	240	160	640	476	40	585	20	M24	250	180
500	670	533	30	620	20	M24	240	160								
560	730	592	35	675	20	M24	240	170								
630	835	662	36	725	20	M24	260	180								
710	895	737	40	840	24	M24	250	180								
800	1015	840	45	950	24	M30	280	210								
900	1115	942	50	1050	28	M30	310	240								
1000	1230	1045	55	1160	28	M30	340	250								

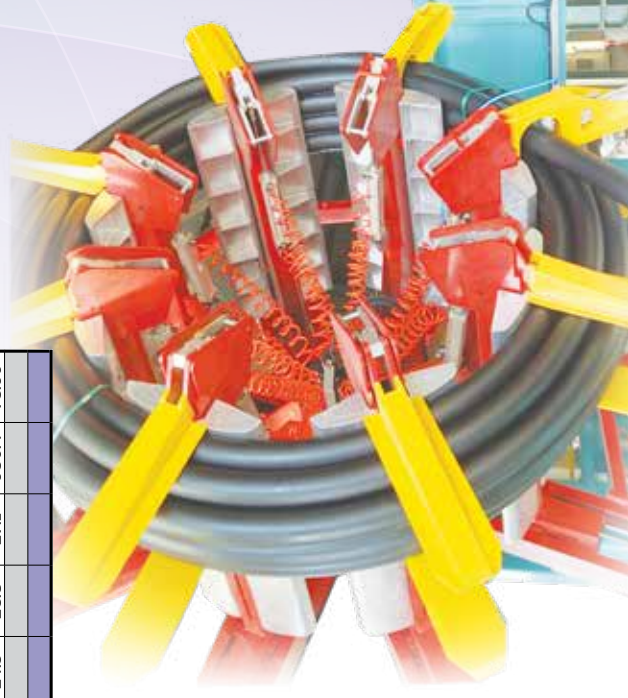


PIPE OD	BS 10 TABLE "D"								ASA 150							
	DIMENSIONS				BOLTS				DIMENSIONS				BOLTS			
	D	d1	b	PCD (k)	Qty	d2	P-P	P-S	D	d1	b	PCD (k)	Qty	d2	P-P	P-S
20	95.3	30	5	66.7	4	M12	55	40	88.9	30	10	60.3	4	M12	65	50
25	101.6	38	5	73	4	M12	55	40	98.4	38	10	69.8	4	M12	65	50
32	114.3	45	5	82.6	4	M12	55	40	107.9	45	10	79.4	4	M12	65	50
40	120.7	52	6	87.3	4	M12	75	60	117.5	52	12	88.9	4	M12	90	65
50	133.4	63	6	98.4	4	M12	75	60	127	63	12	98.4	4	M16	90	65
63	152.4	74	8	114.3	4	M16	80	55	152.4	74	12	120.6	4	M16	90	65
75	165.1	86	8	127	4	M16	80	55	177.8	86	12	139.7	4	M16	90	65
90	184.1	103	10	146	4	M16	80	60	190.5	103	12	152.4	4	M16	90	65
110	215.9	136	10	177.8	4	M16	100	70	228.6	136	15	190.5	8	M16	110	80
125	215.9	136	10	177.8	4	M16	110	75	228.6	136	15	190.5	8	M16	120	90
140	254	158	13	209.6	8	M16	120	80	254	158	15	215.9	8	M20	120	90
160	279.4	190	13	235	8	M16	120	90	279.4	190	20	241.3	8	M20	140	100
180	279.4	190	13	235	8	M16	130	90	279.4	190	20	241.3	8	M20	150	110
200	336.6	237	13	292.1	8	M16	130	90	342.9	237	20	298.4	8	M20	150	110
225	336.6	237	13	292.1	8	M16	140	100	342.9	237	20	298.4	8	M20	160	110
250	406.4	279	16	355.6	8	M20	150	110	406.4	279	25	361.9	12	M24	170	130
280	406.4	292	16	355.6	8	M20	150	110	406.4	292	25	361.9	12	M24	170	130
315	457.2	330	19	406.4	12	M20	180	130	482.6	330	30	431.8	12	M24	220	150
355	527.1	376	22	469.9	12	M24	190	130	533.4	376	30	476.2	12	M24	200	150
400	577.9	430	22	520.7	12	M24	210	140	596.9	430	30	539.7	16	M24	220	160
450	641.4	476	25	584.2	12	M24	220	150	635	476	30	577.8	16	M30	240	160
500	704	533	29	641.4	16	M24	240	160	698.5	533	30	635	20	M30	240	160
560	825.5	592	30	755.7	16	M24	240	160	812.8	592	35	749.3	20	M32	240	170
630	825.5	662	32	755.7	16	M24	250	170								
710	908.1	737	35	844.6	20	M24	240	170								
800	-	-	-	-	-	-	-	-								
900	1174.7	942	48	1092.2	24	M32	310	220								
1000	1257.3	1045	51	1174.7	24	M32	330	240								

