

Based on Japanese Material and Technology

# **Lifeline**<sup>®</sup> C-PVC

## **Hot and Cold water system**

The Supreme Industries Ltd., is an acknowledged leader of India's plastic industry. It is credited with pioneering several path breaking products and has valuable experience in providing innovative and cost effective piping solution. Company's objective is to meet the growing needs of its clientele in water, waste management and infrastructure sector through specially developed high performance range of piping products. The innovative product portfolio offered by Supreme is extensive in range and application and comprises a variety of pipes and a vast spectrum of fittings totaling around 7000 diverse products. Together these constitute the most comprehensive range in the industry that caters almost every conceivable need and application. Company has been a torch bearer in transition from conventional products to advance plastics piping products in the country and has been termed as "Trend Setters of Plastic Piping Products".

Supreme Lifeline C-PVC, manufactured based on world's best Japanese material and technology is the most ideal solution for hot and cold water. This system is suitable for water supply, water distribution and industrial application and emerged as the best substitute to conventional G.I. piping system. The choice of the raw material and strict quality control imparts high degree of reliability, as a result Lifeline becomes the preferred choice of leading consultants, architects, builders, plumbers and quality conscious people across the country. This simple and easy to fit user-friendly, high-performance system is equipped with many outstanding features and hence approved by WRAS, UK and MCGM.



**Jeevan bhar ka saath...**

## Unique Features

**Excellent resistance to corrosion and chemical attacks** - Lifeline is absolutely free from corrosion and offers excellent resistance to great number of chemicals like strong mineral acids and bases.

**Ideal system for carrying drinking water** - Lifeline is absolutely free from corrosion and negative biological effects. It does not break down even under the harshest water condition, hence the quality of water never deteriorates.

**Easy and quick assembly** - Light weight and simple solvent cement jointing method results in extensive saving on time and labour.

**Tough and rigid material** - C-PVC has a much higher strength modulus than other thermoplastics used in plumbing applications. Due to its tough and rigid material property Lifeline can withstand higher pressure and temperature. It requires lesser supports with minimum offsets/looping.

**Simple and leak proof joints** - Jointing can be done speedily using special solvent cement manufactured and supplied by the company which ensures 100% leak proof joints.

**Low thermal expansion** - As co-efficient of thermal expansion is low, expansion due to temperature variations is reduced and hence unsightly snaking of pipes can be avoided.

**Superior insulation properties** - Lifeline has better insulation properties than metal pipes which reduces heat loss and insulation requirement.

**Fire Resistance** - Lifeline C-PVC does not support combustion.

**Maintenance free** - Being free from rusting, pitting or scaling and galvanic or electrolytic corrosion, maintenance is minimal.

**Overall Economy** - This system is most cost effective than any other plumbing system.

**Fields of Application** - Lifeline C-PVC is designed for Hot and Cold water supply in residential, commercial and public projects, high and low rise buildings, corporate houses and academic institutes, solar heater application etc.



**Pipes** - The SDR 11 and SDR 13.5 pipes are available from 15 to 50 mm i.e. ½" to 2" in CTS series as per IS15778. 20 and 25 mm i.e. ¾" and 1" pipes are also available in heavy duty SDR 9. Pipes in 65 to 250 mm i.e. 2½" to 10" are also available in IPS series in SCH 40 and SCH 80 class as per ASTM F 441.

**Pipe dimensions and pressure rating chart as per IS 15778 (CTS Series)**

Nominal Size		Outer Diameter (D) in mm		SDR - 9 (company standard)				SDR - 11				SDR - 13.5			
				Wall Thickness (t) in mm		Working Pressure at		Wall Thickness (t) in mm		Working Pressure at		Wall Thickness (t) in mm		Working Pressure at	
mm	inch	Min.	Max.	Min.	Max.	Kgf / cm <sup>2</sup>		Min.	Max.	Kgf / cm <sup>2</sup>		Min.	Max.	Kgf / cm <sup>2</sup>	
15	½	15.8	16.0	-	-	-	-	1.70	2.20	27.60	6.80	1.40	1.90	21.80	5.50
20	¾	22.1	22.3	2.50	3.00	35.20	8.80	2.00	2.50	27.60	6.80	1.70	2.20	21.80	5.50
25	1	28.5	28.7	3.20	3.80	35.20	8.80	2.60	3.10	27.60	6.80	2.10	2.60	21.80	5.50
32	1¼	34.8	35.0	-	-	-	-	3.20	3.70	27.60	6.80	2.60	3.10	21.80	5.50
40	1½	41.2	41.4	-	-	-	-	3.80	4.30	27.60	6.80	3.10	3.60	21.80	5.50
50	2	53.9	54.1	-	-	-	-	4.90	5.50	27.60	6.80	4.00	4.60	21.80	5.50

