



# **WEIDASAR HIGH DENSITY POLYETHYLENE (HDPE) PIPE**

**Potable Water Supply  
Gas Distribution Pipe  
Submarine Pipe  
Sewerage & Effluent Pipe  
Telecommunications Conduits  
Cable Conduits**

 <p>ISO 9001 SYSTEM CERTIFICATION SGS</p>	 <p>UKAS MANAGEMENT SYSTEMS</p>	 <p>MS SIRIM</p>	<p>APPROVED BY <b>SPAN</b> and <b>Ministry Of Utility &amp; Telecommunication Sarawak</b></p>
<p>Certificate MY04/00108</p>	<p>0005</p>	<p>MS 1058 : PART 2: 2005 PW013902</p>	



## PROPERTIES OF HIGH DENSITY POLYETHYLENE (HDPE)

### Highly Flexible

HDPE pipes are highly flexible. They can be bent at radius of 25 times their pipe diameter. Hence, they can easily conform to terrain contours and soil movements. This can result in use of fewer fittings and less joints.

### Light Weight

HDPE pipes are very much lighter than metal pipes. Hence, easier handling and lower costs of handling and transportation.

### Versatility

HDPE pipes can be used in a wide range of applications and industries because of superior physical and chemical - resistant properties.

### Chemical Resistance

HDPE pipes has excellent chemical resistance to many organic and inorganic chemicals. PE pipes do not rot or rust.

### Non-toxic

HDPE pipes are non-toxic and do not affect the taste of drinking water.

### Ultra-violet Resistance

HDPE pipes contain UV protectors that protect the pipes against sunlight.

### Superior Flowability

HDPE pipes do not allow scaling and have very good flowability.

### Impact Resistance

HDPE pipes have good flexural and impact strength and will not easily break or fracture when handled roughly.

### Lower Overall Project Cost

All the above superior properties of HDPE pipes result in lower overall cost of projects.

## APPLICATIONS OF PE PIPES

1. Potable Water Distribution - on land or underwater.
2. Irrigation, Agriculture and Aquaculture.
3. Sewerage and Effluent Disposal.
4. Pipes Relining.
5. Conveyance of Chemicals.
6. Gas Distribution.
7. Telecommunication & Electrical Cable Conduits.

## BACK-UP SERVICE FROM MANUFACTURER AND SALES AGENT/DEALER

Installation & Welding Services.

Technical Advice & Welding Machine Repair Services Available.

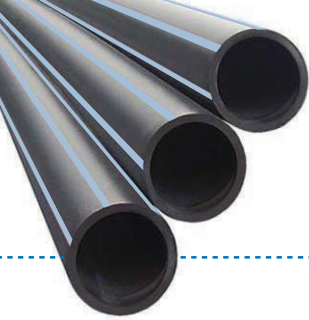
Practical Training on Welding machines provided for pipe installation.

## MDPE PIPES

MDPE Pipes are widely used in gas distribution systems. They are manufactured to SIRIM MS 1086 and ISO 4437 standards.

Because the MDPE pipes are flexible, long continuous sections of the pipelines can be employed without joints or fittings. This results in cheaper installations and less problems associated with joints.

Electrofusion fittings are readily available.



# HDPE PE 80 PIPES

## WALL THICKNESS AND INTERNAL DIAMETER

MS 1058 : PART 2 : 2005  
ISO4427 : PART 2 : 2007

Nominal Outer Diameter		NOMINAL PRESSURE FOR DESIGN STRESS 6.3MPa at 20°C									
		PN 6.3		PN 8		PN 10		PN 12.5		PN 16	
		STANDARD DIMENSION RATIO									
		SDR 21		SDR 17		SDR 13.6		SDR 11		SDR 9	
OD mm	NB inches	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id
20	1/2							2.0	15.7	2.3	15.0
25	3/4					2.0	20.7	2.3	20.0	3.0	18.6
32	1.0			2.0	27.7	2.4	26.8	3.0	25.6	3.6	24.3
40	1.25			2.4	34.8	3.0	33.5	3.7	32.1	4.5	30.4
50	1.5	2.4	44.8	3.0	43.6	3.7	42.1	4.6	40.2	5.6	38.1
63	2.0	3.0	56.6	3.8	54.9	4.7	53.0	5.8	50.7	7.1	47.9
75	2.5	3.6	67.3	4.5	65.4	5.6	63.1	6.8	60.6	8.4	57.2
90	3.0	4.3	80.8	5.4	78.5	6.7	75.8	8.2	72.6	10.1	68.6
110	4.0	5.3	98.7	6.6	96.0	8.1	92.8	10.0	88.9	12.3	84.0
125	5.0	6.0	112.3	7.4	109.3	9.2	105.5	11.4	100.9	14.0	95.4
140	5.5	6.7	125.8	8.3	122.4	10.3	118.2	12.7	113.2	15.7	106.9
160	6.0	7.7	143.7	9.5	139.9	11.8	135.1	14.6	129.2	17.9	122.3
180	6.5	8.6	161.8	10.7	157.4	13.3	151.9	16.4	145.4	20.1	137.6
225	8.0	10.8	202.2	13.4	196.7	16.6	190.0	20.5	181.8	25.2	171.9
250	9.0	11.9	224.9	14.8	218.8	18.4	211.2	22.7	202.2	27.9	191.3
280	10.0	13.4	251.7	16.6	245.0	20.6	236.6	25.4	226.5	31.3	214.1
315	11.0	15.0	283.4	18.7	275.6	23.2	266.1	28.6	254.8	35.2	240.9
355	13.0	16.9	319.4	21.1	310.5	26.1	300.0	32.2	287.2	39.7	271.5
400	14.0	19.1	359.7	23.7	350.1	29.4	338.1	36.3	323.6	44.7	306.0
450	16.0	21.5	404.7	26.7	393.8	33.1	380.3	40.9	364.0	50.3	344.2
500	18.0	23.9	449.7	27.7	439.5	36.8	422.6	45.4	404.5	55.8	382.7

KEY	LENGTHS AVAILABLE
OD = Outer Diameter	OD 20/25/32 – 100/200/300m coiled lengths
t <sub>mm</sub> = Minimum Wall Thickness	OD 50/63 – 100m coiled lengths
NB = Nominal Bore	OD 75/90 – 50m coiled
id = Internal Diameter	OD 20 to 500 – 6m, 9m, 12m straight lengths
PN = Working Pressure	
1 bar = 14.5038 PSI	



