Sudesh Group

APLAPOLLO®
Tubes for every reason

CPVC

Pipes & Fittings

- Carrying potable water and edible fluids
- Transportations of chemicals & other hot corrosive fluids
- Suitable for hot and cold water distribution
- Lead-free

IS:15778
CM/L 2680058

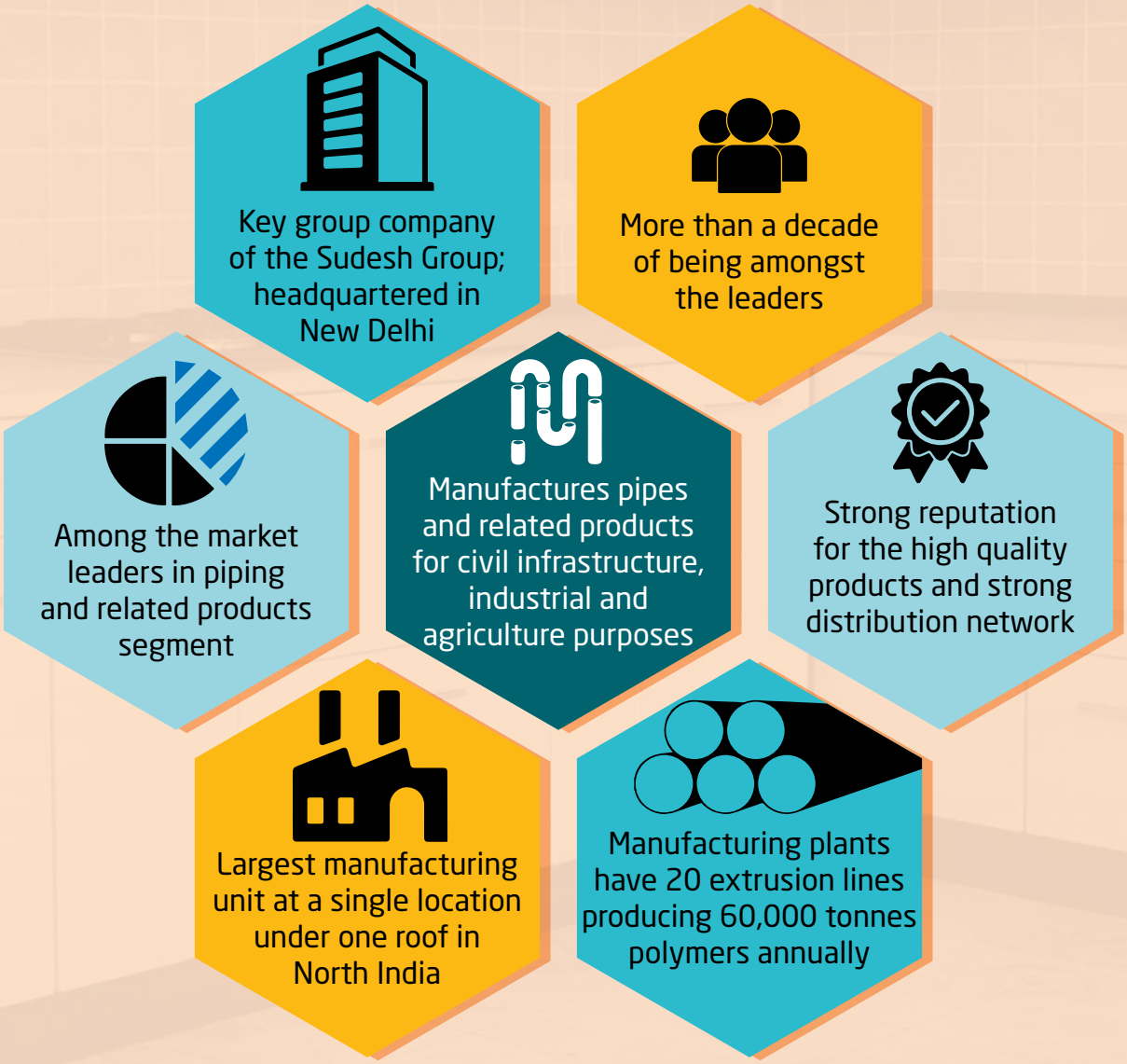
Apollo Pipes Ltd.
Email: info@apollopipes.com | Web: www.apollopipes.com
1800-121-3737
011-43334000

