



ONE STOP PIPING SOLUTION

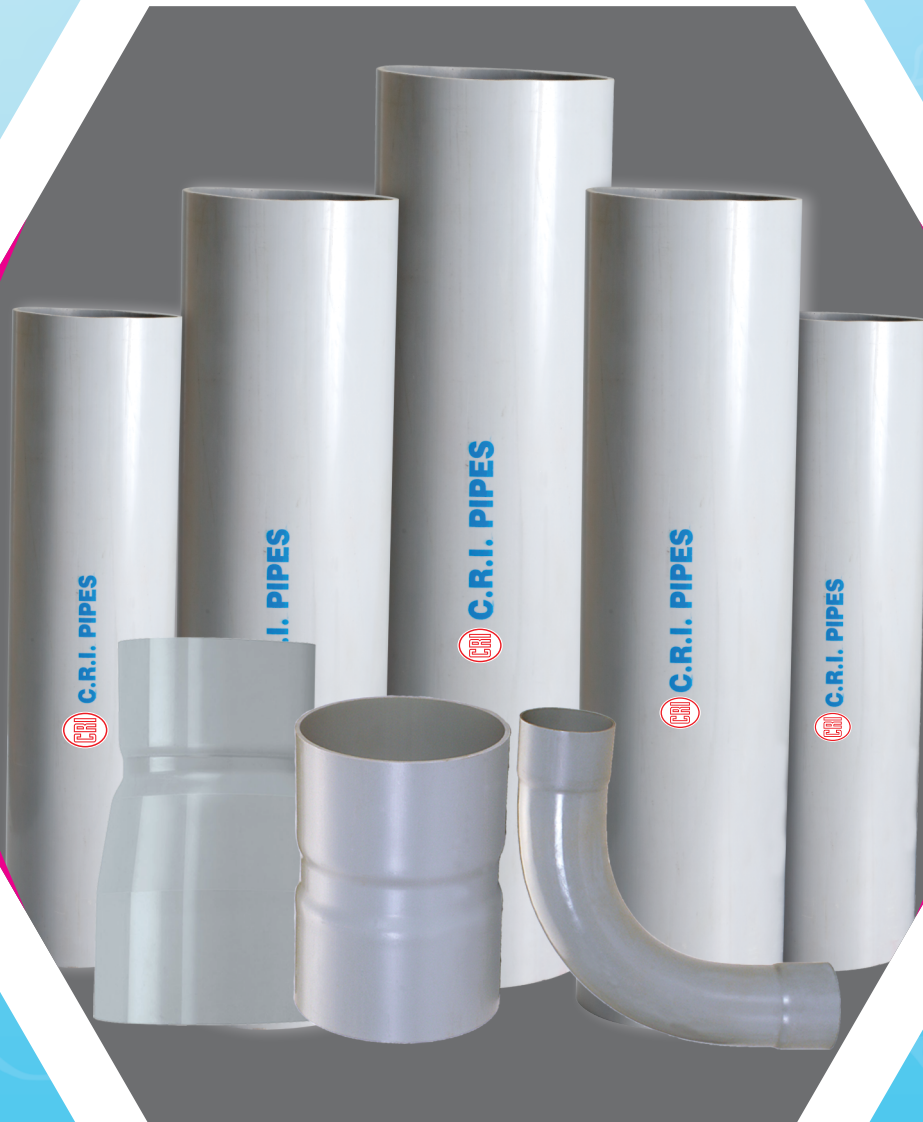


Quality in every inch.

uPVC PRESSURE PIPES & FITTINGS

For potable water supply & Irrigation

uPVC pressure pipes are manufactured as per IS4985:2000 standard available in 20mm to 400mm sizes in different pressure class. Pipes in solvent cement type and rubber seal type available with varieties of moulded fittings and wide range of fabricated fittings. Moulded fittings are manufactured as per IS 7834 and fabricated fittings are manufactured as per IS 10124 standards. These pipes and fittings are used for variety of applications like, agriculture, Irrigation, water supply, Industrial process lines, swimming pools and fire fighting mains etc.,



FEATURES

- **Non-Toxic and Hygienic** - These pipes are most ideal for carrying potable water.
- **Corrosion resistance** - These pipes are not affected by chemical, electrolytic and galvanic action, hence free from corrosion.
- **Smooth surface** - Pipes are having mirror smooth inner surface and hence better flow characteristics in comparison to AC, CI & GI pipes.
- **Fire resistance** - C.R.I. uPVC pressure pipes are fire resistant and self-extinguishing.
- **Maintenance free** - These pipes & fittings are free from corrosion, rust, weathering & leakage and ensures years of trouble free performance.
- **Strong & Light Weight** - The pipes are light in weight for easy handling and have good mechanical strength & toughness.
- **Longer Life** - The system is free from weaknesses caused by rusting, weathering and chemical action, and hence lasts for a lifetime.