# HDPE PE 100 PIPES

## WALL THICKNESS AND INTERNAL DIAMETER















MS 1058 : PART 2 : 2005  
ISO4427 : PART 2 : 2007

Nominal Outer Diameter		NOMINAL PRESSURE FOR DESIGN STRESS 8MPa at 20°C											
		PN 6.3		PN 8		PN 10		PN 12.5		PN 16		PN 20	
		STANDARD DIMENSION RATIO											
		SDR 26		SDR 21		SDR 17		SDR 13.6		SDR 11		SDR 9	
OD mm	NB inches	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id	t <sub>min</sub>	id
20	1/2									2.0	15.7	2.3	15.0
25	3/4							2.0	20.7	2.3	20.0	3.0	18.6
32	1.0					2.0	27.7	2.4	26.8	3.0	25.6	3.6	24.3
40	1.25					2.4	34.8	3.0	33.5	3.7	32.1	4.5	30.4
50	1.5			2.4	44.8	3.0	43.6	3.7	42.1	4.6	40.2	5.6	38.1
63	2.0			3.0	56.6	3.8	54.9	4.7	53.0	5.8	50.7	7.1	47.9
75	2.5			3.6	67.3	4.5	65.4	5.6	63.1	6.8	60.6	8.4	57.2
90	3.0			4.3	80.8	5.4	78.5	6.7	75.8	8.2	72.6	10.1	68.6
110	4.0	4.2	101.0	5.3	98.7	6.6	96.0	8.1	92.8	10.0	88.9	12.3	84.0
125	5.0	4.8	114.8	6.0	112.3	7.4	109.3	9.2	105.5	11.4	100.9	14.0	95.4
140	5.5	5.4	128.5	6.7	125.8	8.3	122.4	10.3	118.2	12.7	113.2	15.7	106.9
160	6.0	6.2	146.8	7.7	143.7	9.5	139.9	11.8	135.1	14.6	129.2	17.9	122.3
180	6.5	6.9	165.4	8.6	161.8	10.7	157.4	13.3	151.9	16.4	145.4	20.1	137.6
225	8.0	8.6	206.8	10.8	202.2	13.4	196.7	16.6	190.0	20.5	181.8	25.2	171.9
250	9.0	9.6	229.7	11.9	224.9	14.8	218.8	18.4	211.2	22.7	202.2	27.9	191.3
280	10.0	10.7	257.4	13.4	251.7	16.6	245.0	20.6	236.6	25.4	226.5	31.3	214.1
315	11.0	12.1	289.4	15.0	283.4	18.7	275.6	23.2	266.1	28.6	254.8	35.2	240.9
355	13.0	13.6	326.3	16.9	319.4	21.1	310.5	26.1	300.0	32.2	287.2	39.7	271.5
400	14.0	15.3	367.7	19.1	359.7	23.7	350.1	29.4	338.1	36.3	323.6	44.7	306.0
450	16.0	17.2	413.7	21.5	404.7	26.7	393.8	33.1	380.3	40.9	364.0	50.3	344.2
500	18.0	19.1	459.7	23.9	449.7	27.7	439.5	36.8	422.6	45.4	404.5	55.8	382.7
560	22.0	21.4	516.6	26.7	505.5	33.2	491.8	41.2	475.0	50.8	454.9		
630	24.8	24.1	581.1	30.3	568.8	37.4	553.2	46.3	534.5	57.2	511.6		

KEY	LENGTHS AVAILABLE
OD = Outer Diameter	OD 20/25/32 – 100/200/300m coiled lengths
t <sub>mm</sub> = Minimum Wall Thickness	OD 50/63 – 100m coiled lengths
NB = Nominal Bore	OD 75/90/100 – 50m coiled
id = Internal Diameter	OD 20 to 630 – 6m, 9m, 12m straight lengths
PN = Working Pressure	
1 bar = 14.5038 PSI	



