

## UPVC PIPES

### Standards

UPVC pipes are manufactured as per the following standards.

- Above Ground : BS EN 1329-1 : 2000
  - This standard supercedes BS 4514 : 1993 and BS 5255 : 1989.
- Below Ground : BS EN 1401-1 : 1998
  - This standard supercedes BS 4660 : 1989 and BS 5481.

### Raw Material

The raw material used is 100% UPVC virging material, with necessary additives / chemicals needed to facilitate the manufacturing process.

### Appearance

The internal and external surface of the pipes are smooth, clean and free from surface defects.

### Colour

The pipes are coloured throughout the wall as follows:

Above Ground BS EN 1329-1 : Grey

Below Ground BS EN 1401-1 : Orange Brown

### Effective Length

All pipes are manufactured in 4m and 6/5.8m lengths.

### Sockets

The pipes are supplied as follows:

- 1 1/4" (36mm), 1 1/2" (43mm) & 2" (56mm) pipes are supplied with plain ends.
- 3" (82mm), 4" (110mm), 6" (160mm) & 8" (200mm) pipes are supplied with solvent cement socket or rubber ring socket.

### Mechanical and Physical Properties : UPVC Pipes

Sr.	Characteristics	Requirement	Testing Method
1	Impact Resistance [Round the clock method]	TIR < 10% at 0°C	EN 744
2	Vicat Softening Temperature [VST]	> 79°C	EN 727
3	Longitudinal Reversion	< 5% at 150°C	EN 743 [Method B; Air]
4	Resistance to DCM Acid	No attack any part of surface of pipe at 15°C	EN 580
5	Water Tightness of Rubber Ring Joint	No leakage at 0.5 bar	EN 1277
6	Elevated Temperature Cycling [ETC]	No leakage	EN 1055
7	Long Term Performance of TPE seals	90 days > 1.3 bar 100 years > 0.6 bar	prEN 1989
8	Resistance to internal pressure	No failure during the test period of 1000 hrs at 60°C, 10 Mpa	EN 921

### Chemical Resistance

UPVC Drainage systems are suitable to be used with a number of acids, alkalies, salts and solvents that can be mixed with water.

UPVC Drainage Systems are not resistant to aromatic and chlorinated hydrocarbons.

More detailed and specific information is available in the British Standard code of practice for plastic pipe work CP 312-3 : 1973.

## UPVC HP PIPES

### Standards

UPVC Pressure Pipes & Fittings are manufactured as per the following standards.

### (i) Inch series (Imperial) :

- Pressure Pipes : BS EN 1452-2 : 2000  
This standard supercedes BS 3505 : 1986
- Pressure Fittings : BS EN 1452-3 : 2000  
This standard supercedes BS 4346-3 : 1982

### (ii) Millimeter series (mm) :

- Pressure Pipes : DIN 8061 / 8062
- Pressure Fittings : DIN 8063
- Threaded joints are as per BS 21 & ISO 7 – 1 standards

### Working Pressure

All Pipe Fittings depending upon the sizes are made for permissible continuous working pressure at 20°C (Based on water quality) as below :

Inch system Pipe Fittings : Maximum upto 15 Bar

Millimeter system Pipe Fittings : Maximum upto 16 Bar

### Pressure Pipes :

- UPVC Pressure Pipes & Fittings are available in inch sizes from 1/2" to 6" and in Millimeter sizes from 20mm to 160mm.

### Raw Material

The raw material used is 100 % UPVC virgin material with necessary additives / chemicals needed to facilitate the manufacturing process.

### Appearance

The internal and external surface of the pipes are smooth, clean and free from surface defects.

### Colour

The colour of the Pipe Fittings are Grey throughout the wall.

### Effective Length of Pressure Pipes

All pipes are manufactured in 4m and 6 / 5.8m lengths.

### Pressure Pipe Sockets

The Pipes are supplied as follows.

The inch size pipes from 1/2" to 2" and "mm" size pipes from 20mm to 63mm are supplied with plain ends.

The inch size pipes from 2" to 6" and "mm" size pipes from 63mm to 160mm are supplied with Solvent cement socket or rubber ring socket.

## Mechanical and Physical Properties : UPVC Pipes

Sr. No	Characteristics	Value	Value
1	Impact Strength	TIR <10% at 0° C	EN 744
2	Vicat Softening Temperature	>80°C	EN 727
3	Longitudinal Reversion	<5 % at 150° C	EN 743 (Method B ; Air)
4	Resistance to Dichloromethane Test	No attack at any part of the surface of pipe at 15°C	EN 580
5	Opacity	Shall not transmit >0.2% of visible light	EN 578
6	Resistance to Internal Pressure	No failure during the test period of 1 hr at 20°C ; 42 Mpa	EN 921

## Chemical Resistance

UPVC Pressure Pipe systems are suitable to be used with a number of acids, alkalies, salts and solvents that can be mixed with water.

UPVC Pressure Pipe systems are not resistant to aromatic and chlorinated hydrocarbons.

More detailed and specific information is available in the British Standard code of practice for plastic pipe work CP 312-3 : 1973