Products: CPVC PIPES & FITTINGS | uPVC PLUMBING SYSTEM | PRESSURE PIPES & FITTINGS | SWR DRAINAGE SYSTEM | COLUMN PIPES | WELL CASING PIPES | HDPE PIPES | SPRINKLER SYSTEM

About **Apollo Pipes**

APOLLO PIPES LTD. is the key group company of Sudesh Group. The company has an enriching experience of decades in manufacturing pipes and related products for all purposes. With a manufacturing plant having 20 extrusion lines and producing 60,000 tonnes of polymers annually, APOLLO PIPES LTD. has the largest manufacturing unit at a single location under one roof in North India. APOLLO PIPES LTD. business activities are focused on development, manufacturing and distribution of Plastic Piping Systems under the brand name of APL APOLLO.

APOLLO PIPES have plants located at Dadri, Sikandrabad (Uttar Pradesh) and Ahmedabad (Gujarat). The plants use flexible manufacturing techniques, greener technologies and modern machinery. We strictly follow the national and international standards while manufacturing all kinds of CPVC Pipes and Fittings, uPVC Plumbing System, uPVC SWR Piping Systems, uPVC Pressure Pipes and Fittings, Elastomeric (Ring Fit Pipes), Column Pipes, uPVC Well Casing Pipes, HDPE Pipes, Sprinkler System and Cable Ducts.



CPVC Pipes & Fittings

APL Apollo CPVC Pipes & Fittings are the perfect solution for hot and cold potable water distribution requirements in residential, commercial and industrial spaces with a host of advantages over the conventional piping system. Produced from a unique blend of chlorinated polyvinyl chloride, they possess the perfect physical properties desirable for hassle free piping applications.

Our CPVC Pipes are manufactured in Copper Tube Size (CTS) between 15 mm ("1/2") and 50 mm (2") from Type IV, Grade I Chlorinated Polyvinyl Chloride (CPVC) compound with a cell classification of 23447 as per ASTM D-1784. Our pipes are manufactured to be in strict compliance with ASTM D-2846 & 15-15778 meant for SDR-11 & SDR-13.5 CPVC specifications and to consistently meet or exceed the quality assurance requirements of this standard.

Our extensive range of fittings are produced as per SDR-11 and meet the requirements of ASTMD-2846M. Our pipes have a maximum service temperature of upto 93°c and stress of 2000 PSI.

APL Apollo CPVC Pipes also come in Iron Pipe Size (IPS) from 2 1/2" to 4" which meet the requirement of SCH-40 and SCH-80 of ASTM F-441. Our range of CPVC Fittings are manufactured as per SDR-11.

Our CPVC Plumbing System conforms to various international quality standards approved in countries like USA, UK, Canada, Germany, France, the Netherlands and the Middle East.

If maintenance and corrosion-free service and best-in-class quality are the prerequisites for a plumbing system, APL Apollo CPVC Pipes & Fittings are the perfect solution.

Applications

APL Apollo CPVC Pipes & Fittings can be used for an array of applications, including

- Hot and cold water distribution in residential, commercial and industrial spaces
- Carrying potable water and edible fluids
- Transportation of chemicals and other hot, corrosive fluids and
- Solar heating, central heating and radiant floor heating applications

Salient Features and Benefits

APL Apollo CPVC Pipes & Fittings come replete with a range of features and benefits.

