

## OTHER RANGE OF PRODUCTS

### PPR Pipes & Fittings



### SWR Pipes & Fittings



### RAK PLAST PIPES & FITTINGS

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AUTH. DEALER



**THE MOST ADVANCED HOT & COLD  
WATER PLUMBING SYSTEM FOR THE NEW GENERATION**

**AN ISO 9001:2015 CERTIFIED COMPANY**



[WWW.RAKPLAST.IN](http://WWW.RAKPLAST.IN)

## ABOUT RAK PLAST

Rak Plast is India's leading & fastest growing brand in PVC Pipes for water distribution System. Rakplast Pipes and fittings is a professionally managed company i.e engaged in the manufacturing of complete range of CPVC Pipes & Fittings, UPVC Agriculture Pipes, UPVC Plumbing Pipes, SWR Pipes, PPRC Pipes & HDPE Pipes etc.

Our vision is to provide high quality and robust piping products across the globe, believing in the credo of making innovative ideas work. We want maximum customers satisfaction through supply of our quality products of impeccable quality.

Our Mission is to achieve availability of our products in each & every State, District and Village of India.

## CPVC PIPES & FITINGS

RAK Plast is proud to offer a wide collection of rigid chlorinated polyvinyl chloride (CPVC) pipes which are perfect substitutes for conventional G.I., M.S., Copper pipes. These CPVC Pipes manufactured as per IS 15778 standards and fittings as per ASTM standard. The CPVC Plumbing systems is very easy to install using special solvents and are 100% leak free thus reducing the risk of damaging the plaster of walls. These Pipes are acclaimed world wide with its unique property of usage in hot and cold water.

The toughness and inner smoothness of the pipe is maintained through out its life, thus making it safe for water used for drinking and commercial purpose.

No longer does anybody have to live with primitive metal-based plumbing systems having limited life and many inherent disadvantages, Presenting RAK PLAST pipes and fittings. The most advanced CPVC Hot and Cold Water Plumbing system in India.

## FIELDS OF APPLICATIONS

- The excellent qualities of CPVC Pipes make them ideal for Hot and cold water distribution in residential, industrial and public projects.
- Carrying drinking water and food liquids.
- Transportation of chemical and hot corrosive fluids, which includes a wide variety of inorganic acids, bases used in chemical processing.
- Use in industries like metal finishing, plating and treatment, pulp and paper, air pollution control, mining, aerospace, textile, food and beverage processing, fine sprinkler piping and municipal projects.
- Water and waste water treatment systems.
- Use as high tension cable protection pipe for electric net improvement (Large dia. CPVC Pipes).



## DIMENSIONAL CHART OF CPVC PIPES AS PER 15778:2007

All dimensions are in 'mm'

Nominal Diameter in inch	Mean outside Diameter in mm		Class - 1 (SDR 11)		Class - 2 (SDR 13.5)	
	Min	Max	Min	Max	Min	Max
1/2	15.8	16.0	1.7	2.2	1.4	1.9
3/4	22.1	22.3	2.0	2.5	1.7	2.2
1	28.5	28.7	2.6	3.1	2.1	2.6
1 1/4	34.8	35.0	3.2	3.7	2.6	3.1
1 1/2	41.2	41.4	3.8	4.3	3.1	3.6
2	53.9	54.1	4.9	5.5	4.0	4.6

Operating Temp vs Working Pressure (SDR 11)

Operating Temp. °C	27	32	38	49	60	71	82	93
Working Pressure (kg/cm <sup>2</sup> )	28	25	22.4	18.2	14	11.2	7	5.6

- Note:**
- 1) The minimum wall thickness of 15mm pipes are not a function of SDR Which is the ratio of minimum outside diameter to wall thickness
  - 2) The Class - 1 (SDR 11) pipes of this chart are similar to that of pipes as per ASTM D 2846 are commonly marketed as per this standard
  - 3) CPVC 4120 is the recommended grade of material in ASTM D 1784 & 2846 having a Hydrostatic Design stress of 14 Mpa (or 2000 psi).