**Pipe dimensions and pressure rating chart as per ASTM F 441 (IPS Series)**

Nominal Size		Outer Diameter (D) in mm		Schedule 40				Schedule 80			
				Wall Thickness (t) in mm		Working Pressure at		Wall Thickness (t) in mm		Working Pressure at	
mm	inch	Min.	Max.	Min.	Max.	Kgf / cm <sup>2</sup>		Min.	Max.	Kgf / cm <sup>2</sup>	
65	2½	72.84	73.20	5.16	5.77	20.70	5.20	7.01	7.85	29.00	7.20
80	3	88.70	89.10	5.49	6.15	17.90	4.50	7.62	8.53	25.50	6.20
100	4	114.07	114.53	6.02	6.73	15.20	3.80	8.56	9.58	22.10	5.50
150	6	168.02	168.58	7.11	7.97	12.40	3.10	10.97	12.29	19.30	4.80
200	8	218.72	219.48	8.18	9.17	11.00	2.80	12.70	14.22	17.20	4.10
250	10	272.72	273.48	9.27	10.39	9.70	2.40	15.06	16.86	15.19	3.80

**Fittings** - Entire range of fittings in SDR 11 are available in 15 to 50 mm (½" to 2") in CTS series as per ASTM D 2846 besides most running fittings in 20 and 25 mm sizes in heavy duty SDR 9 pressure class. Entire range of fittings in 65 to 150 mm i.e. 2½" to 6" are available in SCH 40 and SCH 80 as per ASTM F 438 and F 439.



Coupler

Elbow 90°

Reducing Elbow 90°

Elbow 45°

Equal Tee

Reducing Tee

Reducing Tee (IPS x CTS)

Cross Tee

Union

Reducer

Reducer (IPS x CTS)

End Cap

Reducing Bush (IPS x CTS)

Reducing Bush

Transition Bush

MTA (Plastic)

FTA (Plastic)

Female Threaded Elbow (Brass)

Male Threaded Elbow (Brass)

Female Threaded Tee (Brass)

Male Threaded Tee (Brass)

FTA (Brass)

FTA (Brass)

MTA (Brass)

MTA (Brass)

Single Y

Flange Adapter

Van Stone Flange

Blind Flange

Ball Valves

Ball Valve

Ball Valve (Union Type)

Concealed Valve

Concealed Valves (Quarter Turn)

Screw Tap with Handwheel

Bypass Bend

Wall Mixer Fixture

Circuit Testing Plug (N)

Circuit Testing Plug

Elbow Holder

Pipe Clip

Hex Nipple

Hole Repairing Coupler

Tank Connector (MT/FT)

Tank Connector (MT/Soc)

Tank Connector Long (MT/Spg)

Tank Connector (MT/Spg) (F)

Bypass Bend (F)

Short Bend (F)

Chamfering Tool

Metal Clamp

Medium Bodied

Heavy Bodied

Primer

Thread Sealant (Can be used for any threaded component)

### Joining Instructions

**Cutting the pipe :** Cut the pipe square with handsaw using suitable guide or by pipe cutter in order to make a proper and neat joint.

**Joint preparation :** Chamfer or deburr pipe or both, approximately at 10-15°. Remove burrs from inside and outside diameters with a knife, file or abrasive paper.

**Cleaning :** Remove any dirt, moisture or grease from pipe and fitting sockets with a clean dry rag.

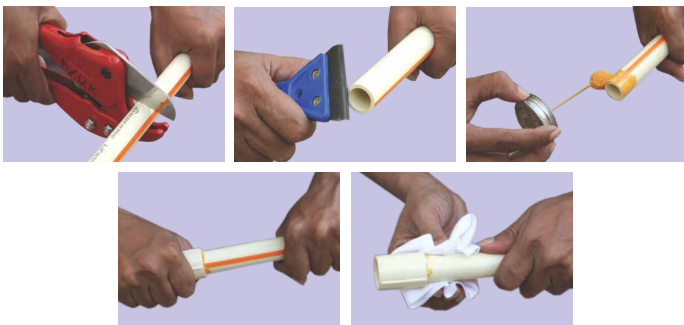
**Marking :** Mark the pipe end with a bell depth line which will show the full depth of penetration inside the pipe / fitting socket.