TECHNICAL DETAILS

Dimensions of uPVC pressure pipes as per IS 4985:2000

Nominal Outside Diameter (Nominal Size)	Mean Outside Diameter		WALL THICKNESS													
			Class 1 0.25 MPa		Class 2 0.4 MPa		Class 3 0.6 MPa		Class 4 0.8 MPa		Class 5 1.0 MPa		Class 6 1.25 MPa		Plumbing Pipes	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
20	20.0	20.3	-	-	-	-	-	-	-	-	1.1	1.5	1.4	1.8	2.8	3.3
25	25.0	25.3	-	-	-	-	-	-	1.2	1.6	1.4	1.8	1.7	2.1	2.9	3.4
32	32.0	32.3	-	-	-	-	-	-	1.5	1.9	1.8	2.2	2.2	2.7	3.4	3.9
40	40.0	40.3	-	-	-	-	1.4	1.8	1.8	2.2	2.2	2.7	2.8	3.3	3.6	4.2
50	50.0	50.3	-	-	-	-	1.7	2.1	2.3	2.8	2.8	3.3	3.4	4.0	3.7	4.3
63	63.0	63.3	-	-	1.5	1.9	2.2	2.7	2.8	3.3	3.5	4.1	4.3	5.0	-	-
75	75.0	75.3	-	-	1.8	2.2	2.6	3.1	3.4	4.0	4.2	4.9	5.1	5.9	-	-
90	90.0	90.3	1.3	1.7	2.1	2.6	3.1	3.7	4.0	4.6	5.0	5.7	6.1	7.1	-	-
110	110.0	110.4	1.6	2.0	2.5	3.0	3.7	4.3	4.9	5.6	6.1	7.1	7.5	8.7	-	-
125	125.0	125.4	1.8	2.2	2.9	3.4	4.3	5.0	5.6	6.4	6.9	8.0	8.5	9.8	-	-
140	140.0	140.5	2.0	2.4	3.2	3.8	4.8	5.5	6.3	7.3	7.7	8.9	9.5	11.0	-	-
160	160.0	160.5	2.3	2.8	3.7	4.3	5.4	6.2	7.2	8.3	8.8	10.2	10.9	12.6	-	-
180	180.0	180.6	2.6	3.1	4.2	4.9	6.1	7.1	8.0	9.2	9.9	11.4	12.2	14.1	-	-
200	200.0	200.6	2.9	3.4	4.6	5.3	6.8	7.9	8.9	10.3	11.0	12.7	13.6	15.7	-	-
225	225.0	225.7	3.3	3.9	5.2	6.0	7.6	8.8	10.0	11.5	12.4	14.3	15.3	17.6	-	-
250	250.0	250.8	3.6	4.2	5.7	6.5	8.5	9.8	11.2	12.9	13.8	15.9	17.0	19.6	-	-
280	280.0	280.9	4.1	4.8	6.4	7.4	9.5	11.0	12.5	14.4	15.4	17.8	19.0	21.9	-	-
315	315.0	316.0	4.6	5.3	7.2	8.3	10.7	12.4	14.0	16.1	17.3	19.9	21.4	24.7	-	-
355	355.0	356.1	5.1	5.9	8.1	9.4	12.0	13.8	15.8	18.2	19.6	22.6	24.1	27.8	-	-
400	400.0	401.2	5.8	6.7	9.1	10.5	13.5	15.6	17.8	20.5	22.0	25.3	27.2	31.3	-	-

Note : The wall thickness of pipe is based on a safe working stress of 8.6 MPa at 27°C. The working pressure gets reduced at sustained higher temperatures. Occasional rise in temperature, as in summer, with concurrent corresponding reduction in temperature during nights has no deleterious effect on the working pressure of the pipes considering the total life of pipe.