NOTE: The bolt diameters and length refer to flanges drilled to the above standard only - length of bolts allow for washers and gaskets. (All dimensions tabled in millimetres - mm)

DIMENSIONS OF PE 100 HDPE PIPES ISO / SANS 4427-2:2008 - SDR 21 TO SDR 41

SDRRATING	SDR 21				SDR 26				SDR 33				SDR 41			
	6		8		5		6		4		5		3.2		4	
PE 80																
PE 100																
OD	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
WALL THICKNESS	min	Avg	min	Avg	min	Avg	min	Avg	min	Avg	min	Avg	min	Avg	min	Avg
NOM ID																
MASS Kg/M																
16	16.3															
20	20.3															
25	25.3															
32	32.3															
40	40.3	2	2.15	2.3	35.9	0.25										
50	50.3	2.4	2.6	2.8	45.0	0.37	2.0	2.3	2.3	45.6	0.31					
63	63.4	3	3.2	3.4	56.8	0.58	2.5	2.7	2.9	57.8	0.49					
75	75.5	3.6	3.85	4.1	67.6	0.83	2.9	3.1	3.3	69.1	0.67					
90	90.6	4.3	4.6	4.9	81.1	1.19	3.5	3.75	4.0	82.8	0.97					
110	110.7	5.3	5.65	6	99.1	1.78	4.2	4.5	4.8	101.4	1.43					
125	125.8	6	6.35	6.7	112.7	2.27	4.8	5.1	5.4	115.2	1.85					
140	140.9	6.7	7.1	7.5	126.3	2.85	5.4	5.75	6.1	129.0	2.33					
160	161	7.7	8.15	8.6	144.2	3.74	6.2	6.6	7.0	147.3	3.06					
180	181.1	8.6	9.1	9.6	162.4	4.69	6.9	7.3	7.7	166.0	3.81					
200	201.2	9.6	10.15	10.7	180.3	5.82	7.7	8.15	8.6	184.3	4.72					
225	226.4	10.8	11.4	12	202.9	7.35	8.6	9.1	9.6	207.5	5.93					
250	251.5	11.9	12.55	13.2	225.7	8.99	9.6	10.15	10.7	230.5	7.35					
280	281.7	13.4	14.15	14.9	252.6	11.36	10.7	11.3	11.9	258.3	9.17					
315	316.9	15	15.8	16.6	284.4	14.27	12.1	12.8	13.5	290.4	11.68	9.7	10.25	10.8	295.5	9.43
355	357.2	16.9	17.8	18.7	320.5	18.12	13.6	14.35	15.1	327.4	14.76	10.9	11.5	12.1	333.1	11.93
400	402.4	19.1	20.15	21.2	360.9	23.11	15.3	16.15	17.0	368.9	18.72	12.3	13	13.7	375.2	15.19
450	452.7	21.5	22.65	23.8	406.1	29.22	17.3	18.2	19.1	415.0	23.66	13.8	14.55	15.3	422.3	19.19
500	503	23.9	25.15	26.4	451.2	36.06	19.1	20.15	21.2	461.2	29.19	15.3	16.15	17	469.2	23.99
560	563.4	26.7	28.1	29.5	505.5	45.13	21.4	22.55	23.7	516.6	36.59	17.2	18.15	19.1	525.4	29.69
630	633.8	30	31.55	33.1	568.8	57.01	24.1	25.4	26.7	581.1	46.36	19.3	20.35	21.4	591.2	37.45
710	716.4	33.9	35.65	37.4	640.7	72.69	27.2	28.65	30.1	654.7	59.03	21.8	22.95	24.1	666.1	47.68
800	807.2	38.1	40.1	42.1	721.8	92.14	30.6	32.2	33.8	737.6	74.76	24.5	25.8	27.1	750.4	60.39
900	908.1	42.9	45.1	47.3	811.8	116.59	34.4	36.35	38.3	829.3	94.93	27.6	29.05	30.5	843.9	76.50
1000	1009.0	47.7	50.15	52.6	901.7	144.04	38.2	40.2	42.2	921.6	116.67	30.6	32.05	33.5	937.9	93.80
1600							61.2	62.9	64.6		293.63					
2000							76.9	79.00	81.1		4604.42					