# COMPRESSION FITTINGS

 <p><b>STRAIGHT COUPLER</b></p> <ol style="list-style-type: none"> <li>20 mm x 20 mm</li> <li>25 mm x 25 mm</li> <li>32 mm x 32 mm</li> <li>50 mm x 50 mm</li> <li>63 mm x 63 mm</li> <li>75 mm x 75 mm</li> <li>90 mm x 90 mm</li> <li>110 mm x 110 mm</li> </ol>	 <p><b>MALE THREADED ADAPTOR</b></p> <ol style="list-style-type: none"> <li>20 mm x 1/2"</li> <li>20 mm x 3/4"</li> <li>25 mm x 1/2"</li> <li>25 mm x 3/4"</li> <li>25 mm x 1"</li> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 1 1/2"</li> <li>63 mm x 2"</li> <li>75 mm x 2 1/2"</li> <li>90 mm x 3"</li> <li>110 mm x 4"</li> </ol>	 <p><b>MALE THREADED BEND</b></p> <ol style="list-style-type: none"> <li>20 mm x 1/2"</li> <li>20 mm x 3/4"</li> <li>25 mm x 1/2"</li> <li>25 mm x 3/4"</li> <li>25 mm x 1"</li> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 1 1/2"</li> <li>63 mm x 2"</li> <li>90 mm x 3"</li> </ol>	 <p><b>MALE THREADED TEE</b></p> <ol style="list-style-type: none"> <li>20 mm x 1/2"</li> <li>20 mm x 3/4"</li> <li>25 mm x 3/4"</li> <li>25 mm x 1"</li> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 1 1/2"</li> <li>63 mm x 2"</li> <li>90 mm x 3"</li> </ol>	 <p><b>REDUCING TEE</b></p> <ol style="list-style-type: none"> <li>25 mm x 20 mm</li> <li>32 mm x 20 mm</li> <li>32 mm x 25 mm</li> <li>50 mm x 32 mm</li> <li>63 mm x 50 mm</li> <li>90 mm x 63 mm</li> </ol>
 <p><b>REDUCING COUPLER</b></p> <ol style="list-style-type: none"> <li>25 mm x 20 mm</li> <li>32 mm x 20 mm</li> <li>32 mm x 25 mm</li> <li>50 mm x 32 mm</li> <li>63 mm x 50 mm</li> <li>90 mm x 63 mm</li> <li>110 mm x 90 mm</li> </ol>	 <p><b>FEMALE THREADED ADAPTOR</b></p> <ol style="list-style-type: none"> <li>20 mm x 1/2"</li> <li>20 mm x 3/4"</li> <li>25 mm x 1/2"</li> <li>25 mm x 3/4"</li> <li>25 mm x 1"</li> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 1 1/2"</li> <li>63 mm x 2"</li> <li>75 mm x 2 1/2"</li> <li>90 mm x 3"</li> <li>110 mm x 4"</li> </ol>	 <p><b>FEMALE THREADED BEND</b></p> <ol style="list-style-type: none"> <li>20 mm x 1/2"</li> <li>20 mm x 3/4"</li> <li>25 mm x 3/4"</li> <li>25 mm x 1"</li> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 1 1/2"</li> <li>63 mm x 2"</li> <li>90 mm x 3"</li> <li>110 mm x 4"</li> </ol>	 <p><b>FEMALE THREADED TEE</b></p> <ol style="list-style-type: none"> <li>20 mm x 1/2"</li> <li>20 mm x 3/4"</li> <li>25 mm x 1/2"</li> <li>25 mm x 3/4"</li> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 1 1/2"</li> <li>63 mm x 2"</li> <li>90 mm x 3"</li> <li>110 mm x 4"</li> </ol>	 <p><b>TAPPING SADDLE</b></p> <ol style="list-style-type: none"> <li>32 mm x 3/4"</li> <li>32 mm x 1"</li> <li>50 mm x 3/4"</li> <li>50 mm x 1"</li> <li>63 mm x 3/4"</li> <li>63 mm x 1"</li> <li>90 mm x 3/4"</li> <li>90 mm x 1"</li> <li>90 mm x 2"</li> <li>110 mm x 3/4"</li> <li>110 mm x 1"</li> <li>110 mm x 2"</li> <li>160 mm x 3/4"</li> <li>160 mm x 1"</li> <li>160 mm x 2"</li> <li>225 mm x 3/4"</li> <li>225 mm x 1"</li> <li>225 mm x 2"</li> <li>250 mm x 3/4"</li> <li>250 mm x 1"</li> <li>250 mm x 2"</li> </ol>
 <p><b>END CAP COUPLING</b></p> <ol style="list-style-type: none"> <li>20 mm x 20 mm</li> <li>25 mm x 25 mm</li> <li>32 mm x 32 mm</li> <li>50 mm x 50 mm</li> <li>63 mm x 63 mm</li> <li>75 mm x 75 mm</li> <li>90 mm x 90 mm</li> <li>110 mm x 110 mm</li> </ol>	 <p><b>FLANGE ADAPTOR</b></p> <ol style="list-style-type: none"> <li>90 x 3"</li> <li>110 x 4"</li> </ol>	 <p><b>EQUAL BEND</b></p> <ol style="list-style-type: none"> <li>20 mm x 20 mm</li> <li>25 mm x 25 mm</li> <li>32 mm x 32 mm</li> <li>50 mm x 50 mm</li> <li>63 mm x 63 mm</li> <li>90 mm x 90 mm</li> <li>110 mm x 110 mm</li> </ol>	 <p><b>EQUAL TEE</b></p> <ol style="list-style-type: none"> <li>20 mm x 20 mm</li> <li>25 mm x 25 mm</li> <li>32 mm x 32 mm</li> <li>50 mm x 50 mm</li> <li>63 mm x 63 mm</li> <li>75 mm x 75 mm</li> <li>90 mm x 90 mm</li> <li>110 mm x 110 mm</li> </ol>	

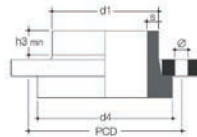


## HDPE FABRICATED FITTINGS

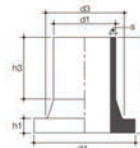


D	r	BENDS			z (TEE)
		z (90°)	z (60°)	z (45°)	
83	94	244	204	190	180
90	135	285	228	206	195
110	165	315	245	218	205
125	188	336	258	228	215
160	240	390	288	249	230
225	338	488	345	290	265
250	375	625	466	412	375
280	420	670	492	424	390
355	518	818	599	515	475
400	600	900	646	548	500
450	675	975	689	580	525
500	750	1100	783	665	600
560	840	1190	835	698	630

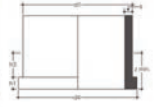
## HDPE STUB ENDS AND DI FLANGES



63mm - 315mm



355mm - 500mm



DUCTILE IRON FLANGE - PN16					PE STUB END (LONG COLLAR)				
Size	d1 (mm)	PCD (mm)	h3 min (mm)	Number of Bolt Hole	Size	d1 (mm)	d4 (mm)	h1 (mm)	h3 (mm)
63	63	125	25	4	63	63	102	13	63
75	75	145	25	4	75	75	122	16	70
90	90	160	25	8	90	90	138	17	79
110	110	180	25	8	110	110	158	18	82
125	125	180	25	8	125	125	158	18	87
160	160	240	25	8	160	160	212	25	98
180	180	240	25	8	180	180	212	30	105
200	200	295	25	12	200	200	268	32	112
225	225	295	25	12	225	225	268	32	120
250	250	355	25	12	250	250	320	35	129
280	280	355	25	12	280	280	320	35	139
					315	315	370	35	150
					355	335-SRW	378	40	164
					400	400-SRW	438	46	179
					450	450-SRW	489	60	195
					500	500-SRW	539	60	212



## **HDPE WATER PIPELINES TESTING**

### **IMPORTANT BASIC RULES FOR TESTING TEMPERATURE AND PRESSURE**

Testing of HDPE water pipelines must always be carried out at the recommended ambient temperature to avoid uncontrollable test conditions and inaccuracy of results. This is because high temperatures affect HDPE mechanical properties.

#### **IMPORTANT RULE**

Avoid carrying out testing in a hot afternoon or middle of a hot sunny day. The recommended time is the cool period of the morning.

There are 2 important reasons:-

#### **A. HIGH CO-EFFICIENT OF EXPANSION OF HDPE PIPES**

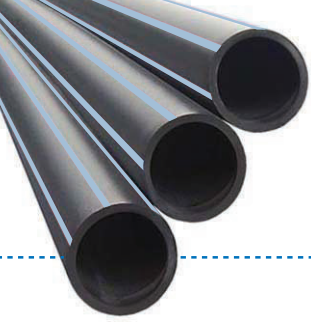
If the testing is done under hot sun, the HDPE pipe will expand a great deal at the high ambient temperature. The make-up water volume for the pipeline will be relatively very large. If there is a sudden drastic cooling, this may cause a sudden rise in the water pressure to above critical levels.