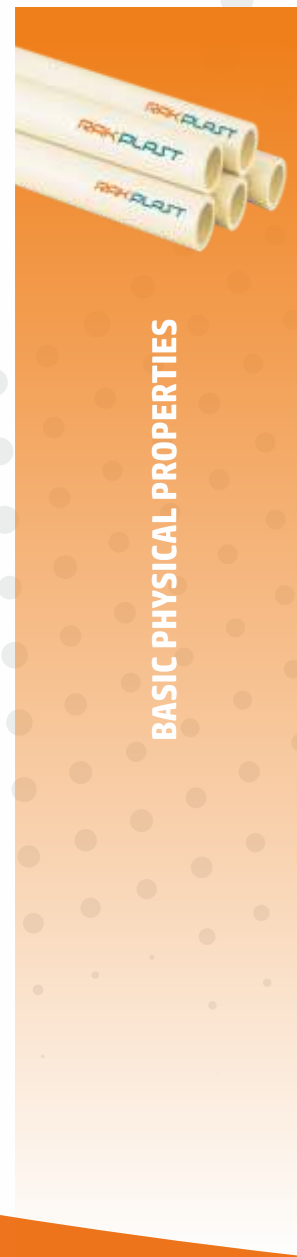
Class of Pipe	Standard	Sizes	Class of Fittings	Standard	Sizes
SDR 13.5 Pipe	IS 15778 ASTM D 2846	1/2" - 2"	SDR 11 Fittings	ASTM D 2846	1/2" - 2"

## ADVANTAGES

- Trouble-free proven performance.
- Smooth bore and 100% water carrying capacity.
- Low thermal expansion.
- Very low thermal conductivity ensures hot water maintaining its temperature for a long duration.
- High impact strength even in low temperature conditions.
- Excellent resistance from corrosion.
- Bacteria growth in CPVC is far lower than copper, GI, MS and other alternate piping system.
- Resistance to chlorine present in water.
- CPVC uses a simple solvent cement jointing method.
- CPVC is compatible with Hot & Cold water. Its safe to use the pipe in hot water upto 93OC
- CPVC has a limiting oxygen index(LOI) of 60. Thus in air CPVC does not support combustion.

RAK PLAST CPVC Pipes and complete range of Fittings are manufactured from very high quality CPVC compound And available in sizes (½", ¾", 1", 1 ¼", 1 ½" & 2") complying to IS 15778 : 2007 SDR 11 & SDR 13.5 and fittings in SDR 11 As per ASTM D 2846 with a designed life of minimum 50 years.

A sufficient margin of safety is provided to sustain any short-term higher pressure and temperature conditions to encounter higher than specified level.



PROPERTY	TEST	CONDITION	SI UNITS
<b>GENERAL</b>			
Specific Gravity	ASTM D792	23°C	1.55 g/cm <sup>3</sup>
Specific Volume		23°C	0.645 cm <sup>3</sup> /g
Water Absorption	ASTM D570	23°C	+0.03%
		100°C	+0.55%
Rockwell Hardness	ASTM D785	23°C	119 (English Unit)
Cell class	ASTM D1784		
<b>MACHANICAL</b>			
SI UNITS			
Izod impact	ASTM D256	23°C	80 J/m o.n.
Tensile Strength	ASTM D638	23°C	55 N/mm <sup>2</sup>
Tensile Modulus	ASTM D638	23°C	2500 N/mm <sup>2</sup>
Flexural Strength	ASTM D790	23°C	104 N/mm <sup>2</sup>
Flexural Modulus	ASTM D790	23°C	2860 N/mm <sup>2</sup>
Compressive Strength	ASTM D695	23°C	70 N/mm <sup>2</sup>
Compressive Modulus	ASTM D695	23°C	1350 N/mm <sup>2</sup>
<b>THERMAL</b>			
SI UNITS			
Coefficient of Thermal Expansion	ASTM D696		6.3x10 <sup>-5</sup> m/m/°K
Thermal Conductivity	ASTM C177		0.14 Wm/°K/m <sup>2</sup>
Heat Distortion Temperature	ASTM D638		103°C
Heat Capacity	DSC	23°C	0.90 J/g °K
		100°C	1.10 J/g °K
<b>FLAMMABILITY</b>			
(English Unit)			
Flammability Rating	UL 94	0.062 in/0.157 cm	V-0, 5VB, 5VA
Flame Spread	ASTM E84		15
Smoke Developed			70-125
Limiting Oxygen Index			60%
<b>ELECTRICAL</b>			
SI UNITS			
Dielectric Strength	ASTM D147		492,000 V/cm
Dietectric Constant	ASTM D150	60 Hz, -1°C	3.70
Power Factor	ASTM D150	1000 Hz	0.007%
Volume Resistivity	ASTM D257	23°C	3.4x10 <sup>15</sup> ohm/cm