- Suitable for use up to 93°c
- No scaling
- Detain bacterial growth
- Perfect for hot and cold water usage
- Life span of more than 50 years
- High impact strength and durability
- Excellent resistance to chemicals
- Smooth internal surface
- Energy saving
- Fire – resistant and self-extinguishing
- Light weight
- Easy to install
- 100% leak-proof

Standard Compliance

APL Apollo CPVC Pipes & Fittings are manufactured as per the following standards:

ASTM D-1784	Standard specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) compounds
ASTM D-2864/IS-15778	Specification for Chlorinated Polyvinyl Chloride (CPVC) plastic pipes For hot and cold water distribution system
ASTM F-439	Standard specification for socket-type-chlorinated Polyvinyl Chloride plastic pipes & fittings (SCH-80)
ASTM F-441	Standard specification for Chlorinated Polyvinyl Chloride (CPVC) plastic pipes (SCH-40 & 80)
ASTM F-438	Standard specification for socket-type-chlorinated Polyvinyl Chloride plastic pipes & fittings (SCH-40)
ASTM F-493	Standard specification for solvent cements for Chlorinated Polyvinyl Chloride (CPVC) plastic pipes & fittings

Performance Characteristics	APL Apollo CPVC	COPPER	GI	PP-R
Corrosion	No effect due to superb chemical resistance	Corrodes over a period of time	Corrodes quickly and deteriorates	Has certain degree of resistance to chemicals
Scaling, Pitting and Leaching	Absence of scaling, pitting and leaching leads to full bore flow	Scaling, pitting and leaching leads to reduced bore flow	Severe scaling, pitting and leaching leads to reduced bore flow	Scaling, pitting and leaching may occur and reduce bore flow
Thermal Conductivity & Insulation Levels	Lower thermal conductivity reduces heat loss and requires reduced insulation levels	Extremely high thermal conductivity increases heat loss & requires higher insulation	Extremely high thermal conductivity increases heat loss & requires higher insulation	Higher thermal conductivity than CPVC; more heat loss and and requires higher insulation levels
Bacterial Growth	Extremely low	More than that in CPVC	More than that in Copper	Higher than that in CPVC
Fire Resistance	LOI is 60% hence does not catch fire or sustain burning	Being metallic, exhibits better resistance to fire	Being metallic, exhibits better resistance to fire	LOI is 18% hence, can easily catch fire
Installation	Easy through cold welding; requires less man hours. No electric/heat source required	Requires highly skilled manpower and electric/heat source	Extremely slow; requires more man hours	Jointing process is by heat fusion; requires greater skill and electric/heat source
Leakage	Leak-free installation for life	Leak-free, provided carried out by highly trained manpower	Always susceptible to leakage from initial day of installation	Relatively leak-free provided skilled manpower is employed
Thermal Expansion	Lower; leads to lesser pipe expansion, lesser looping and offsets	Although thermal expansion is lower, the stress induced is far greater	Although thermal expansion is lower, the stress induced is far greater	Higher expansion leads to more looping offsets

Special Tools	Simple cutter or Hex-Saw Blade and CPVC solvent cement are adequate for 100% leak-proof joints and satisfactory plumbing	Requires special tools like metal cutting flame torch, solder, flux, etc. to carry out desired plumbing procedures	Requires heavy tools for pipe cutting, threading and fitting to carry out the desired plumbing	Requires special Electrical Heater to achieve the perfectly welded joint. Any failure results into wastage and poor plumbing
Range of Fittings	Wide range	Limited range, needs frequent cutting and welding	Limited range	-

Technical Specifications

Dimensional details & pressure ratings of SDR-13.5 (Class-2) CPVC Pipes as per IS-15778 & ASTM D-2846

Nominal Size		Mean Outside Diameter (mm)		Wall Thickness (mm)		Pressure at 27°C		Pressure at 82°C	
(In)	(mm)	Average	Tolerance	(mm)	Tolerance	(kg/cm')	(MPA)	($kgcm^2$)	(MPA)
1/2	15	15.9	±0.1	1.65	±0.25	21.8	2.18	5.5	0.55
3/4	20	22.2	±0.1	1.95	±0.25	21.8	2.18	5.5	0.55
1	25	28.6	±0.1	2.36	±0.25	21.8	2.18	5.5	0.55
1(1/4)	32	34.9	±0.1	2.85	±0.25	21.8	2.18	5.5	0.55
1(1/2)	40	41.3	±0.1	3.85	±0.25	21.8	2.18	5.5	0.55
2	50	54.3	±0.1	4.25	±0.25	21.8	2.18	5.5	0.55