#### **B. PRESSURE RATING OF HDPE PIPE IS DEPENDENT ON WORKING TEMPERATURE**

Since the mechanical properties of HDPE pipe are affected by temperature, the test pressure must therefore be appropriately selected in accordance with the Pressure Reduction Factor Chart shown on the next page.

The pressure Number (PN) of the pipe nominally refers to the maximum working pressure in bars at the working temperature of 20°C. At temperatures above 20°C, the maximum working pressure (MWP) of the pipe must be reduced in accordance with the Pressure Reduction Factor Chart. For example, at a temperature of 30°C, which is average temperature before 9.00 a.m. in our tropical climate, the MWP should be reduced by 20%. Thus, a PN8 pipe should be allowed a MWP of only 6.4 bars. This would mean that the testing pressure, which is usually 1.5 times the MWP, should be  $1.5 \times 6.4 = 9.6$  bars.

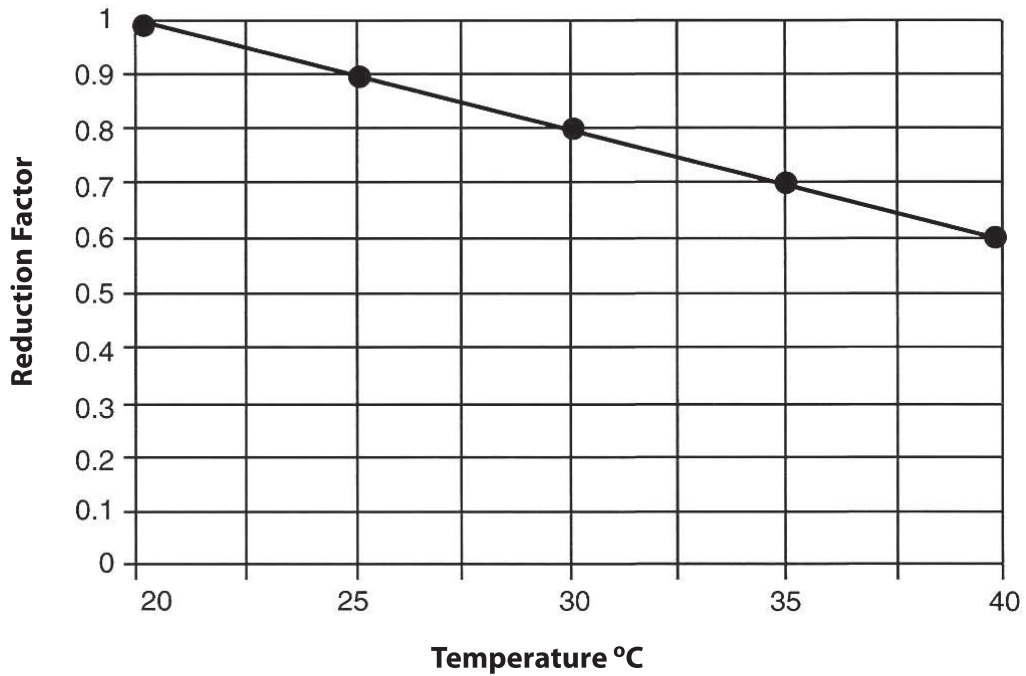
By examining the Pressure Reduction Factor Chart, it should be obvious that it is not proper to carry out testing in the middle of a hot day when the pipe and water temperatures can reach beyond 40°C. Beyond 40°C, the testing conditions would be out of control and the pipe may even fail unnecessarily. Hence, it is recommended that pipeline testing should ideally be done during the early hours of the morning when the pipe and water have not accumulated much heat yet.