Dia	PN	COIL DIMENSIONS				Approx OD				Weight			
		Kg/m		m		mm		mm		kg		kg	
		mm	m	50m	75m	100m	150m	50m	75m	100m	150m		
90	16	2.137	1820	2240	2240	2460	2460	107	160	214	321		
110	12.5	2.634	1800	2240	2240	2460	2460	133	198	263	396		
110	16	3.169	1800	2240	2240	2460	2460	160	238	317	477		
125	12.5	3.394	1800	2300	2550	2550	N/A	170	256	341	N/A		
125	16	4.111	1800	2300	2550	2550	N/A	206	310	413	N/A		
140	12.5	4.250	2000	2560	2560	N/A	N/A	211	320	413	N/A		
140	16	5.124	1800	2360	2640	2640	N/A	256	387	512	N/A		
160	12.5	5.547	2000	2640	2640	N/A	N/A	279	418	N/A	N/A		
160	16	6.725	1700	2340	2660	2660	N/A	334	506	672	N/A		
160	20	8.036	1800	2340	2660	2660	N/A	402	603	804	N/A		
180	16	8.500	1700	2420	2420	N/A	N/A	422	638	N/A	N/A		

AVAILABLE HDPE COILS

Rare Plastics has the capability of coiling pipes up to 180mm.

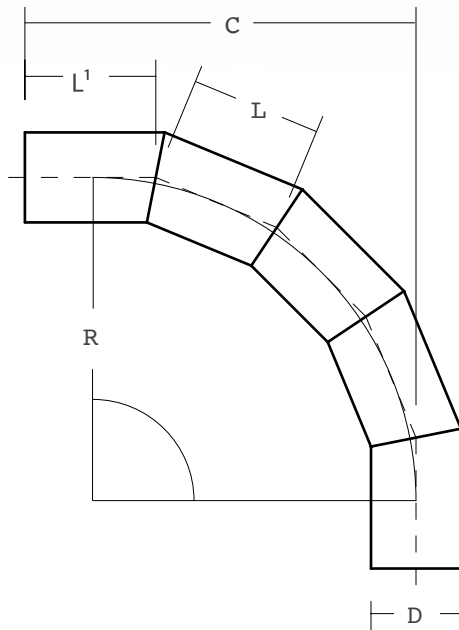


Fitting Dimensions

Fittings can be manufactured in a wide variety of Diameters and pressure ratings (PN). The most popular diameters begin from 75mm (OD) and PN 6 or higher. Permissible working pressure is 60% of the nominal pressure of the pipe used to fabricate the fitting. E.g. A PN10 pipe yields a PN6 fabricated fitting.