Dimensional details & pressure ratings of SDR-11 (Class-1) CPVC Pipes as per IS-15778 & ASTM D-2846

Nominal Size		Mean Outside Diameter (mm)		Wall Thickness (mm)		Pressure at 27°C		Pressure at 82°C	
(In)	(mm)	Average	Tolerance	(mm)	Tolerance	(kg/cm')	(MPA)	(kg/cm^2)	(MPA)
1/2	15	15.9	±0.1	1.95	±0.25	27.6	2.76	6.8	0.68
3/4	20	22.2	±0.1	2.25	±0.25	27.6	2.76	6.8	0.68
1	25	28.6	±0.1	2.85	±0.25	27.6	2.76	6.8	0.68
1(1/4)	32	34.9	±0.1	3.45	±0.25	27.6	2.76	6.8	0.68
1(1/2)	40	41.3	±0.1	4.05	±0.25	27.6	2.76	6.8	0.68
2	50	54.3	±0.1	5.20	±0.25	27.6	2.76	6.8	0.68

Dimensional details of CPVC 4120 SCH-40 Pipe with maximum water pressure rating as per **ASTM F-441**

Nominal Size		Outside Diameter (mm)				Wall Thickness (mm)				Pressure at 27°C	Pressure at 82°C
		Average		Tolerance		Minimum		Tolerance			
(In)	(mm)	(In)	(mm)	(In)	(mm)	(In)	(mm)	(In)	(mm)	PSI (kg/cm')	PSI (kg/cm')
2(1/2)	65	2.875	73	±0.007	0.18	0.203	5.16	0.024	0.61	300 (20.00)	75 (5.17)
3	80	3.5	88.9	±0.008	0.2	0.216	5.49	0.026	0.66	260 (17.9)	65 (4.48)
4	100	45	114.3	±0.009	0.23	0237	6.2	0.028	0.71	220 (15.2)	55 (3.79)

Dimensional Details of CPVC 4120 SCH-80 Pipe with Maximum Water Pressure Rating as per **ASTM F-441**

Nominal Size		Outside Diameter (mm)				Wall Thickness (mm)				Pressure at 27°C	Pressure at 82°C
		Average		Tolerance		Minimum		Tolerance			
(In)	(mm)	(In)	(mm)	(In)	(mm)	(In)	(mm)	(In)	(mm)	PSI (kg/cm')	PSI (kg/cm')
2(1/2)	65	2.875	73	±0.007	0.18	0.276	7.01	0.033	+0.84	420 (29.0)	105 (7.24)
3	80	3.5	88.9	±0.008	0.2	0.30	7.62	0.036	0.66	370 (25.5)	90 (6.20)
4	100	4.5	114.3	±0.009	0.23	0.337	8.56	0.040	+1.02	320 (22.1)	80 (5.51)

CPVC Fittings in SDR 11 as per ASTM D-2846

COUPLER
½" - 2"

REDUCING COUPLER
1" X¾" - 1½"X1"

ELBOW 90°
½" - 2"

ELBOW 45°
¾" - 1"

REDUCING ELBOW
1" X¾" - ¾"x½"

TEE
½" - 2"

REDUCING TEE
1"x¾" - 2"x1½"

UNION
½" - 2"

CROSS TEE
¾" - 1¼"

BALL VALVE
½" - 2"

STEP OVER BEND
¾" - 1"

TANK CONNECTOR
½" - 2"

END CAP
½" - 2"

END PLUG THREADED
½" - ¾"

REDUCING MALE ADAPTOR PLASTIC THREADED
¾"X12"

REDUCING FEMALE ADAPTOR PLASTIC THREADED
¾"X½"

MALE ADAPTOR PLASTIC THREADED
½" -2"

FEMALE ADAPTOR PLASTIC THREADED
½" -2"