## HDPE WATER PIPELINES TESTING

### IMPORTANT BASIC RULES FOR TESTING TEMPERATURE AND PRESSURE

**DIAGRAM 1 : WORKING PRESSURE REDUCTION FACTOR VERSUS TEMPERATURE**



**TABLE A : RECOMMENDED MAXIMUM WORKING PRESSURE AT 30°C**

NOMINAL PRESSURE (PN)	RECOMMENDED MAXIMUM WORKING PRESSURE (BAR)
16.0	12.8
12.5	10.0
10.0	8.0
8.0	6.4
6.3	4.8





## BUTT WELDING MACHINES

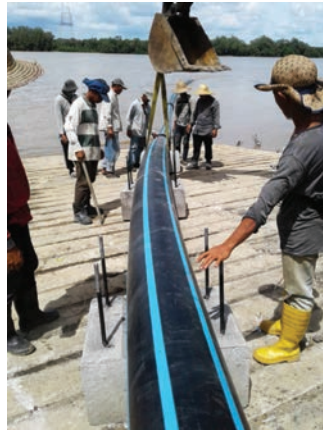


## BUTT WELDING IN PROGRESS





## BUTT WELDING MACHINES





## M180 / 50 MANUALLY OPERATED BUTT FUSION MACHINE

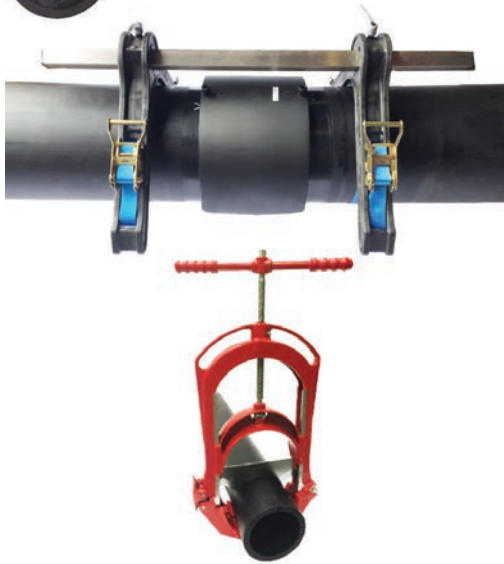


## S BOX ELECTROFUSION MACHINE

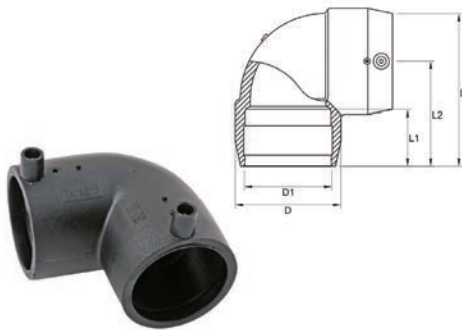




## WELDING MACHINE & ACCESSORIES

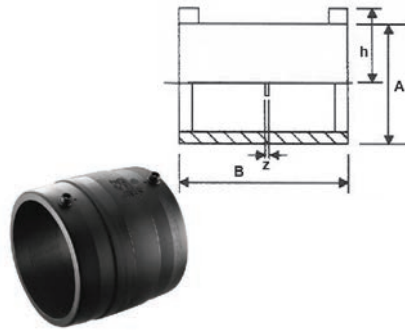


## ELECTROFUSION FITTINGS



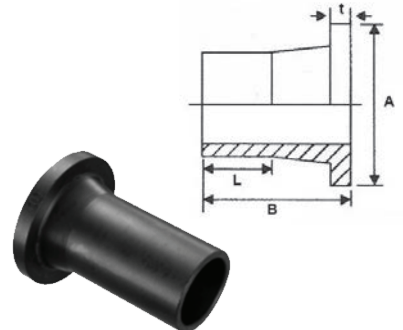
**ELECTROFUSION 90° ELBOW**  
Dimensions : (mm)

Size	L	L1	L2	D	D1
20 x 90deg	83	40	63	43	20
25 x 90deg	76	41	60	35	25
32 x 90deg	84	40	62	44	32
40 x 90deg	91	42	65	52	40
50 x 90deg	103	45	72	63	50
63 x 90deg	123	50	84	81	63
75 x 90deg	141	53	92	95	75
90 x 90deg	165	60	109	113	90
110 x 90deg	204	73	135	137	110
125 x 90deg	228	78	152	154	125
160 x 90deg	305	87	205	201	160
180 x 90deg	308	90	197	222	180



**ELECTROFUSION COUPLES**  
Dimensions : (mm)

Size	A	B	h	Z
20	32	72	33	2
25	37	78	35	2
32	43	82	39	2
40	58	78	41	2
50	70	86	47	2
63	79	96	53	3
75	95	100	62	3
90	114	107	67	3
110	134	117	78	3
125	155	129	87	3
140	170	182	101	3
160	199	154	106	4
180	224	168	116	4
200	248	188	129	4
225	278	200	142	4
250	312	224	157	4
280	346	234	172	4
315	389	250	192	4
355	405	295	218	4
400	458	335	239	4



**LONG SPIGOT STUB END**  
Dimensions : (mm)

Size	A	B	L	t
32	68	88	60	10
40	78	100	60	12
50	87	100	65	13
63	102	117	63	14
75	122	127	85	16
90	138	136	79	17
110	158	136	82	18
125	158	176	92	25
160	212	176	98	25
180	121	175	106	30
200	268	179	115	32
225	268	179	125	32
250	320	284	180	32
315	370	270	185	35



# ELECTROFUSION FITTINGS

<b>FLEXTEE TAPPING TEE U/P</b> PE100   Water PN 16   Gas 10 Bar	4mm Pin Fitting Code	4.7mm Pin Fitting Code	Fitting Size	L	H	h	W	Fusion Time	Cooling Time	Weight
			mm	mm	mm	mm	mm	secs	mins	Kg
	FLTBKHF63X20U	FLTBKHA63X20U	63 x 20	83	100	59.5	119	110	10	0.22
	FLTBKHF63X25U	FLTBKHA63X25U	63 x 25	83	100	59.5	119	110	10	0.22
	FLTBKHF63X32U	FLTBKHA63X32U	63 x 32	83	100	59.5	119	110	10	0.22
	FLTBKHF75X20U	FLTBKHA75X20U	75 x 20	83	100	65.5	119	110	10	0.22
	FLTBKHF75X25U	FLTBKHA75X25U	75 x 25	83	100	65.5	119	110	10	0.22
	FLTBKHF75X32U	FLTBKHA75X32U	75 x 32	83	100	65.5	119	110	10	0.22
	FLTBKHF90X20U	FLTBKHA90X20U	90 x 20	83	100	73	119	110	10	0.22
	FLTBKHF90X25U	FLTBKHA90X25U	90 x 25	83	100	73	119	110	10	0.22
	FLTBKHF90X32U	FLTBKHA90X32U	90 x 32	83	100	73	119	110	10	0.22
	FLTBKHF110X20U	FLTBKHA110X20U	110 x 20	93	100	83	119	120	10	0.22
	FLTBKHF110X25U	FLTBKHA110X25U	110 x 25	93	100	83	119	120	10	0.22
	FLTBKHF110X32U	FLTBKHA110X32U	110 x 32	93	100	83	119	120	10	0.22
	FLTBKHF125X20U	FLTBKHA125X20U	125 x 20	93	100	90.5	119	120	10	0.23
	FLTBKHF125X25U	FLTBKHA125X25U	125 x 25	93	100	90.5	119	120	10	0.23
	FLTBKHF125X32U	FLTBKHA125X32U	125 x 32	93	100	90.5	119	120	10	0.23
	FLTBKHF160X20U	FLTBKHA160X20U	160 x 20	93	100	108	119	140	10	0.24
	FLTBKHF160X25U	FLTBKHA160X25U	160 x 25	93	100	108	119	140	10	0.24
	FLTBKHF160X32U	FLTBKHA160X32U	160 x 32	93	100	108	119	140	10	0.24

<b>LARGE DIAMETER COUPLER</b> PE100   Water PN 16   Gas 10 Bar	4mm Pin Fitting Code	4.7mm Pin Fitting Code	Fitting Size	L	L1	D	D1	Fusion Time	Cooling Time	Weight
			mm	mm	mm	mm	mm	secs	mins	Kg
	CBKHF450FSN	CBKHM450FSN	450	320	160	522	450	1380	30	21.00
	CBKHF500FSN	CBKHM500FSN	500	360	180	621	500	1800	30	33.00
	CBKHF560FSN	CBKHM560FSN	560	390	195	694	560	960 *	45	39.00
	CBKHF630FSN	CBKHM630FSN	630	430	215	780	630	1620 *	30	53.00

<b>MULTISEAL TAPPING TEE UNDERCLAMP</b> PE100   Water PN 16   Gas 10 Bar	4mm Pin Fitting Code	4.7mm Pin Fitting Code	Fitting Size	L	H	h	W	Fusion Time	Cooling Time	Weight
			mm	mm	mm	mm	mm	secs	mins	Kg
	MTBKHF225X20U	MTBKHA225X20U	225 x 20	105	122	145	120	100	10	0.78
	MTBKHF225X25U	MTBKHA225X25U	225 x 25	105	122	145	120	100	10	0.78
	MTBKHF225X32U	MTBKHA225X32U	225 x 32	105	122	145	120	100	10	0.78