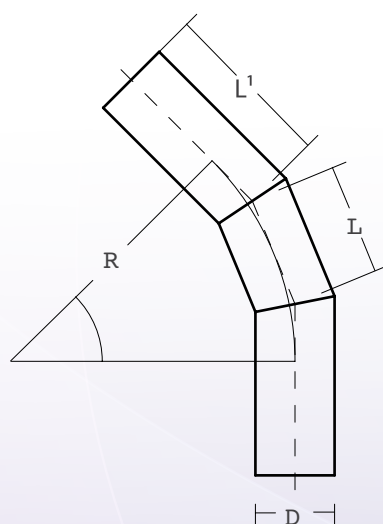
Segmented Bends

90° Bend



OD mm (D)	L mm	C mm	L ¹ mm	R mm
110	155	478	160	395
125	155	478	160	395
140	155	478	160	395
160	155	478	160	395
180	155	478	160	395
200	250	279	280	367
225	250	279	280	367
250	250	279	280	367
280	250	279	280	367
315	250	279	280	367
355	380	1178	400	968
400	380	1178	400	968
450	380	1178	400	968
500	380	1178	400	968
560	470	1450	560	1350
630	590	1800	600	1520

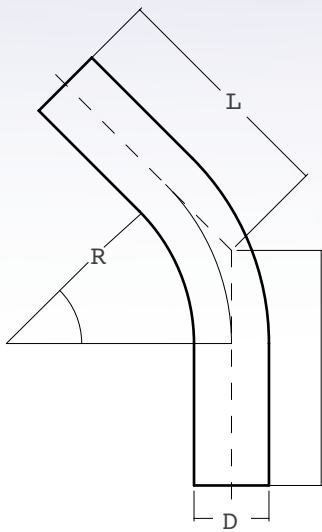
45° Bend



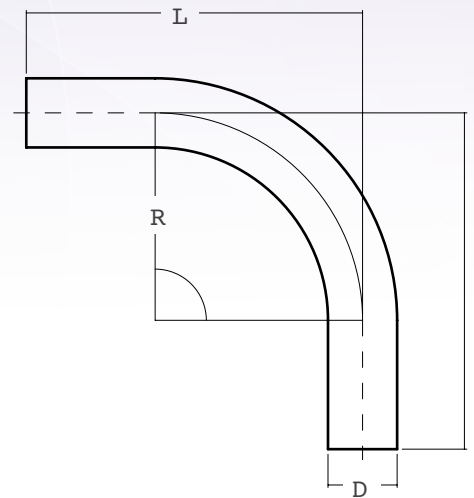
OD mm (D)	L mm	L ¹ mm	R mm
110	155	238	395
125	155	238	395
140	155	238	395
160	155	238	395
180	155	238	395
200	250	405	637
225	250	405	637
250	250	405	637
280	250	405	637
315	250	405	637
355	380	590	968
400	380	590	968
450	380	590	968
500	380	590	968
560	470	900	1200
630	590	900	1500

Seamless Bends

45° and 90°



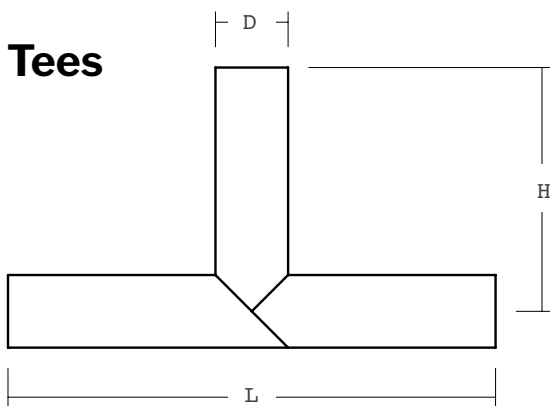
OD mm (D)	R mm	45° mm (L)	90° mm (L)
110	330	345	535
125	375	360	580
140	420	380	625
160	480	405	685
180	540	430	745
200	600	455	805
225	675	485	880
250	750	515	955
280	840	555	1045
315	945	585	1150
355	1065	645	1270
400	1200	705	1405
450	1350	765	1555



Sizes 110mm - 280mm: 2D Radius | 315mm - 450mm: 3D Radius

Minimum of PN10/SDR 17 for sizes 160mm and greater | Minimum of PN16/SDR 11 for smaller sizes.

