



## FROM IRRIGATION TO HARVEST, IT'S INDIA'S TRU-CHOICE.

Agricultural Piping Systems  
for pressure-resistance.



Pipes as per IS:4985    Fittings as per IS:7834



### PRODUCT RANGE

Pipes : 20mm - 400mm  
Fittings : 20mm - 160mm



EXTENSIVELY USED IN



AGRICULTURE

TRUBORE offers the highest range of uPVC Pipes & Fittings with a wide range from 20mm to 160mm and working pressure of 10kg/cm<sup>2</sup>, 6kg/cm<sup>2</sup> and 4kg/cm<sup>2</sup> as well as non-pressure fittings.

TRUBORE is crafted to perfection with the highest rating of ISI mark and is available through a wide-spread network of around 3500 dealers spread across the country.

**COUPLER (6 KG)**



63mm to 110mm

**COUPLER (10 KG)**



20mm to 50mm

**COUPLER (LW)**



63mm to 160mm

**COUPLER (PN6)**



160mm

**ELBOW (6 KG)**



50mm to 160mm

**ELBOW (10 KG)**



20mm to 40mm

**ELBOW (LW)**



40mm to 200mm

**ELBOW (PN6)**



160mm

**TEE (6 KG)**



50mm to 160mm

**TEE (10 KG)**



20mm to 40mm

**TEE (LW)**



40mm to 160mm

**TEE (PN6)**



160mm

**END CAP (6 KG)**



50mm to 110mm

**END CAP (10 KG)**



20mm to 40mm

**END CAP (LW)**



63mm to 180mm

**END CAP THREADED**



20mm to 110mm

**SERVICE SADDLE**



63mm x 32 mm to 110mm x 20mm

**REDUCER**



25mm X 20mm to 160mm X 110mm

**MALE THREADED ADAPTOR**



20mm to 110mm

**FEMALE THREADED ADAPTOR**



20mm to 110mm

**REDUCING BUSH**



25mm X 20mm to 110mm X 90mm

**REDUCING TEE**



40mm x 25mm to 110mm x 90mm

**REDUCING TEE LW**



160mm X 110mm

**PVC BALL VALVE**



20mm to 63mm

### F T ADAPTOR (BRASS INSERT)



25mm X 1/2" &  
32mm X 1/2"

### F T ELBOW (BRASS INSERT)



25mm X 1/2" &  
32mm X 1/2"

### F T TEE (BRASS INSERT)



25mm X 1/2" &  
32mm X 1/2"

## APPLICATIONS

### IN AGRICULTURE

- Water supply and distribution schemes
- Irrigation

### OTHERS

- Drinking Water supply and distribution
- Cable ducting
- Ventilation pipe line
- Slurry lines

## MAJOR ADVANTAGES

- Light weight, easy to transport, store, handle and install.
- Smooth bore ensures higher flow compared to G.I. pipes & fittings of the same size. No clogging. Saves operational cost.
- Quick to install, solvent cement based jointing system.
- Corrosion resistance - uPVC is rustproof material therefore, bore diameter remains constant, ensuring constant flow over its lifetime.
- Long working life (if operated under normal/ recommended conditions).
- Cost effective. Added value for your money.

## JOINTING METHOD

### SOLVENT JOINT

- Cut the pipes of required length and clean the end.
- Chamfer the edge of the pipe for easy entry.
- Mark the depth of insertion on pipe end.
- Roughen the pipe insertion surface (externally) & socket of the fitting (internally) by using emery paper.
- Apply a thin coat of Trubore PVC Solvent cement on the roughened surface with brush. Avoid excess solvent cement.
- Insert the pipe end inside socket fitting fully and turn through 90° for even spreading of solvent cement. Hold the joint for about 1 minute.
- Cure the joint for 24 hours for a proper and permanent leak-proof joint.