**Test dry fit of the joint :** Insert the pipe into the fitting and check that the interference occurs about 1/3<sup>rd</sup> to 2/3<sup>rd</sup> of the socket depth. Too tight or too loose fitment may lead to leak, hence should be avoided.

**Application of solvent cement :** While making a joint, apply cement lightly but uniformly to inside of socket and outside of pipe end with a natural bristle nylon brush or suitable applicator. Apply a second coat of cement to the pipe end. Apply cement quickly to prevent it from drying and be sure to completely cover all jointing surface area of the pipe and fitting. Do not apply excessive cement in bell socket.

**Assembly of joints :** Immediately after applying the last coat of cement to the pipe and while cement is still fluid or wet (within 10-20 second), forcefully bottom the male end of the pipe in the socket, giving pipe or fitting 1/4<sup>th</sup> turn (but not after pipe is bottomed) to distribute cement evenly. Remove excess cement from the pipe at the end of fitting socket. The joint must not be disturbed immediately after cementing, so that joint can properly cure. Allow cement to cure before pressurizing the system.

**Curing :** Allow cement to cure before applying water pressure. Exact curing time varies with temperature, humidity etc. You can refer the given joint curing chart.



**Quality of Solvent Cement :** The quality of solvent cement plays very important role in solvent weld plumbing. The quality of solvent cement has total influence over the joint strength. Considering this important fact company started manufacturing solvent cement under strict supervision and quality control. This will ensure consistency in quality of solvent cement thereby reassuring the end user about the leak proof joints on long term basis. The company has introduced solvent cement under the brand name of "SILBOND" which has been certified by NSF (USA) .

### Consumption of solvent cement

Pipe Size (mm)	15	20	25	32	40	50	65	75	100	150	200	250
No. of joints per liter	1200	750	500	450	325	225	50	40	30	10	5	2-4

**Horizontal and Vertical Supports :** The fixing clamps used for anchoring the conduit system to structural element of the building and protecting the pipes against excessive buckling. The fixing clamps are to be firmly mounted, in order to prevent vibrations and transmission of noise. Spacing of such clamps depends on the temperature of a conveyed medium and diameter of conduit.

### Distance between support spacing for pipes

Nominal Size	21° C (70°F)		49°C (120°F)		71°C (160°F)		82°C (180°F)		
	mm	Inch	FT	(cm)	FT	(cm)	FT	(cm)	
15	½	5.5	167.70	4.5	137.16	3.0	91.44	2.5	76.20
20	¾	5.5	167.70	5.0	152.40	3.0	91.44	2.5	76.20
25	1	6.0	182.88	5.5	167.70	3.5	106.68	3.5	91.44
32	1¼	6.5	198.12	6.0	182.88	3.5	106.88	3.5	106.68
40	1½	7.0	213.36	6.0	182.88	3.5	106.88	3.5	106.68
50	2	7.0	213.36	6.5	198.12	4.0	121.92	3.5	106.68
65	2½	8.0	244.00	7.5	228.60	4.5	137.16	4.0	121.92
80	3	8.0	244.00	7.5	228.60	4.5	137.16	4.0	121.92
100	4	9.0	274.32	8.5	259.08	5.0	152.40	4.5	137.16
150	6	10.0	304.80	9.0	274.32	5.5	167.07	5.0	152.40
200	8	11.0	355.28	10.0	304.80	6.0	182.88	5.5	167.07
250	10	11.5	350.52	10.5	320.04	6.5	198.12	6.0	182.88

★ When the system is to be concealed, it should be pressure tested before concealment.

★ This system is also recommended for chemical application but please refer chemical resistance chart before use

**Note :** Only company supplied and specified solvent cement should be used for satisfactory performance of the joints. Company will not take any warranty or guarantee for the performance unless company supplied solvent cement is used.

• Any specification can change without prior notice. • All information contained in this literature is given in good faith and believed to be accurate and reliable. But because of many factors which may be outside our knowledge and control and affect the use of the product, no warranty is given or is to be implied with respect to such information, nor do we offer any warranty of immunity against patent infringement. No responsibility can be accepted for any error, omissions or incorrect assumptions.

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