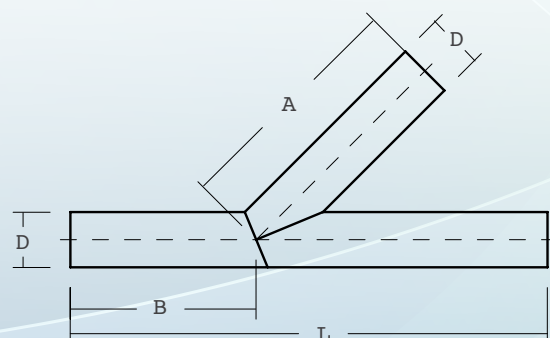
Tees



OD mm (D)	H mm	L mm
90	200	400
110	455	910
125	465	930
140	470	940
160	480	960
180	490	980
200	500	1000
225	515	1030
250	525	1050
280	740	1480
315	760	1520
355	780	1560
400	800	1600
450	925	1850
500	950	1900
560	1180	2360
630	1215	2430

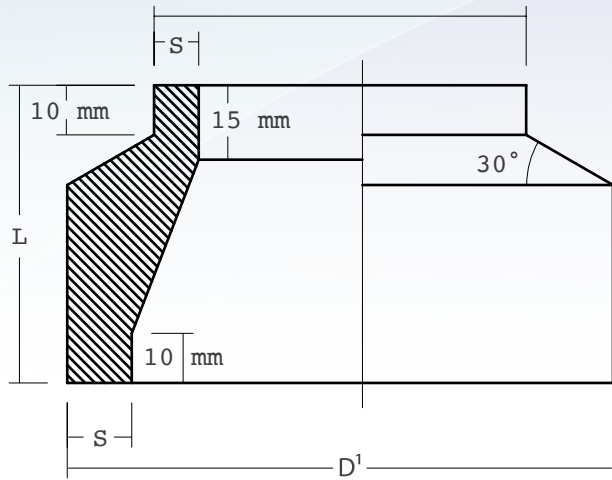
Lateral Plain Ended

OD mm (D)	A mm	B mm	L mm
50	200	150	400
63	200	150	400
75	475	370	950
90	475	370	950
110	475	370	950
125	475	370	950
140	475	370	950
160	475	370	950
180	875	530	1350
200	875	530	1350
225	875	530	1350
250	875	530	1350
280	900	700	1800
315	900	700	1800
355	900	700	1800
400	900	700	1800
450	1100	870	2200



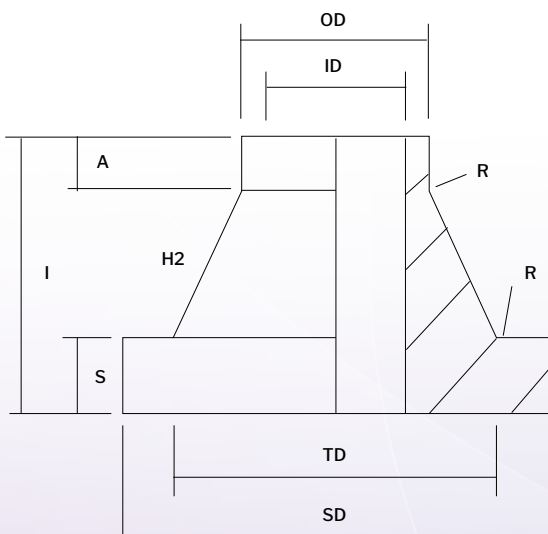
Machined Reducing Bushes

OD mm (D ¹)	OD mm (D ²)	L mm
25	20	60
32	20/25	60
40	20/25/32	60
50	25/32/40	60
63	25/32/40/50	60
75	32/40/50/63	60
90	40/50/63/75	60
110	63/75/90	60
125	75/90/110	60
140	90/110/125	80
160	90/110/125/140	80
180	110/125/140/160	80
200	140/160/180	80
225	160/180/200	80
250	180/200/225	80
280	200/225/280	80
315	250/280	80
355	280/315	90
400	315/355	90
450	355/400	90
500	400/450	90