## UPVC PLUMBING PIPES (ASTM HEAVY PRESSURE PIPES)

Rak Plast ASTM Pipes are manufactured as per ASTM D 1785 and are available in Sch. 40 and 80 pressure classes. These pipes are generally used for plumbing, water supply and for lowering jet pumps in the borewells. The pipes are available in a standard length of 3 meters and 6 meters in both plain and threaded ends. The ASTM Pipes' abrasion resistance, light weight, mechanical strength, toughness, and durability are the key reasons for it's used in construction and building applications.

### SALIENT FEATURES

- Strong and Light Weight
- Easy to Install.
- Fire Resistant.
- Resistant to Corrosion.
- Simple and Leak Proof Joints.
- Maximum Flow Rate.
- Good Thermal and Electrical Insulation.
- Chemically Inert.
- Safe for Pure and Hygienic Water Supply.
- Special Coloured Line Marking to Identify Right Product.
- Size (1/2" Inch to (4") Inch (Available in 40 Schedule and 80 Schedule).

### APPLICATIONS

- Cold Water Plumbing Application.
- Water Distribution Mains.
- Swimming Pools.
- Plants and Tanning Plants.
- Salt Water Line.
- Industrial Process Lines.
- Hand Pump.
- Down Take Lines.
- Sugar, Paper and Distillery Industries.



The compound used in the manufacture of pipes is Type 1, i.e Grade 1 PVC 1120 as identified in ASTM D 1784 with specified amount of pigment, stabilizers & other additives.

SIZE	O.D	SCHEDULE 40			SCHEDULE 80			Thread Length +2mm	Thread per 25.54 mm (nos)
		Wall Thickness		Pressure Rating	Wall Thickness		Pressure Rating		
		Min	Max	(Mpa)	Min	Max	(Mpa)		
½	21.24	2.77	3.28	4.14	3.73	4.24	5.86	15.00	14
¾	26.57	2.87	3.38	3.31	3.91	4.42	4.76	16.50	14
1	33.27	3.38	3.89	3.10	4.55	5.08	4.34	19.00	11
1¼	42.03	3.56	4.07	2.55	4.85	5.43	3.59	22.00	11
1½	48.11	3.68	4.19	2.28	5.08	5.69	3.24	22.00	11
2	60.17	3.91	4.42	1.93	5.54	6.20	2.76	30.00	11
2½	73.02	5.16	5.77	2.07	7.01	7.85	2.90	32.00	11
3	88.70	5.49	6.15	1.79	7.62	8.53	2.55	35.00	11
4	114.07	6.20	6.73	1.52	8.56	9.58	2.21	42.00	11

## UPVC AGRICULTURE PIPES

Owing to the expertise of our team of experienced professionals, we are able to introduce an exclusive range of Agricultural Pipes. These pipes are used for supplying water from lower to higher in various domestic, industrial, and agricultural purposes. Borewell is the suitable example where these pipes are frequently seen used. The offered pipes can last till four to five decades depending up on the impact. At our manufacturing unit, we develop all kinds of pipes according to the industry standards as well as per the specifications given by the clients.