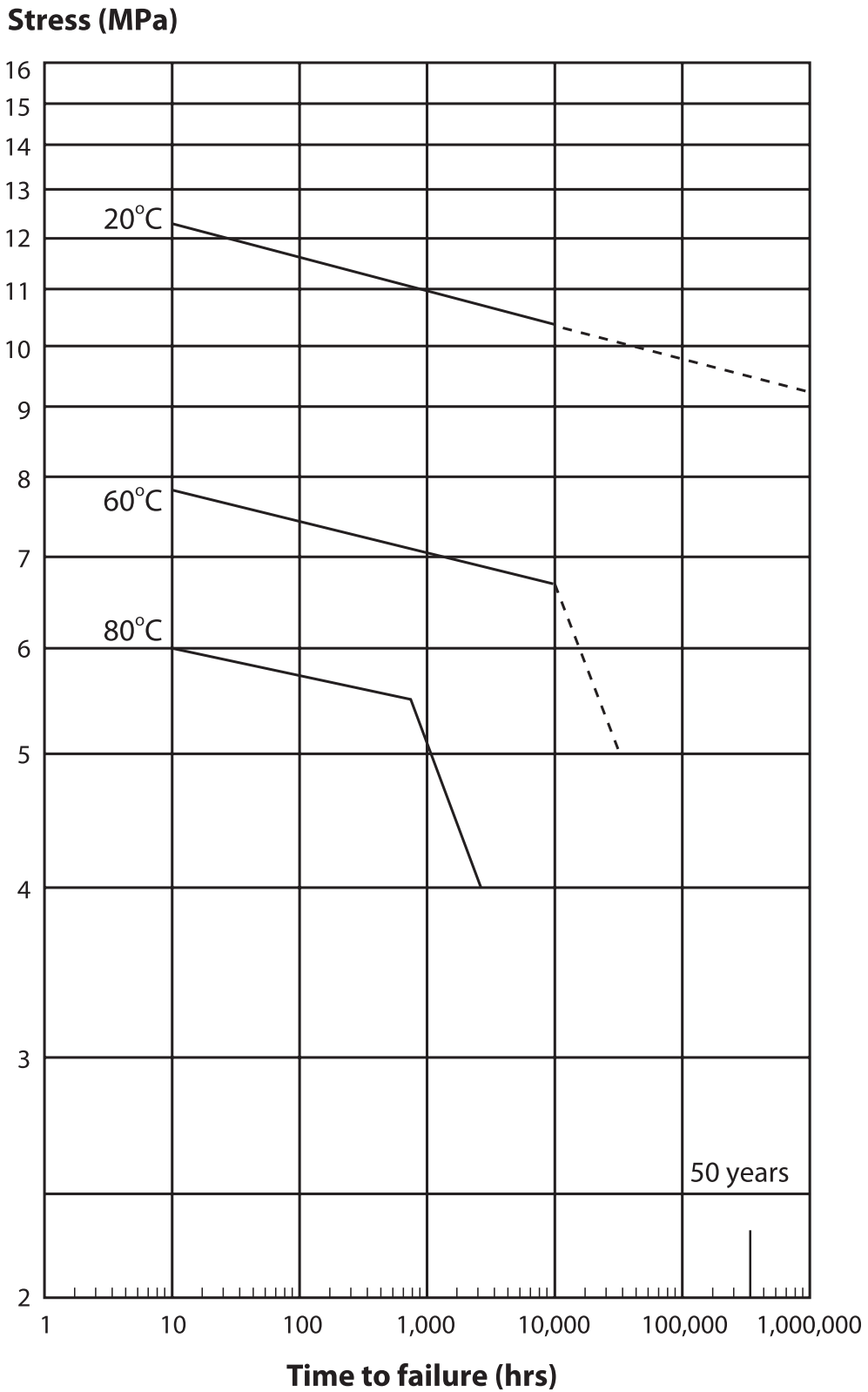
  

<b>MULTISEAL TAPPING TEE STACKLOAD</b> PE100   Water PN 16   Gas 10 Bar	4mm Pin Fitting Code	4.7mm Pin Fitting Code	Fitting Size	L	H	h	W	Fusion Time	Cooling Time	Weight
			mm	mm	mm	mm	mm	secs	mins	Kg
	MTBKHF280X20	MTBKHA280X20	280 x 20	105	122	176	120	100	10	0.41
	MTBKHF280X25	MTBKHA280X25	280 x 25	105	122	176	120	100	10	0.41
	MTBKHF280X32	MTBKHA280X32	280 x 32	105	122	176	120	100	10	0.41
	MTBKHF315X20	MTBKHA315X20	315 x 20	105	122	194	120	100	10	0.41
	MTBKHF315X25	MTBKHA315X25	315 x 25	105	122	194	120	100	10	0.41
	MTBKHF315X32	MTBKHA315X32	315 x 32	105	122	194	120	100	10	0.41
	MTBKHF355X20	MTBKHA355X20	355 x 20	105	122	214	120	100	10	0.40
	MTBKHF355X25	MTBKHA355X25	355 x 25	105	122	214	120	100	10	0.40
	MTBKHF355X32	MTBKHA355X32	355 x 32	105	122	214	120	100	10	0.40



