

FLOWLIFE MANGALAM

CPVC PIPES & FITTINGS



The Most Advanced Hot & Cold

Water Plumbing System For The New Generation.

SFMC is proud to offer Chlorinated Polyvinyl Chloride (CPVC) pipes, which are perfect substitutes for conventional G.I., M.S., and copper pipes and fittings.

These CPVC pipes and fittings are manufactured according to IS: 15778: 2007 for pipes, IS: 17546: 2021 and ASTM D2846 for fittings.

SFMC CPVC plumbing system is easy to install using CPVC solvent cement and is 100% leak-proof.

These pipes are widely acclaimed for their unique ability to be used with both hot and cold water. The toughness and smooth interior of the pipes are maintained throughout their life, ensuring they are safe for both potable water and commercial use.

Fields of Application

- High and low rise residential buildings, complexes, societies and hotels
- Office complexes
- Villas, Farm-houses and Individual homes
- Commercial and Industrial installations
- Solar heating, central heating and radiant floor heating application
- Carrying drinking water and liquid foods
- Water and waste water treatment systems
- projects, Solar heating, central heating and radiant floor heating application







Properties

- 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
- Can be installed and operated in all weather conditions
- Pressure and temperature bearing capacity remains unaffected even after long solar and UV radiation exposure
- Excellent resistance from corrosion
- Bacterial growth in CPVC is far lower then Copper, GI, MS and other alternate piping systems
- Resistance to chlorine present in water
- CPVC uses a simple solvent cement jointing method
- CPVC is compatible with Hot & Cold water. it is safe to use the pipe in hot water upto 93° C
- CPVC has a limiting oxygen index (LOI) of 60. Thus in air CPVC does not support combustion.

DIMENSIONAL CHART OF CPVC PIPES AS PER 15778: 2007

Nominal Bore		Outside Diameter		SDR-11 (Class I)				SDR-13.5 (Class II)			
				Wall Thickness		Working Pressure		Wall Thickness		Working Pressure	
		Min	Max	Min	Max	At 27°C	At 82°C	Min	Max	At 27°C	At 82°C
(mm)	(inch)	(mm)	(mm)	(mm)	(mm)	(Kg/cm²)	(Kg/cm²)	(mm)	(mm)	(Kg/cm²)	(Kg/cm²)
15	1/2	15.80	16.00	1.70#	2.20#	28.14	6.93	1.40#	1.90#	22.22	5.60
20	3/4	22.10	22.30	2.00	2.50	28.14	6.93	1.70	2.20	22.22	5.60
25	1	28.50	28.70	2.60	3.10	28.14	6.93	2.10	2.60	22.22	5.60
32	1 1/4	34.80	35.00	3.20	3.70	28.14	6.93	2.60	3.10	22.22	5.60
40	1 ½	41.20	41.40	3.80	4.30	28.14	6.93	3.10	3.60	22.22	5.60
50	2	53.90	54.10	4.90	5.50	28.14	6.93	4.00	4.60	22.22	5.60

Nominal Bore		Outside	Schedule 40 (Class III SDR 17)				Schedule 80 (Class III SDR 17)			
		Diameter	Wall Thickness		Working Pressure		Wall Thickness		Working Pressure	
			Min	Max	At 23°C	At 82°C	Min	Max	At 23°C	At 82°C
(mm)	(inch)	(mm)	(mm)	(mm)	(Kg/cm²)	(Kg/cm²)	(mm)	(mm)	(Kg/cm²)	(Kg/cm²)
65	2 ½	73.00 (+/- 0.18)	5.16	5.77	21.10	5.30	7.01	7.85	29.57	7.34
80	3	88.90 (+/- 0.20)	5.49	6.15	18.25	4.58	7.62	8.53	26.00	6.32
100	4	114.30 (+/- 0.23)	6.02	6.73	15.49	3.87	8.56	9.58	22.53	5.60
150	6	168.30 (+/- 0.28)	7.11	7.97	12.64	3.16	10.97	12.29	19.68	4.89

- CPVC Pipes and complete range of Fittings are manufactured from very high quality CPVC compound. Available sizes (½" to 6") complying to IS 15778: 2007 SDR 11, SDR 13.5 & SDR 17 and fittings. As per IS: 17546: 2021 & ASTM D2846 with a designed life of minimum 50 years.
- Product range Sch 40/80: 65 mm (2 1/2") to 150mm (6") IPS as per ASTM F441.
- A sufficient margin of safety is provided to sustain any short-term higher pressure and temperature conditions
 to encounter higher than specified level.