### THREADED JOINT

- Clean the male and female threads.
- Apply Teflon tape on male threads in the direction of the thread tightening.
- Tighten the threads firmly with hands.
- Tighten the joint firmly, using pipe wrench. Do not over-tighten.
- Use rubber packing while applying wrench to avoid scratches on the pipe.

### NOTE:

1. Pressure rating of uPVC Pipes & Fittings is temperature related. Derating factor shall be applied during designing & operation for higher temperature applications. (For detailed data refer IS-4985 or contact us).
2. Installation of uPVC pipeline shall be done in accordance with IS-7634 (Part-3).

## SPECIFICATIONS

	Fittings	Pipes
Material	Unplasticized Polyvinyl Chloride (uPVC)	Unplasticized Polyvinyl Chloride (uPVC)
Colour	Dark Grey	Light Grey
Reference Standards	IS 7834 : 1987	IS 4985 : 2000
Working Temperature of Fluids	Up to 60°C - Continuous	Up to 60°C - Continuous
	Up to 90°C - Short time	Up to 90°C - Short time
	Up to 3 mins	Up to 3 mins
Working Pressure (kg/cm <sup>2</sup> )	4, 6, & 10	2.5, 4, 6, 8, 10, 12.5
End Connections	Solvent sockets, Threads (For transition fittings)	Solvent sockets, Rubber Ring sockets

**NOTE:** Note: ISI & Non-ISI pipes & fittings are available.

### PROPERTIES OF uPVC PIPES

#### MECHANICAL

Tensile Strength	415 - 525 kg/cm <sup>2</sup>
Compression Strength	550 - 910 kg/cm <sup>2</sup>
Flexural Strength	680 - 1100 kg/cm <sup>2</sup>
Izod Impact Strength	4 - 5 kg/cm <sup>2</sup>
Shore Hardness	D 65 - 85

#### THERMAL

Coefficient of Linear Expansion	0.08 mm/M°C
Vicat Softening Temperature	>78°C
Max. Operating Temperature	60°C

#### PHYSICAL

Specific Gravity	1.40 - 1.46
Water Absorption	<4mg/cm <sup>3</sup>

### STANDARDS, QUALITY CONTROL & TESTING

The manufacturing and testing is done for Pipes in accordance with IS: 4985 - 2000.

All the above pipes, except non-pressure pipes are tested for potable water supplies in accordance with their relevant standards and as per the test methods given in IS: 12235.

### HAZEN - WILLIAM'S FLOW COEFFICIENT COMPARISON

Pipe Material	PVC	A.C.	G.I.	C.I.
Flow Coefficient	150	130	110	100

Agricultural Pipes are manufactured in accordance with IS:4985 covering a complete range from 20mm to 400mm. They are available in pressure ratings of 2.5 kg/cm<sup>2</sup>, 4 kg/cm<sup>2</sup>, 6 kg/cm<sup>2</sup>, 8 kg/cm<sup>2</sup>, 10 kg/cm<sup>2</sup> & 12.5 kg/cm<sup>2</sup> as defined in IS:4985. These pipes are provided with plain socket and are suitable for solvent cement jointing.

Their main application is in agriculture - For water supply, drip-irrigation & sprinkler lines etc. as well as for drinking water distribution.

However, these can also be used in cable ducting, ventilation pipe lines, slurry lines etc.

They are available in light grey colour and nominal length of 6 meters.

# PIPE DIMENSIONS

(All dimensions are in mm)