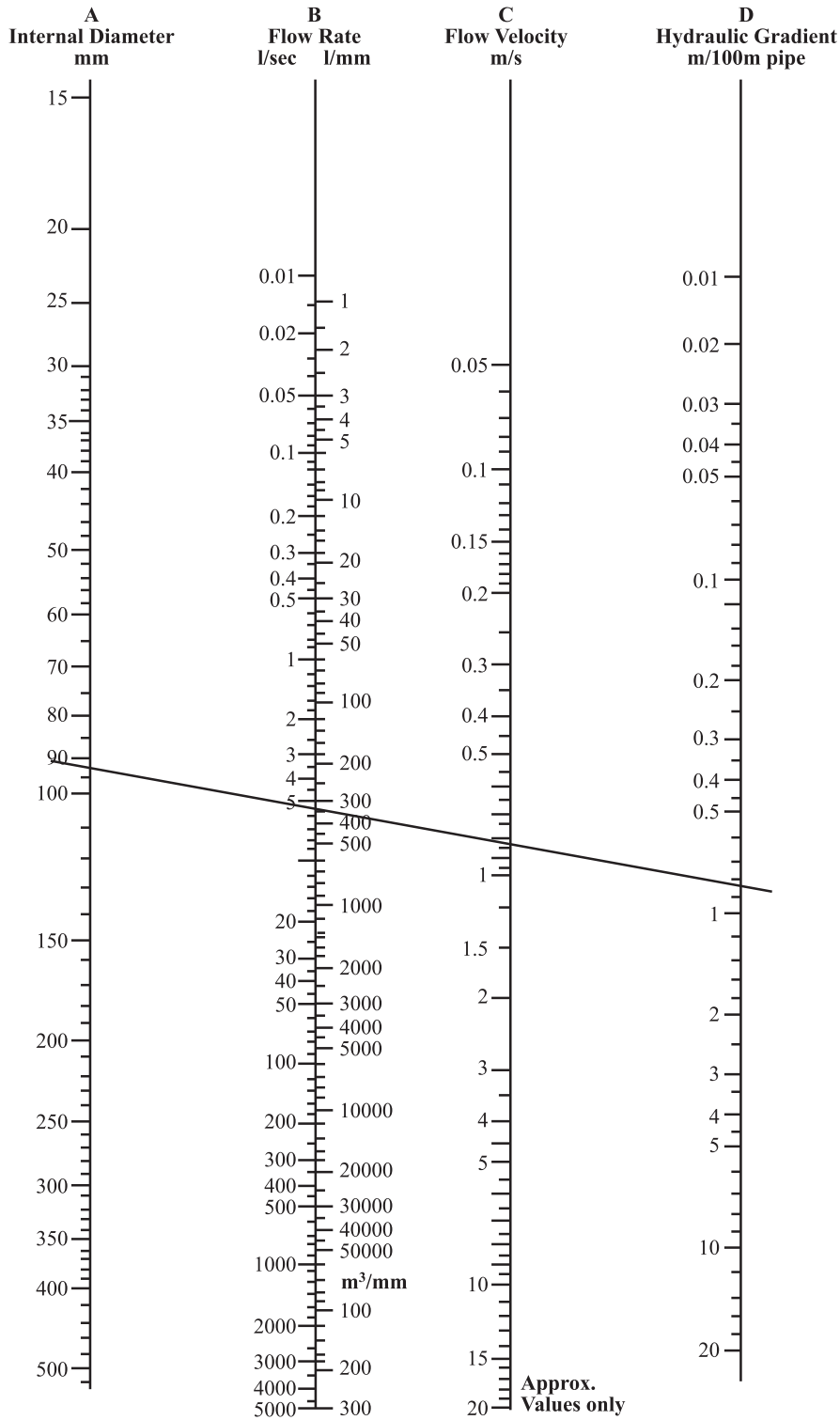
# HDPE WATER PIPELINES TESTING

## BEHAVIOR OF HDPE PIPES UNDER LONG-TERM STRESS

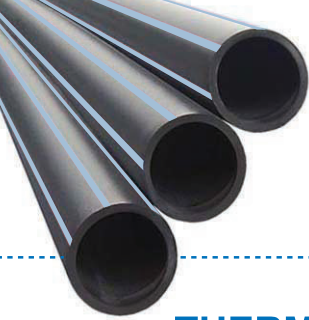




# HDPE WATER PIPELINES TESTING FLOW NOMOGRAM



**Example:** Flow 10 l/sec, Pipe size 110mm OD (104mm ID), Velocity 1.2m/s, Hydraulic Gradient 1.2m/100m.  
 To use the above FLOW NOMOGRAM at least two values out of A,B,C,D should be known.  
 Joining the two values on lines and extending the line henceforth will give the desired values.

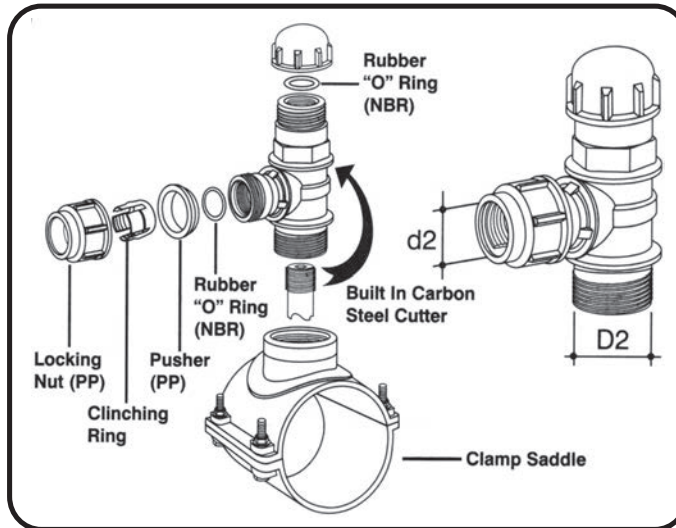


## THERMOPLASTIC FERRULE

### THERMOPLASTIC FERRULE (C/W CARBON STEEL CUTTER)

Suitable for PE and uPVC pipes

For PE pipes connection



D2	x	d2 (mm)
1"		20
		25
		32
1 1/4"		20
		25
		32

## MECHANICAL TAPPING SADDLE & INSTALLATION



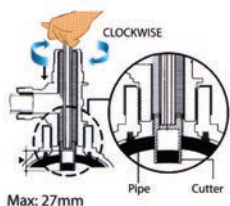
### PE - METAL CONNECTION

For Threaded Connection  
Branch outlet size ( inch )  
1/2" , 3/4" , 1"  
Main pipe size ( mm )  
OD: 63, 75, 90, 110, 125, 140, 160, 180

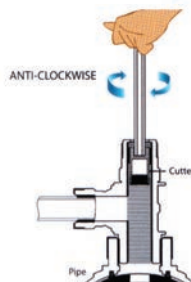


### PE - PE CONNECTION

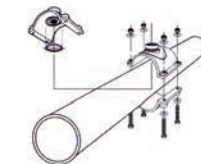
For PE Pipes Connection  
Branch outlet size ( mm )  
20, 25, 32



