

# HDPE

## PRESSURE PIPE PE 100 TECHNICAL SPECIFICATION

### APPEARANCE

#### Compound Material

+ The material from which all HDPE pressure pipes to made in accordance with ISO 4427:9001.

+ All pipes shall be manufactured using black, bimodal, high density polyethylene MRS 10.0 material (PE100) in accordance to ISO 4427-1.

+ Carbon black should be well dispersed to give outstanding UV resistance, and should have a minimum carbon content of 2%.

+ Material should be from certified PE100+ material with batch certification available with pipe delivery.

#### Identification compound

+ The compound used for identification stripes shall be manufactured from a PE polymer manufactured from the same type of base polymer as used in the compound for pipe production.

#### General appearance

+ When viewed without magnification, the internal and external surfaces of pipes shall be smooth, clean and free from scoring, cavities and other surface defects such as would prevent conformity of the pipe to ISO 4427. The pipe ends shall be cut cleanly

#### Color

+ The pipes shall be black with protection from direct UV light.

### DIMENSIONS

#### General

+ The dimensions of the pipe shall be measured in accordance with ISO 3126. Manufacturing shall be to ISO 4427 Standard, as per annexed dimensional chart.

+ Pipes should be manufactured in machinery capable of ultrasonic wall thickness detection with production reports available with delivery of pipes.

## HDPE PE 100 ADVANTAGES

- ✓ UV RESISTANT
- ✓ CORROSION RESISTANT
- ✓ ABRASION RESISTANT
- ✓ FLEXIBLE
- ✓ PRODUCED IN COILS
- ✓ ROBUST JOINTS
- ✓ IMPROVED HYDRAULIC
- ✓ SURGE & FATIGUE RESISTANT
- ✓ FEWER THRUST BLOCKS

### Lengths and Coils

+ Where coiling is possible, the minimum internal diameter of the coil shall be not less than  $18d_n$ .

+ The lengths shall be supplied to minimize the number of joints to be done in the field, and the size that is allowed to be legally transported on Kenyan roads by the traffic department.

### MARKINGS

#### General

+ All pipes shall be permanently and legibly marked in such a way that the marking does not initiate cracks or other types of failure and such that normal storage, weathering, handling, installation and use does not affect the legibility of the marking. The colour of the printed information shall differ from the basic colour of the product.

+ The marking shall be such that it is legible without magnification. The frequency of marking shall not be less than once per metre. Markings should be made using a hot embossed foil stamp printing. Inkjet printing will not be accepted.

#### Stripe Marking

+ Each pipe shall contain 3 equispaced blue longitudinal stripes indicating water as the medium transported within the pipes