### FEATURES

- Corrosion resistance
- High performance to inorganic acid
- Suitable for water supply and chemical discharge
- Easy to transport and handle
- Smooth inner surface and flexible pipes.



### APPLICATIONS

- Irrigation purpose.
- Potable water distribution in urban and rural areas.
- Waste and rain water drainage systems.
- Disposal of chemical effluent.
- Main line for drip irrigation and sprinkler systems.
- Telecommunication cable ducting.
- Lift and gravity irrigation systems.
- Industrial and domestic plumbing.
- Distribution of oils & chemicals.
- In horticulture.
- Conveying chemicals and effluents transportation.
- In green house technology.
- Portable water supply management.



WE HAVE 3 OPTIONS FOR OUR CLIENTS TO CHOOSE THE PRODUCTS AS PER THEIR REQUIREMENTS.

1st Quality = Premium  
 2nd Quality = CLASSIC  
 3rd Quality = REGULAR

Pipes are manufactured in the range of 25MM to 315MM diameters in 2, 5, 4, 6, 8, 10 and 12.5 kgs/cm<sup>2</sup> working pressure. Dimensions of Unplasticized PVC Pipes(as per IS 4985 2000)

Nominal outside diameter	Mean outside Dia meter		WALL THICKNESS												
			Class 1		Class 2		Class 3		Class 4		Class 5		Class 6		
	min	max	2.5kgs/cm <sup>2</sup>		4kgs/cm <sup>2</sup>		6kgs/cm <sup>2</sup>		8kgs/cm <sup>2</sup>		10kgs/cm <sup>2</sup>		12.5kgs/cm <sup>2</sup>		
20	20.00	20.3										1.10	1.50	1.40	1.80
25	25.00	25.30								1.20	1.60	1.40	1.80	1.70	2.10
32	32.00	32.30								1.50	1.90	1.80	2.20	2.20	2.70
40	40.00	40.30						1.40	1.80	1.80	2.20	2.20	2.70	2.80	3.30
50	50.00	50.30						1.70	2.10	2.30	2.80	2.80	3.30	3.40	4.00
63	63.00	63.30			1.50	1.90	2.20	2.70	2.80	3.30	3.50	4.10	4.30	5.00	
75	75.00	75.30			1.80	2.20	2.60	3.10	3.40	4.00	4.20	4.90	5.10	5.90	
90	90.00	90.30	1.30	1.70	2.10	2.60	3.10	3.70	4.00	4.60	5.00	5.70	6.10	7.10	
110	110.00	110.40	1.60	2.00	2.50	3.00	3.70	4.30	4.90	5.60	6.10	7.10	7.50	8.70	
125	125.00	125.40	1.80	2.20	2.90	3.40	4.30	5.00	5.60	6.40	6.90	8.00	8.50	9.80	
140	140.00	140.50	2.00	2.40	3.20	3.80	4.80	5.50	6.30	7.30	7.70	8.90	9.50	11.00	
160	160.00	160.50	2.30	2.80	3.70	4.30	5.40	6.20	7.20	8.30	8.80	10.20	10.90	12.60	
180	180.00	180.60	2.60	3.10	4.20	4.90	6.10	7.10	8.00	9.20	9.90	11.40	12.20	14.10	
200	200.00	200.60	2.90	3.40	4.60	5.30	6.80	7.90	8.90	10.30	11.00	12.70	13.60	15.70	
225	225.00	225.70	3.30	3.90	5.20	6.00	7.60	8.80	10.00	11.50	12.40	14.30	15.30	17.60	
250	250.00	250.80	3.60	4.20	5.70	6.50	8.50	9.80	11.20	12.90	13.80	15.90	17.00	19.60	
280	280.00	280.90	4.10	4.80	6.40	7.40	9.50	11.00	12.50	14.40	15.40	17.80	19.00	21.90	
315	315.00	316.00	4.60	5.30	7.20	8.30	10.70	12.40	14.00	16.10	17.30	19.90	21.40	24.70	