

Beta PVC-U  
**Pressure Pipes  
& Fittings**



**Our Commitment  
"Service & Quality"**



**Light Weight  
Corrosion Resistant  
Reliable & Durable**



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# Beta PVC-U Pressure Pipes & Fittings

Beta PVC-U pressure pipes are manufactured in conformity with BS-3505:1968/ PS-3051:1991. Beta PVC-U pressure pipes are used for drinking water distribution. The high strength to weight ratio coupled with resistance to corrosion makes these pipes ideal for major infrastructure applications. In addition, we offer tailor-made solutions as per the requirement of our valued client and have expertise to manufacture in accordance with other international standards such as ASTM, DIN & ISO.



## Applications of Beta Pipes

Beta pipes possess a versatile field of applications, some are listed below:

- Cold potable water distribution systems
- Agriculture, Horticulture And Greenhouse Irrigation System
- Tube wells
- Fire-ring mains
- Effluent pipelines for pumped sewage, industrial and rural wastes.
- Slurry pipelines carrying abrasive and corrosive mine or quarry material.
- Electric Cable Safety System

## Classification of Beta Pipes

Beta Pipes are classified by their maximum sustained working Pressure in the following classes, based on working stress of material at 20°C. The maximum sustainable working pressure and field pressure is given in the table 1 as per BS 3505.

## Temperature consideration

PVC-U is a thermoplastic material and shows variation in its physical properties as the temperature changes. As the operating temperature rises, the pipe stiffness and tensile strength decreases, thereby pressure capacity of the pipe will be reduced. Like wise, as the temperature

falls, the pipe's stiffness and tensile strength increases, thereby pressure capacity of the pipe will increase. In addition, drop in temperature decreases the impact strength and ductility of the pipe. Conversely, impact strength and flexibility of the pipe increases with increase in temperature. However, PVC-U should not be used at temperature in excess of 60° C.

Class	WORKING PRESSURE		TESTING PRESSURE		Meter Head of Water
	Bar	lbf/in2	Bar	lbf/in2	
B	6	87	9	130	60
C	9	130	14	195	90
D	12	173	18	259	120
E	15	217	23	325	150

In case of requirement for higher pressure rating, we can offer a solution in conformity with ASTM.

Table 1

## PRESSURE TEMPERATURE RELATIONSHIP

	20°C	30°C	40°C	50°C	60°C
	68°F	86°F	104°F	122°F	140°F
<b>CLASS (B)</b>					
Metre Hd	60	48	36	24	12
MPa	0.60	0.48	0.36	0.24	0.12
psi	87	69	52	59	17
<b>CLASS (C)</b>					
Metre Hd	90	72	54	36	18
MPa	0.90	0.72	0.54	0.36	0.18
psi	130	104	78	52	26
<b>CLASS (D)</b>					
Metre Hd	120	96	72	48	24
MPa	1.20	0.90	0.72	0.48	0.24
psi	173	139	104	69	35
<b>CLASS (E)</b>					
Metre Hd	150	120	90	60	30
MPa	1.50	1.20	0.90	0.60	0.30
psi	216	173	130	87	44

## Characteristics & Advantages of Beta PVC-U Pipes

We are in the plastic age today. It is now a proven fact that PVC-U Pipes have successfully replaced all other conventional types of pipes like Mild Steel (MS), Cast Iron (CI), Galvanized Iron (GI), Reinforced Concrete Cement (RCC) and Asbestos cement (AC) pipes in the field of water supply, drain and other sectors of their use.

- Resistant to elements injurious to health i.e. free from corrosion, abrasion, growth of bacteria, algae and fungi.
- Installation is easy as the weight is low and the simplicity to join reduces the installation time, which ultimately makes it cost effective.
- High flow capabilities since PVC-U Pipes are non-corrosive and inert to chemical or electro-chemical resistance.
- It does not support combustion
- Thermally and electrically insulated.
- It does not affect the taste, odour or smell of drinking water.

## Quality Management

Beta PVC-U pipes are inspected and tested by qualified Quality Control professionals in our state of the art laboratory for conformance to the specifications to

ensure standardization of the supplied products as per national and international standards. The scope of quality control tests ensures that the dimensional, mechanical, physical and chemical characteristics of the products conform to the relevant standard. In addition, we reinforce our quality control and quality assurance by having our products tested by reliable third party authorities.