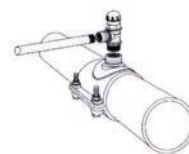
step 4  
Boring Max Torque :  
40 Nm



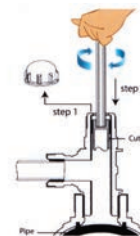
step 5  
Removal



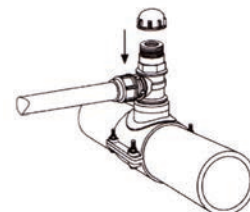
step 1  
Installation of Clamp Saddle.  
REMARK:  
For size 32mm - 125mm & 160mm, Hexagon bolt head no need washer



step 2  
Ensure the Ferrule is fitted before connecting pipe.



step 3  
Turn the cutter with allen key



step 6  
Completion





## RED LINE PIPES FOR ELECTRICAL CABLE CONDUITS

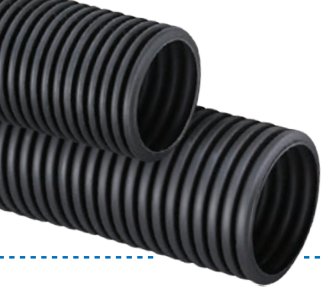




## ORANGE LINE PIPES FOR TELECOMMUNICATION CABLE CONDUITS



# TELECOMMUNICATION PIPES & CONDUITS



## CORRUGATED Sub Ducts

Size (mm)	Outer Diameter (mm)	Inner Diameter (mm)	Thickness (mm)
32.00	32.00	26.00	0.60
40.00	40.00	34.00	0.65



## HDPE Smoothducts Pipes

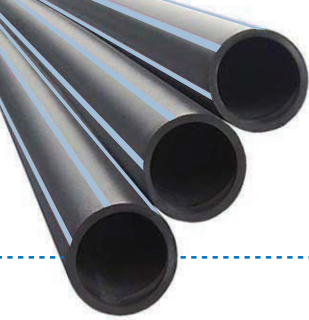


Size (mm)	Outer Diameter (mm)	Inner Diameter (mm)	Thickness (mm)
32.00	32.00	26.00	3.00
40.00	40.00	33.00	3.50
50.00	50.00	42.00	4.00
110.00	110.00	92.80	8.1 - 9.1

## PVC-U Pipes

Size (mm)	Outer Diameter (mm)	Thickness (mm)	Ovality (mm)	Socket Length (mm)	Engagement Length (mm)
107.00	107.00	2.6 - 3.0	106.0 - 107.0	102.00	75.00



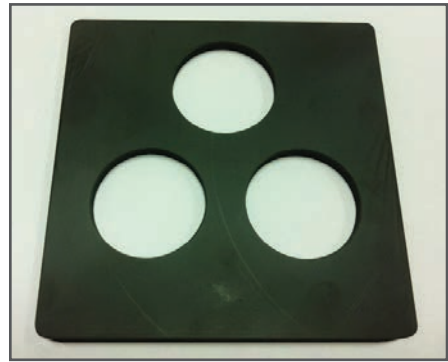


## HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED SUB-DUCT ASSOCIATED ACCESSORIES

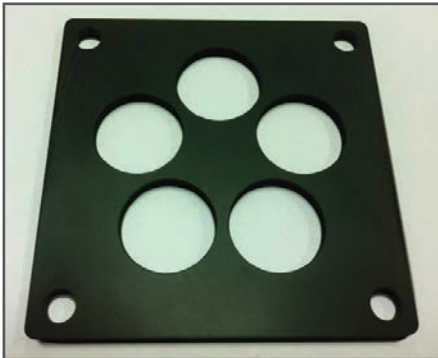
**40mm Flange Holder for Sub-Ducts in Cable Chamber**



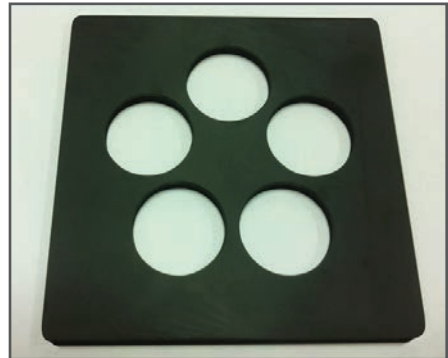
**40mm Flange Holder for Sub-Ducts in Manhole**



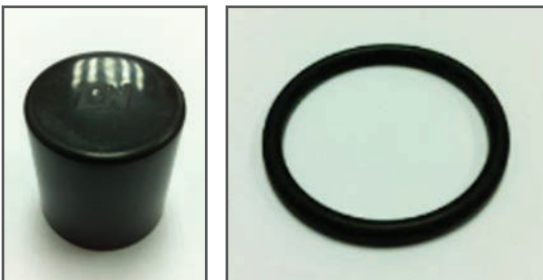
**32mm Flange Holder for Sub-Ducts in Cable Chamber**



**32mm Flange Holder for Sub-Ducts in Manhole**




**40 & 32mm End Cap Socket & 'O' Ring**



**Pull-line Rope**



## HIGH DENSITY POLYETHYLENE (HDPE) PIPES

SPECIFICATION		CERTIFIED BY	
MS 1058 : PART 2 : 2005 ISO 4427 : PART 2 : 2007	FOR POTABLE WATER	<u>CERTIFICATION</u> SIRIM QAS International and Approved by JKR	
MS 1086 : PART 2 : 2007 ISO 4437 : 1997	FOR GASEOUS FUELS		

## TYPICAL PROPERTIES OF HDPE

PROPERTIES	TESTING METHOD	UNIT	VALUE
Density	ISO1183	kg/m <sup>3</sup>	954
Melt Index, Condition 190°C/5.0kg	ISO1133	g/10min	0.2 - 0.6
Thermal Stability	EN 728	min	>20
ESCR, Condition A & B, F50	ASTM D1693	h	>1000
Tensile Stress at Yield	ISO R 527	MPa	22
Tensile Stress at Break	ISO R 527	MPa	32
Elongation at Break	ISO R 527	%	> 350
Flexural Modulus	ISO 178	MPa	800

**The following Quality Assurance Tests are conducted on WEIDASAR Pipes at the manufacturing facility:**

- A) Dimensional** : Outside Diameter, Wall Thickness, Length, Ovality
- B) Visual** : Surface Finish, Colour Distribution, Marking
- C) Weight** : According to Standards
- D) Performance** : Internal Pressure Test
- E) Longitudinal Reversion** : Dimensional Changes after subjection to heat
- F) Elongation** : Elongation Test
- G) Thermal Stability** : Oxidation Induction Time



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