Nominal Outside Diameter (Nominal Size) (in mm)	Mean Outside Diameter (in mm)		Outside Diameter at any point (in mm)		Wall Thickness												Mean Socket Internal Diameter of Mid Point of Socket Length	
					Class 1 0.25 MPa 2.5 Kg/cm <sup>2</sup>		Class 2 0.40 MPa 4.0 Kg/cm <sup>2</sup>		Class 3 0.60 MPa 6.0 Kg/cm <sup>2</sup>		Class 4 0.80 MPa 8.0 Kg/cm <sup>2</sup>		Class 5 1.00 MPa 10.0 Kg/cm <sup>2</sup>		Class 6 1.25 MPa 12.5 Kg/cm <sup>2</sup>			
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
20	20.0	20.3	19.5	20.5	-	-	-	-	-	-	-	-	1.1	1.5	1.4	1.8	20.1	20.3
25	25.0	25.0	24.5	25.5	-	-	-	-	-	-	1.2	1.6	1.4	1.8	1.7	2.1	25.1	25.3
32	32.0	32.3	31.5	32.5	-	-	-	-	-	-	1.5	1.9	1.8	2.2	2.2	2.7	32.1	32.3
40	40.0	40.3	39.5	40.5	-	-	-	-	1.4	1.8	1.8	2.2	2.2	2.7	2.8	3.3	40.1	40.3
50	50.0	50.3	49.4	50.6	-	-	-	-	1.7	2.1	2.3	2.8	2.8	3.3	3.4	4.0	50.1	50.3
63	63.0	63.3	62.2	63.8	-	-	1.5	1.9	2.2	2.7	2.8	3.3	3.5	4.1	4.3	5.0	63.1	63.3
75	75.0	75.3	74.1	75.9	-	-	1.8	2.2	2.6	3.1	3.4	4.0	4.2	4.9	5.1	5.9	75.1	75.3
90	90.0	90.3	88.9	91.1	1.3	1.7	2.1	2.6	3.1	3.7	4.0	4.6	5.0	5.7	6.1	7.1	90.1	90.3
110	110.0	110.4	108.6	111.4	1.6	2.0	2.5	3.0	3.7	4.3	4.9	5.6	6.1	7.1	7.5	8.7	110.1	110.4
125	125.0	125.4	123.5	126.5	1.8	2.2	2.9	3.4	4.3	5.0	5.6	6.4	6.9	8.0	8.5	9.8	125.1	125.4
140	140.0	140.5	138.3	141.7	2.0	2.4	3.2	3.8	4.8	5.5	6.3	7.3	7.7	8.9	9.5	11.0	140.2	140.5
160	160.0	160.5	158.0	162.0	2.3	2.8	3.7	4.3	5.4	6.2	7.2	8.3	8.8	10.2	10.9	12.6	160.2	160.5
180	180.0	180.6	177.8	182.2	2.6	3.1	4.2	4.9	6.1	7.1	8.0	9.2	9.9	11.4	12.2	14.1	180.2	180.5
200	200.0	200.6	197.6	202.4	2.9	3.4	4.6	5.3	6.8	7.9	8.9	10.3	11.0	12.7	13.6	15.7	200.3	200.6
225	225.0	225.7	222.3	227.7	3.3	3.9	5.2	6.0	7.6	8.8	10.0	11.5	12.4	14.3	15.3	17.6	225.3	225.7
250	250.0	250.8	247.0	253.0	3.6	4.2	5.7	6.5	8.5	9.8	11.2	12.9	13.8	15.9	17.0	19.6	250.4	250.8
280	280.0	280.9	276.6	283.4	4.1	4.8	6.4	7.4	9.5	11.0	12.5	14.4	15.4	17.8	19.0	21.9	280.4	280.9
315	315.0	316.0	311.2	318.8	4.6	5.3	7.2	8.3	10.7	12.4	14.0	16.1	17.3	19.9	21.4	24.7	315.4	316.0
355	355.0	356.1	350.7	359.3	5.1	5.9	8.1	9.4	12.0	13.8	15.8	18.2	19.6	22.6	24.1	27.8	355.4	356.0
400	400.0	401.2	395.2	404.8	5.8	6.7	9.1	10.5	13.5	15.6	17.8	20.5	22.0	25.3	27.2	31.3	400.4	401.0

Note: All pipes available with ISI mark except 400mm.

## TEMPERATURE V/S. STRENGTH OF PIPE