RINGFIX UPVC PRESSURE PIPES WITH SEALING RING

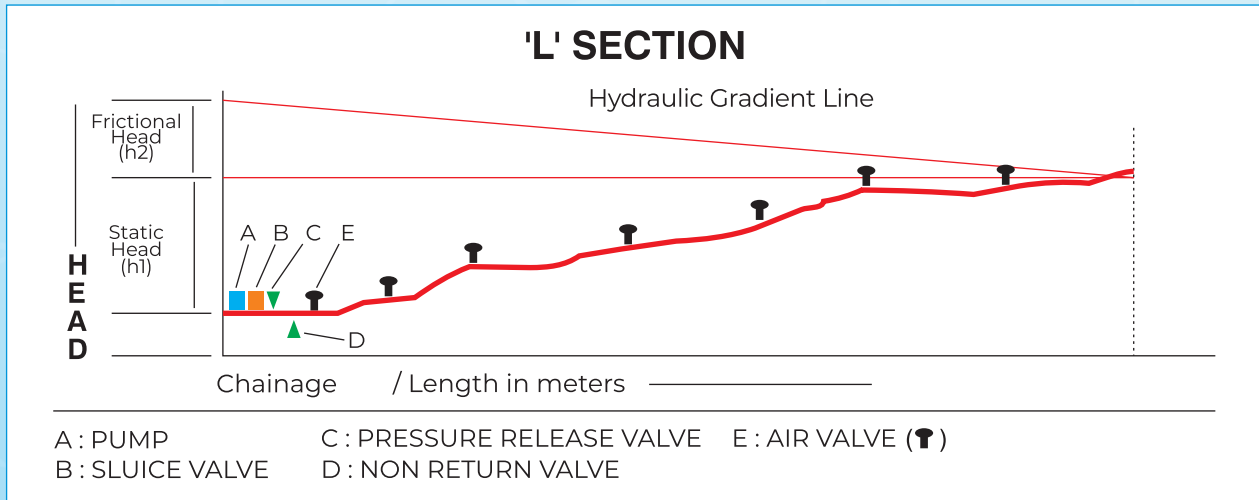
Ringfix uPVC Pressure Pipes are specially designed for higher dia-meter requirements and wash out the need of solvent cement. The sealing ring ensures leak-proof joints and easy installation. The entire range of Ringfix uPVC pressure pipes are available from 63 mm to 400 mm diameter, in 4, 6, 8 and 10 kgf/cm² working pressure classes.

ADVANTAGES

- Even in extreme temperature variations the rubber ring absorbs the linear expansion and contraction leaving the seal intact.
- Deflection of pipes due to various reasons like shifting of soil, land contour can be easily accommodated upto 2° per joint.
- Easy, convenient installation.
- No need for solvent cement.

BASIC PARAMETER REQUIRED

- **Discharge Required (Q) (lps) :** This is the amount of water required for irrigating the fields and can be obtained by planning the crop pattern and frequency of irrigation.
- **Length of the pipeline (L) (meters) :** This is the total length of the pipe required from the source of water to the discharge point as shown in the 'L' Section.
- **Static Head (h₁) (meters) :** This is the level difference between the lowest and highest level of the pipelines as shown in the 'L' Section.



Selection of Pressure Class:

For selection of pressure class of a pipeline, total head acting on the pipe at the particular point needs to be worked out as under:

Total Head (H) = $h_1 + h_2 + 10\% \text{ of } (h_1 + h_2)$. 10% of $(h_1 + h_2)$ is taken for losses in valves and fittings.

HANDLING INSTRUCTION:

- Pipes should be kept on an even surface while storing. They should be properly supported and should not be stacked for heights more than 1.5m for longer duration.
- While laying big pipelines provision should be made for expansion joints, air vents and proper anchorage.
- Pipes or fittings should not be cleaned with solvent cement. Quality of solvent cement plays an important role and hence it is recommended to use good quality solvent cement only.
- For large diameter and higher class pipes (6Kgf/cm² and above) always use heavy duty solvent cement. Very old, hard, semi-fluid solvent cement should not be used.

FRICTION LOSS CALCULATION

Following Hazen William formula should be used for friction loss calculation.

$$\frac{h_f}{L} = \frac{1.213 \times 10^{10} \times Q^{1.852}}{D^{4.87} \times C^{1.852}}$$

Where,

h_f - Heads loss in m

L - Length of pipe section in m

Q - Discharge in litres/sec

D - Internal diameter of pipe in mm

C - Hazen William constant 150 (For design purpose consider 140)

CONSUMPTION OF SOLVENT CEMENT

Diameter of pipe (mm)	20	25	32	40	50	63	75	90	110	125	140	160	180	200	225	250	280	315	355	400
Approx. no. of joints which can be made per liter of solvent cement	354	270	225	180	130	125	103	79	54	36	27	25	15	12	9	7	5	3	2	2



C.R.I. PIPES



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