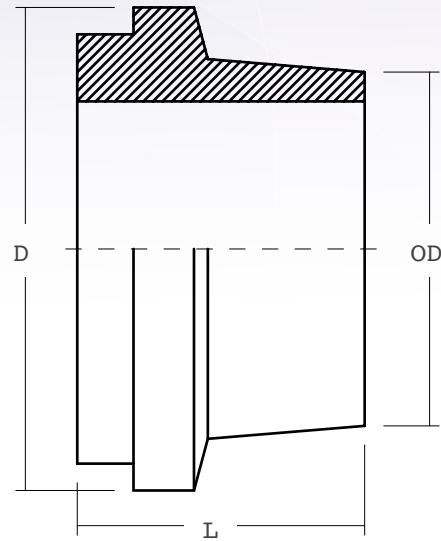
OD mm	TD mm	SD mm	S mm	H2 mm	A mm	L mm	R mm
90	103	129	20	15	15	50	3
110	128	158	27	8	15	50	3
125	135	160	27	18	15	60	3
140	158	188	27	8	15	50	4
160	188	217	35	10	15	60	4
180	188	217	35	15	20	70	4
200	236	270	35	25	20	80	4
225	236	270	45	5	20	70	4
250	276	320	35	40	25	100	4
280	291	320	35	30	35	100	4
315	327	370	35	40	25	100	4
355	373	430	40	40	40	120	5
400	427	482	46	45	29	120	5
450	476	540	65	15	30	110	5
500	533	585	70	15	30	115	5
560	592	645	70	15	30	115	5
630	662	725	70	15	30	115	5
710	737	800	50	50	20	120	5
800	840	905	52	50	18	120	5
900	944	1005	55	50	15	120	5
1000	1047	1110	60	70	10	140	5
1200	1245	1330	60	70	10	140	6

Butt Weld Stub

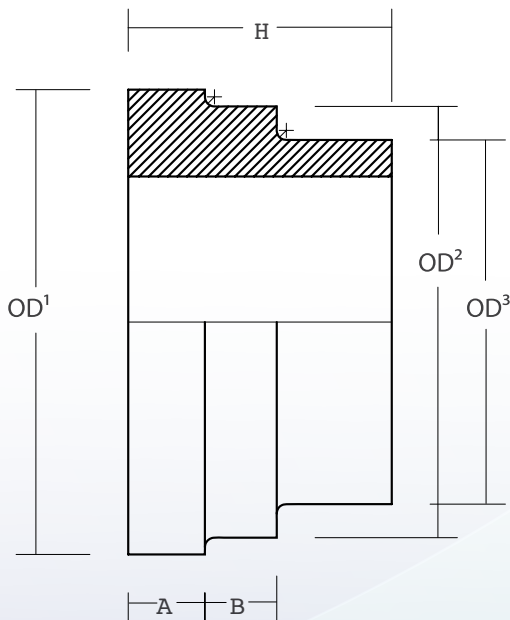


Tak-Stub Detail

PIPE OD	D	TYPE L	TYPE H
		<400 Kpa W (mm)	<1600 Kpa W (mm)
110	142	-	53
125	167	-	55
140	175	-	60
160	196	52,5	65
180	224	65	65
200	246	-	68
225	272	-	74
250	297	78	75
280	326	-	78



Victaulic Stub Detail



PIPE OD	VICTAULIC SIZE	OD ¹	OD ²	OD ³	A	B	H	CLAMP SIZE
50	63	68,5	60	50,5	16	10	55	2"
63	90	97	90	61	16	15	55	3"
75	90	97	90	76	16	15	55	3"
90	110	124,5	115	91	16,5	15	55	4"
110	110	124,5	115	111	16,5	15	55	4"
125	160	178,5	161	126	17	15	55	6"
140	160	178,5	161	141	17	15	55	6"
160	160	178,5	161	161	17	15	55	6"
180	225	231,5	218	181	21	21	85	8"
200	225	231,5	218	201,5	21	21	85	8"
225	250	286	273	226,5	21	21	85	10"
250	250	286	273	251,5	21	21	85	10"

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Handling, storage and transportation

As SAPPMA members we suggest referring to the SAPPMA technical manual.

Accreditations

The latest revisions of accreditations can be found on our website or provided on request.



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SOUTH AFRICAN PLASTICS PROCESSING MANUFACTURERS ASSOCIATION

SANS ISO 4427.2



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