

# Drainage Pipe System

British Standard



**ALGAWAS**  
Plastic Industries LLC

BS EN 1329 - BS EN 1401 - BS 5255 - BS 4514 - BS 4660 - BS 5481

## Drainage Pipe System

Al Gawas Plastic Industries produces a range of UPVC pipes for above and below ground use made from virgin UPVC. The pipes are produced in all the major international standards ie: European Standards BS EN 1401, BS EN 1329, as well as the previous standards such as BS 5255, BS 4514, BS 4660, BS 5481. A range complying to ASTM D2655 Sch 40/80 is also available on request. Al Gawas Plastic Industries's drainage pipe system range from 1 1/4" to 10".

### General Properties of Al Gawas Plastic Drain Pipes:

- Fully compliant to the main International Standards Tough, impact resistant
- Different lengths available 3m, 2.9m, 6m, 5.8m. Other lengths on request.
- Distinctive colour coded system (ie Light Grey, Brown, White, etc.) with full printing at 1m intervals
- Superior chemical and acid resistance
- Outstanding mechanical properties of tensile strength and resistance to pressure.

### BS 5255 - BS 4514 - BS 4660 - BS 5481

Code	Nominal OD mm(inch)	Minimum OD mm Thickness	Minimum Wall mm	Colour
<b>BS 5255 WASTE</b>				
DR-125	36 (1 1/4")	36.15	1.8	LG
DR-15	43(1 1/2")	42.75	1.9	LG
DR-2 (50)*	50(2")	50.00	2.0	LG
DR-2(55)	55(2")	55.75	2.0	LG
<b>BS 4514 SOIL</b>				
DR-3/LG	82(3")	82.40	3.0	LG
DR-4/LG	110(4")	110.00	3.2	LG
DR-6/LG	160(6")	160.00	3.2	LG
<b>BS 4660 UNDERGROUND</b>				
DR-4/BR	110(4")	110.00	3.2	BR
DR-6/BR	160(6")	160.00	4.1	BR
<b>BS 5481 GRAVITY SEWER</b>				
DR-8/BR	200(8")	200.00	4.9	BR
DR-10/BR	250(10")	250.00	6.1	BR

### Mechanical & Physical Characteristics

Characteristics	Requirement	Test Method
Impact Resistance	TIR $\leq$ 10%	EN 744
Vicat Softening	$\geq$ 79°C	EN 727
Longitudinal Reversion	$\leq$ 5%	EN 743
Dichloromethane Acid Resistance	No attack	EN 580
Elevated Temp. Cycling	No leakage	EN 1055
Long Term Performance of TPE Seals	1. 90 days $\geq$ 1.3 bar 2. 100 years $\geq$ 0.6 bar	prEN 1989
Resistance to Internal Pressure	No failure during the test 10.0MPa for 1000 hours, at 60°C	EN 921

### BS EN 1329-1:2000

Dimensions in millimeters

Nominal Size DN/OD	Nominal OD	Mean Outside Diameter		Wall Thickness Application Area "B"	
		(dem, min)	(dem, max)	(e, min)	(e, max)
36 (1 1/4")	36	36.2	36.5	3.0	3.5
43 (1 1/2")	43	42.8	43.1	3.0	3.5
56 (2")	56	55.8	56.1	3.0	3.5
82 (3")	82	82.0	82.3	3.0	3.5
110 (4")	110	110.0	110.30	3.2	3.8
160 (6")	160	160.0	160.40	3.2	3.8
200 (8")	200	200.0	200.5	3.9	4.5
250 (10")	250	250.0	250.5	4.9	5.6

N.B. Application area "B" for components intended to be used above ground inside the building or outside building fixed to a wall.

### BS EN 1329-1:2000

Dimensions in millimeters

Nominal Size DN/OD	Nominal OD	Mean Outside Diameter	
		(dem, min)	(dem, max)
110 (4")	110	110.0	110.3
160 (6")	160	160.0	160.4
200 (8")	200	200.0	200.5
250 (10")	250	250.0	250.5

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## Specifications

Standards :	BS 5255 - Light Grey; BS 4514 - Light Grey; BS 4660 - Brown
Material :	uPVC Resin
Joints :	Female solvent weld sockets
Temp Range :	0°C - 80°C (for intermittent discharge)
Tensile Strength :	Min. 45 N/mm <sup>2</sup>



## Characteristics of Pipes BS EN 1329, BS EN 1401

### Compound Characteristics:

The compounds used in Al Gawas Plastic pipes conforming to the standards have the following characteristics.

Modulus of Elasticity	=	$E (I \text{ min}) \geq 3000 \text{ mPa}$
Average Density	=	$1.4 \text{ g/cm}^3$
Average Coefficient of Linear Thermal Expansion	=	$0.8 \text{ mm/mK}$
Thermal Conductivity	=	$0.16 \text{ WK}^{-1} \text{ m}^{-1}$
Surface Resistance	=	$> 10^{12} \Omega$

### Raw Material

The raw material is PVC-U resin.

### Colour

BS EN 1329-1:2000 v Light Grey

BS EN 1401-1:1998 v Orange Brown

### Length

Pipes are normally supplied in 6m overall length. Pipes can also be supplied in 5.8m overall length to fit inside containers. Sizes 36, 43 and 56mm are supplied in 4m overall length with plain ends.

