STORAGE

The SUDHAKAR CPVC Pipes are packed in woven sacks to provide protection during handling and transportation. The packed bundles shall be stored in a properly covered storage area in racks. This packing protects the pipes not only from handling and also from ultra violet radiation.

INSTALLATION GUIDELINES

CUTTING :

Inspect the pipe and pipe ends visually for any defects or cracks. Cut the pipe to square and avoid cross and irregular cutting. Wheel type plastic tube cutter or ratchet cutter or fine tooth saw are preferred for pipe cutting. Cutting the pipe to the maximum square possible enables the more bonding area.

JOINT PREPARATION:

Burrs and filings can prevent proper contact between the tube and fittings during the assembly, and they should be removed from inside and outside of the tube. A chamfering tool is preferred, but a pocket knife or file is also suitable for this purpose. Clean the pipe and fitting surfaces with a dry cloath for a clean and dry surface. Check dry fit of pipe and fitting. Pipe should easily go 1/3 of the way in to the fitting. If the pipe bottoms, it should be snug.

SOLVENT CEMENT APPLICATION:

Select a suitable CPVC Solvent Cement for perfect and accurate jointing. Clean pipe and fittings with a listed primer. Use a suitable applicator at least ½ the size of the pipe diameter. For larger size pipe systems use a bristle brush or roller. Apply a heavy, even coat of cement to pipe to the depth of the socket, leave no uncoated surface. Use the same applicator without additional Solvent Cement to apply a thin coat inside of the fitting, avoid puddling of cement. Puddling can cause weakening and premature failure of piping system.

ASSEMBLY:

Rotate pipe one-quarter to one half turn while inserting it into the fitting socket and remove excess adhesive i.e. solvent cement from the joint with a clean rag. This motion ensures the even distribution of Solvent Cement within the joint. Once the pipe end is seated, hold it in place for 5 to 10 seconds to avoid pipe push out and to allow the joint to initial set.

SET AND CURE TIMES:

Solvent Cement setting and curing time depends on pipe size, temperature and relative humidity. Curing time is shorter for smaller sizes, dry environment, higher temperature and vice versa. Allow 15 minutes for good handling strength and 2 hours cure time for temperatures above 23° C before pressure testing up to 180 psi. Longer cure times may be required at temperatures below 23° C or with pipe diameter above 3".

*All plastic piping systems are prone to deterioration when exposed to direct sunlight. It is recommended to provide UV protection for all exposed pipes and fittings.

Authorised Distributor / Dealer :

Sudhakar Irrigation Systems Pvt. Ltd.
Balaram Thanda, Near Industrial Estate, Suryapet - 508 214.
Nalgonda Dist., A.P., INDIA.
e-mail : sales@sudhakarpipes.com
www.sudhakarpipes.com

SUDHAKAR

CPVC Plumbing System

"Hygienic" Plumbing System

for Hot and Cold water plumbing application

INTRODUCTION

Meet the pioneer in PVC Pipes

SUDHAKAR Group formed by visionary Teacher turned Industrialist and **Freedom fighter Sri Meela Satyanaryana** in the year 1971 exclusively to manufacture PVC Electrical conduits, the innovative product of that time. Now the group has grown from a small player to one of the biggest PVC processor in India with diversified product range. The group produces different types of PVC pipes and fittings for various applications, HDPE piping systems and Micro Irrigation systems. The Group offers complete product range of piping systems. Now the group included the CPVC piping system in their product range.

SUDHAKAR Group introduce the most advanced product range CPVC i.e. **Chlorinated Poly Vinyl Chloride** Plumbing system for the use of Hot and Cold water application. The CPVC piping system produced with the best CPVC raw material supplied by **KEMONE, FRANCE** (formerly ARKEMA) and **KANEKA Corporation**, **Japan** on the most advanced European machines and the world class moulds.

SUDHAKAR offer CPVC pipes in the CTS sizing (Copper Tubing Size) as per Bureau of Indian Standards specification IS:15778 with latest amendments in SDR 11 and SDR 13.5 pipe series with nominal size of 15mm (1/2") to 50mm (2"). The fittings are offered as per ASTM D 2846 specification in SDR 11 Class.

The piping system is designed to withstand high temperatures and high pressures. The comparative table of Pipe specification as follows.

Pipe dimensions and pressure rating chart as per IS : 15778

Nominal Bore	Nominal Size	Nominal Outside Diameter	SDR - 11 Wall Thickness (t)		Working Pressure at		SDR - 13.5 Wall Thickness (t)		Working Pressure at	
			Minimum	Maximum	23°C	82°C	Minimum	Maximum	23°C	82°C
(inch)	(mm)	(mm)	(mm)	(mm)	Kg/Cm^2		(mm)	(mm)	Kg/Cm^2	
1/2	15	15.9	1.7	2.2	28.10	7.0	1.4	1.9	22.50	5.6
3/4	20	22.2	2.0	2.5	28.10	7.0	1.7	2.2	22.50	5.6
1	25	28.6	2.6	3.1	28.10	7.0	2.1	2.6	22.50	5.6
1 1/4	32	34.9	3.2	3.7	28.10	7.0	2.6	3.1	22.50	5.6
1 1/2	40	41.3	3.8	4.3	28.10	7.0	3.1	3.6	22.50	5.6
2	50	54.0	4.9	5.5	28.10	7.0	4.0	4.6	22.50	5.6

QUALITY STANDARDS

The SUDHAKAR CPVC pipes are manufactured according to IS:15778 specification and the fittings are manufactured according to ASTM D 2846 specification. SUDHAKAR CPVC Pipes undergo the following test procedure

PHYSICAL AND CHEMICAL CHARACTERISTICS

Visual Appearance : The colour of the pipes shall be off-white. Slight variations in the appearance of the colour are permitted. The internal and external surfaces of the pipe shall be smooth, clean and free from grooving and other defects.