Operating Temp vs Working Pressure (SDR 11)								
Operating Temp.°C	27	32	38	49	60	71	82	93
Working Pressure (kg/cm²)	28	25	22.4	18.2	14	11.2	7	5.6

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

Note:

- 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).

FLOWLIFE MANGALAM

ADHESIVE

HEAVY DUTY • FAST SET



CPVC CEMENT FOR USE WITH 'C' PVC PIPES & FITTINGS

For Pipe Sizes $15 \text{mm}(\frac{1}{2})$ to 50 mm(2)

PACKING SIZES 50ml, 118ml, 237ml, 473ml, 946ml.

BASIC PHYSICAL PROPERTIES

PROPERTY	TEST	CONDITION	SIUNITS
GENERAL			
Specific Gravity	ASTM D792	23°C	1.55 g/cm ³
,	ASTM D772	23°C	0.645 cm³/g
Specific Volume	ACTA DEZO		
Water Absorption	ASTM D570	23°C	+0.03%
	4.5TH B705	100°C	+0.55%
Rockwell Hardness	ASTM D785	23°C	119 (English Unit)
Cell class	ASTM D1784		
MACHANICAL			SI UNITS
Izod impact	ASTM D256	23°C	80 J/m o.n.
Tensile Strength	ASTM D638	23°C	55 N/mm²
Tensile Modulus	ASTM D638	23°C	2500 N/mm²
Flexural Strength	ASTM D790	23°C	104 N/mm²
Flexural Modulus	ASTM D790	23°C	2860 N/mm²
Compressive Strength	ASTM D695	23°C	70 N/mm²
Compressive Modulus	ASTM D695	23°C	1350 N/mm²
THERMAL			SI UNITS
Coefficient of Thermal Expansion	ASTM D696		6.3x10° m/m/°K
Thermal Conductivity	ASTM C177		0.14 Wm/°K/m²
Heat Distortion Temperature	ASTM D638		103°C
Heat Capacity	DSC	23°C	0.90 J/g °K
,		100°C	1.10 J/g °K
FLAMMABILITY			(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%
Limiting Oxygen index			
ELECTRICAL			SI UNITS
	ASTM D147		
Dielectric Strength	ASTM D147 ASTM D150	40 H- 1°C	492,000 V/cm 3.70
Dietectric Constant		60 Hz, -1°C	
Power Factor	ASTM D150	1000 Hz	0.007%
Volume Resistivity	ASTM D257	23°C	3.4x10 ¹⁵ ohm/cm









Joining Method of SFMC FLOWLIFE CPVC

Pipes and Fittings



CUTTING: In order to make a proper and neat joint, measure the pipe length accurately and make a small mark. Ensure that the pipe and fittings are size compatible. You can easily cut with a wheel type plastic pipe cutter or hacksaw blade. Cutting tubing as squarely as possible provides optimal bonding area within a joint.



DEBURRING / BEVELING : Burrs and filings can prevent proper contact between tube and fitting during assembly and should be removed from the outside and inside of the pipe. Deburring tool, pocket knife or file are suitable for this. A slight bevel on the end of the tubing will ease entry of the tubing into the fitting socket.



FITTING PREPARATION: Using a clean, dry rag, wipe dirt and moisture from the fitting sockets and tubing end. The tubing should make contact with the socket wall 1/3 to 2/3 of the way into the fitting socket.



SOLVENT CEMENT APPLICATION: Use only CPVC cement or an all - purpose cement conforming to ASTM F 493 or joint failure may result. When making a joint, apply a heavy, even coat of cement to the pipe end. Use the same applicator without additional cement to apply a thin coat inside the fitting socket. Too much cement can cause clogged water ways.



ASSEMBLY: Immediately insert the tubing into the fitting socket, rotate the tube $\frac{1}{4}$ to $\frac{1}{2}$ turn while inserting. This motion ensures and even distribution of cement within the joint. Properly align the fittings. Hold the assembly for approximately 10 seconds, allowing the joint to set-up.



SET AND CURE TIMES: Solvent cement set and cure times are a function of pipe size, temperature and relative humidity. Curing time is shorter for drier environments, smaller sizes and higher temperatures. It requires 10 to 20 minutes for perfect joint.

OUR PRESTIGIOUS CLIENTS























































































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MANUFACTURER OF PPR, CPVC, UPVC SWR, UPVC, UPVC PLUMBING, DWC, MDPE, HDPE PIPES & FITTINGS, WATER TANK



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