REDUCING BUSH
¾"X½" - 2"X1"

REDUCING FEEMALE ELBOW BRASS THREADED
¾"X½" - 1"X¾"

FEMALE ELBOW BRASS THREADED
½" - 1¼"

REDUCING MALE ELBOW BRASS THREADED
¾"X½" - 1"X½"

FEMALE TREE BRASS THREADED
½" - 1¼"

REDUCING FEMALE ADAPTOR BRASS THREADED
¾"X½" - 1"X ½"

REDUCING FEMALE TEE BRASS THREADED
¾"X½" - 1"X ½"

MALE ADAPTOR BRASS THREADED
½" - 2"

FEMALE ADAPTOR BRASS THREADED
½" - 2"

CPVC SOLVENT (YELLOW)
25mm - 946mm

Installation Guide

MEASURING: In order to make a proper and neat joint, we should measure the pipe length accurately and make a visible marking using a pen. Ensure that the Pipe and Fittings are compatible.

CUTTING: We can cut the Pipe easily with a sharp saw/cutter. Cutting the Pipe as squarely as possible (at 90^0) provides optimal bonding area within a joint.

Inspect Pipe ends thoroughly prior to make a joint. If a crack or splintering is noticed cut off a minimum of 25 mm beyond the visible crack before proceeding

DEBURING/BEVELING: Burrs in and on end can obstruct flow or proper contact between the Pipe and socket of the Fitting during assembly and should be remove from both in and outside of the Pipe.

A slight bevel end of the Pipe will ease entry of the Pipe into the socket of the Fitting socket.

FITTING PREPERATION: Use a clean dry cloth, wipe the dirt and moisture from the Fittings, sockets and Pipe. Dry fit the Pipe to ensure total entry into the bottom of the Fittings socket and make a visible marking using a dark pen.

SOLVENT CEMENT APPLICATION: Use only APL Apollo CPVC Cement to ensure a perfect solvent weld joint. When making a joint, apply an even coat of cement on the Pipe end & also inside the Fitting socket.

Do not use thickened or lumpy solvent cement; it should have a flow consistency like syrup.

ASSEMBLY: Immediately after applying the solvent, insert the Pipe into the socket. Rotate the Pipe ½ or ¼ while inserting. This motion ensures an even distribution of cement within the joint. Properly align the Fittings and leave it for 10-20 seconds to allow the joint set-up.

Our Product Range

uPVC Plumbing System :	APL Apollo uPVC Plumbing System (as per ASTM D-1785 & ASTM D-2467) being lead-free and non-toxic is favourable for carrying potable water. It is used for high pressure water distribution plumbing in residential, commercial and industrial buildings.
Pressure Pipes & Fittings :	These pipes and fittings are used in variety of applications like irrigation , water supply, industrial process line, swimming pools, fire fightning, etc.
SWR Drainage System :	APL Apollo uPVC SWR Piping System (as per IS:14735-99 & IS:13592-92) is an easy & economical product, ideal for drainage of soil waste and rain water application in residential, commercial and Industrial buildings.
Column Pipes :	APL Apollo Column Pipes are manufactured for borewell / submersible pumps which offer many advantages like-light weight, high tensile load capacity, leak-proof joints and long life with economy and hence, emerges as the best option for conventional metal pipes.
Well Casing Pipes :	APL Apollo uPVC Well Casing Pipes an ideal preference for applications like protection of domestic, irrigation, industrial and mining borewells.
HDPE Pipes :	HDPE is strongly resistant to stress cracking and has low creep rupture properties. It has excellent insulation properties over a wide range of frequencies and is not chemically active.
Sprinkler System :	APL Apollo Sprinkler System (as per IS:14151) is suitable for almost all field crops like wheat , gram, pulses as well as vegetables, cotton, soya bean, tea, coffee and other fodder crops, Suitable for residential, industrial, hotel, resorts, public & government enterprises, golf links, race courses, etc.

Apollo Pipes Ltd.
37, Hargobind Enclave, Vikas Marg, New Delhi - 110092
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