Dimensional Check : The dimensions of the CPVC Pipe i.e. diameter, wall thickness, etc.. shall be measured as per IS:15778 specification. The dimensions shall confirm to the given specification.

Opacity : The wall of the plain pipe shall not transmit more than 0.1 percent of the visible light falling on it when tested in accordance with IS 12235 (Part 3).

Effect on Water : The pipes shall not have any detrimental effect on the composition of the water flowing through them, when tested as per 10.3 of IS 4985.

Reversion Test : When tested by the method prescribed in IS 12235 (Part 5/See 1 and Sec 2), a length of pipe 200 ± 20 mm long shall not alter in length by more than 5 percent.

Vicat Softening Temperature : When tested by the method prescribed in IS 12235 (Part 2), the Vicat softening temperature of the specimen shall not be less than 110°C.

Density : When tested in accordance with IS 12235 (Part 14), the density of the pipes shall be between 1450 kg/m3 and 1650 kg/m3.

MECHANICAL PROPERTIES

Hydrostatic Characteristics : When subjected to internal hydrostatic pressure test in accordance with the procedure given in IS 12235 (Part 8/See 1), the pipe shall not fail during the prescribed test duration. The temperatures, duration and hydrostatic (hoop) stress for the test shall conform to the requirements given in IS:15778.

Thermal Stability by Hydrostatic Pressure : Testing when subjected to internal hydrostatic pressure test in accordance with the procedure given in IS 12235 (Part 8/See 1) and as per requirement given in IS:15778, the pipe shall not burst or leak during the prescribed test duration.

Resistance to External Blow at 0°C : When tested by the method prescribed in IS 4985, with classified striker mass and drop height as given in IS:15778, the pipe shall have a true impact rate of not more than 10%.

Flattening Test : When tested by the method prescribed in IS 12235 (Part 19), pipe shall show no signs of cracking, splitting and breaking.

Tensile Strength : When tested by the method prescribed in IS 12235 (Part 13), the tensile strength at yield shall not be less than 50 MPa at 27+2°C.

SUDHAKAR CPVC Fittings undergo the following Test Procedure

Dimensional Check
Visual Appearance
Hydrostatic Pressure Test

FEATURES & BENEFITS

HYGIENIC PIPING SYSTEM: SUDHAKAR CPVC piping system is manufactured with non toxic, non organoleptic and non microbial raw material compound. Lower bacterial growth, no pit formation, no leach formation and no corrosion made the SUDHAKAR CPVC pipes superior to other alternate materials and proven as hygienic piping system. The smooth inner surface prevents scaling.

HOT AND COLD WATER COMPATIBLE: SUDHAKAR CPVC piping system is compatible with both hot and cold water. Due to additional chlorine content, the pipes with stand high temperature in comparison to any other thermo plastic plumbing systems.

RESISTANCE TO CORROSION AND CHEMICAL ATTACKS :SUDHAKAR CPVC pipes are resistant to all types of natural corrosion environments and are inert to major chemical products (please verify the chemical resistance chart).

LIGHT WEIGHT, EASY INSTALLATION: SUDHAKAR CPVC pipes and fittings are light in weight and are very easy to install in comparison with any other piping systems.

TOUGH AND RIGIDITY: SUDHAKAR CPVC pipes and fittings are made up of tough and rigid material and has a good impact strength.

LOW THERMAL EXPANSION: SUDHAKAR CPVC pipes have low thermal expansion.

SUPERIOR INSULATION: The heat loss in CPVC piping system is lower than the metal piping system, thus result in lesser insulation material for hot water piping system.

SELF EXTINGUISHING: SUDHAKAR CPVC pipes are self extinguishing and they do not promote fire when the source is removed.

OTHER INSTALLATION PRECAUTIONS:

When using a transition connection to metal threads, use a special transition fitting to **CPVC** male or female threaded adapter whenever possible. Do not over-torque plastic threaded connections. Hand tight plus one one-half turn should be adequate.

Hang or strap **CPVC** piping systems loosely to allow for thermal expansion. Do not use metal straps with sharp edges that might damage the tubing.

When connected to a gas water heater, **CPVC** tubing should not be located within 50 cm of the flue. For water heaters lacking reliable temperature control, this distance may be increased up to 1 mtr. A metal nipple or flexible appliance connector should be utilized. This measure eliminates the potential for damage to plastic piping that might result from excessive radiant heat from the flue.

APPLICATION AREAS

Residential Buildings
High Rise Buildings
Commercial Complexes
Hospitality Industry
Hospitals
Office and Industrial Complexes
Water Treatment Plants
Chemical & Pharma Industries