## Joining Techniques

The joining possibilities of PVC-U pressure pipes and fittings are various. The possible assembly solutions are

- Rubber ring / push-fit jointing (Figure 1)
- Solvent Cement Jointing (Figure 2)
- Mechanical jointing
- Flanged connections



Figure 1: Rubber ring Joint



Figure 2: Solvent Cement Joint

## PVC-U PRESSURE PIPES FOR COLD POTABLE DRINKING WATER AS PER PS-3051:91/BS-3505:1968

Nominal Size		Mean Outside Diameter (mm)		Class-B 200 Ft-Head 87 lbf/in <sup>2</sup> (6 Bar)			Class-C 300 Ft-Head 130 lbf/in <sup>2</sup> (9 Bar)			Class-D 400 Ft-Head 173 lbf/in <sup>2</sup> (12 Bar)			Class-E 500 Ft-Head 217 lbf/in <sup>2</sup> (15 Bar)		
		Min.	Max.	Average Value (mm)	Individual Value. (mm)		Average Value (mm)	Individual Value. (mm)		Average Value (mm)	Individual Value. (mm)		Average Value (mm)	Individual Value. (mm)	
Inch				Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.
3/8		17.0	17.3	-	-	-	-	-	-	-	-	-	1.9	1.5	1.9
1/2		21.2	21.5	-	-	-	-	-	-	-	-	-	2.1	1.7	2.1
3/4		26.6	26.9	-	-	-	-	-	-	-	-	-	2.5	1.9	2.5
1		33.4	33.7	-	-	-	-	-	-	-	-	-	2.7	2.2	2.7
1-1/4		42.1	42.4	-	-	-	-	-	-	2.7	2.2	2.7	3.2	2.7	3.2
1-1/2		48.1	48.4	-	-	-	-	-	-	3.0	2.5	3.0	3.7	3.1	3.7
2		60.2	60.5	-	-	-	3.0	2.5	3.0	3.7	3.1	3.7	4.5	3.9	4.5
2-1/2		75.0	75.3	-	-	-	3.5	3.0	3.5	4.5	3.9	4.5	5.5	4.8	5.5
3		88.7	89.1	3.4	2.9	3.4	4.1	3.5	4.1	5.3	4.6	5.3	6.5	5.7	6.6
4		114.1	114.5	4.0	3.4	4.0	5.2	4.5	5.2	6.8	6.0	6.9	8.3	7.3	8.4
5		140.0	140.4	4.4	3.8	4.4	6.3	5.5	6.4	8.3	7.3	8.4	10.1	9.0	10.4
6		168.0	168.5	5.2	4.5	5.2	7.5	6.6	7.6	9.9	8.8	10.2	12.1	10.8	12.4
7		193.5	194.0	6.0	5.2	6.0	8.7	7.7	8.9	11.4	10.1	11.7	13.9	12.4	14.3
8		218.8	219.4	6.1	5.3	6.1	8.8	7.8	9.0	11.6	10.3	11.9	14.1	12.6	14.5
10		272.6	273.4	7.5	6.6	7.6	10.9	9.7	11.2	14.3	12.8	14.8	17.5	15.7	18.1
12		323.4	324.3	8.8	7.8	9.0	12.9	11.5	13.3	17.0	15.2	17.5	20.8	18.7	21.6
14		355.0	356.0	9.6	8.5	9.8	14.1	12.6	14.5	18.6	16.7	19.2	22.8	20.5	23.6
16		405.9	406.9	10.9	9.7	11.2	16.2	14.5	16.7	21.1	19.0	21.9	26.0	23.4	27.0
18		456.7	457.7	12.3	11.0	12.7	18.2	16.3	18.8	23.8	21.4	24.6	-	-	-
20		507.5	508.5	13.7	12.2	14.1	20.2	18.1	20.9	-	-	-	-	-	-
22		558.3	559.3	15.0	13.4	15.5	22.1	19.9	22.9	-	-	-	-	-	-
24		609.1	610.1	16.3	14.6	16.8	24.1	21.7	25.0	-	-	-	-	-	-

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