**AQUAFLEX**  
HDPE PIPES & FITTINGS

# AVAILABLE UPTO 630MM

## DIMENSIONAL CHART FOR HDPE PE100 PRESSURE PIPES - ISO 4427 - 2: 2007

Outer Diameter				6.3 Bar		8 Bar		10 Bar		12.5 Bar		16 Bar		20 Bar		25 Bar	
				Sdr 26		Sdr 21		Sdr 17		Sdr 13.6		Sdr 11		Sdr 9		Sdr 7.4	
Min	Max	mm Max	Std Length of Roll (mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)	MIN WALL THK (mm)	WT / Mtr (kg/ mtrs)
16.00	16.30	1.20												2.00	0.09	2.30	0.10
20.00	20.30	1.20	100.00							1.90	0.10	2.00	0.12	2.30	0.13	3.00	0.16
25.00	25.30	1.20	100.00					1.60	0.12	2.00	0.15	2.30	0.17	3.00	0.21	3.50	0.24
32.00	32.30	1.30	100.00	1.60	0.16	1.60	0.16	2.00	0.19	2.40	0.23	3.00	0.28	3.60	0.33	4.40	0.39
40.00	40.40	1.40	100.00	1.60	0.20	2.00	0.25	2.40	0.29	3.00	0.36	3.70	0.43	4.50	0.51	5.50	0.61
50.00	50.40	1.40	100.00	2.00	0.31	2.40	0.37	3.00	0.45	3.70	0.55	4.60	0.67	5.60	0.79	6.90	0.94
63.00	63.40	1.50	100.00	2.50	0.49	3.00	0.58	3.80	0.72	4.70	0.88	5.80	1.06	7.10	1.27	8.60	1.48
75.00	75.50	1.60	100.00	2.90	0.67	3.60	0.83	4.50	1.02	5.60	1.24	6.80	1.48	8.40	1.78	10.30	2.11
90.00	90.60	1.80	100.00	3.50	0.98	4.30	1.19	5.40	1.47	6.70	1.78	8.20	2.14	10.10	2.57	12.30	3.03
110.00	110.70	2.20	50.00	4.20	1.44	5.30	1.78	6.60	2.18	8.10	2.64	10.00	3.17	12.30	3.81	15.10	4.54
125.00	125.80	2.50	12.00	4.80	1.85	6.00	2.28	7.40	2.78	9.20	3.40	11.40	4.12	14.00	4.93	17.10	5.84
140.00	140.90	2.80	12.00	5.40	2.33	6.70	2.85	8.30	3.49	10.30	4.26	12.70	5.13	15.70	6.18	19.20	7.34
160.00	161.00	3.20	12.00	6.20	3.06	7.70	3.74	9.50	4.56	11.80	5.56	14.60	6.73	17.90	8.05	21.90	9.55
180.00	181.10	3.60	12.00	6.90	3.81	8.60	4.70	10.70	5.76	13.30	7.05	16.40	8.51	20.10	10.18	24.60	12.07
200.00	201.20	4.00	12.00	7.70	4.73	9.60	5.83	11.90	7.11	14.70	8.65	18.20	10.50	22.40	12.59	27.40	14.93
225.00	226.40	4.50	12.00	8.60	5.94	10.80	7.36	13.40	9.02	16.60	10.98	20.50	13.29	25.20	15.94	30.80	18.88
250.00	251.50	5.00	12.00	9.60	7.34	11.90	9.01	14.80	11.06	18.40	13.53	22.70	16.34	27.90	19.59	34.20	23.30
280.00	281.70	9.80	12.00	10.70	9.18	13.40	11.37	16.60	13.89	20.60	16.95	25.40	20.49	31.30	24.62	38.30	29.22
315.00	316.90	11.10	12.00	12.10	11.70	15.00	14.29	18.70	17.59	23.20	21.48	28.60	25.93	35.20	31.14	43.10	36.99
355.00	357.20	12.50	12.00	13.60	14.78	16.90	18.15	21.10	22.39	26.10	27.24	32.20	32.92	39.70	39.56	48.50	46.90
400.00	402.40	14.00	12.00	15.30	18.74	19.10	23.14	23.70	28.29	29.40	34.54	36.30	41.79	44.70	50.18	54.70	59.56
450.00	452.70	15.60	12.00	17.20	23.70	21.50	29.27	26.70	35.85	33.10	43.75	40.90	52.92	50.30	63.53	61.50	75.35
500.00	503.00	17.50	12.00	19.10	29.23	23.90	36.11	29.70	44.29	36.80	53.98	45.40	65.30	55.80	78.28		
560.00	563.40	19.60	12.00	21.40	36.64	26.70	45.19	33.20	55.49	41.20	67.73	50.80	81.81	62.50	98.22		
630.00	633.80	22.10	12.00	24.10	46.43	30.00	57.09	37.40	70.28	46.30	85.60	57.20	103.65	70.30	124.29		

### MINIMUM REQUIRED MARKING

ASPECT	MARKING
Standard Number	ISO 4427
Manufacturer's Identification	Name or Symbol
Dimensions (dn x en)	e.g. 125x11.4
SDR series (for DN > 32)	e.g. SDR 11
Material & Designation	PE 100
Pressure rating in bar	e.g. PN 16
Production period (date or code)	e.g. 0204a
Country of Production	Kenya

Coils shall be sequentially marked with the metreage, indicating the length remaining on the coil.

a - In clear figures or in code providing traceability to the production period within the year month and, if the manufacturer is producing at different sites, the production site.

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