

# CPVC

## Pipes & Fittings

Promising Quality and Reliability for Life



Ideal Solution for **H**ot & **C**old Potable Water Distribution



Apollo Pipes Limited (APL) is a part of the Sudesh Group of Industries and popularly known as the sister concern of the iconic flagship company of the group - "APL Apollo Tubes Limited".

APL business activities are focused on the development, manufacturing and distribution of plastic piping systems under the brand name of APL Apollo. The product range complies to a host of national and international standards. We provide solutions for complete water cycle, energy and power distribution, telecommunication networks and various other industrial applications.

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 15mm (½") and 50mm (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 & IS-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 ASTM D-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 ½" 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 pre-requisites for a plumbing system, APL Apollo CPVC Pipes & Fittings are the perfect solution.





# Salient Features & Benefits

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

- Suitable for use upto 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-in-weight
- Easy-to-install
- 100% leak-proof



## Applications

APL Apollo range of 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.

## Standard Compliance

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

ASTM D-1784	Standard specification for Rigid Poly Vinyl Chloride (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
ASTM D-2846 / IS-15778	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipes for Hot & Cold water distribution system.
ASTM F-439	Standard Specification for Socket-type Chlorinated Poly (Vinyl Chloride) Plastic Pipes & Fittings (SCH-80).
ASTM F-441	Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipes (SCH-40 & 80).
ASTM F-438	Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) Plastic Pipes & Fittings (SCH-40).
ASTM F-493	Standard Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipes & Fittings.





Performance Characteristics	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 lead 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 and requires higher insulation	Extremely high thermal conductivity increases heat loss and requires higher insulation	Higher thermal conductivity than CPVC; more heat loss 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 and sustain burning
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	Joining 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	—

## Range of Fittings



TEE



FEMALE TEE BRASS THREADED



ELBOW 90°



COUPLER



REDUCING COUPLER



REDUCING TEE



UNION



REDUCING BUSH



BALL VALVE



END CAP



FEMALE ELBOW BRASS THREADED



MALE ADAPTOR PLASTIC THREADED



REDUCING MALE ADAPTOR BRASS THREADED



REDUCING FEMALE ADAPTOR BRASS THREADED

and more...



# 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 <sup>2</sup> )	(MPa)	(kg/cm <sup>2</sup> )	(MPa)
½	15	15.9	±0.1	1.65	±0.25	21.8	2.18	5.5	0.55
¾	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
1¼	32	34.9	±0.1	2.85	±0.25	21.8	2.18	5.5	0.55
1½	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		Outside Diameter (mm)		Wall Thickness (mm)		Pressure at 27° C		Pressure at 82° C	
(in)	(mm)	Average	Tolerance	(mm)	Tolerance	(kg/cm <sup>2</sup> )	(MPa)	(kg/cm <sup>2</sup> )	(MPa)
½	15	15.90	±0.1	1.95	±0.25	27.6	2.76	6.8	0.68
¾	20	22.20	±0.1	2.25	±0.25	27.6	2.76	6.8	0.68
1	25	28.60	±0.1	2.85	±0.25	27.6	2.76	6.8	0.68
1¼	32	34.90	±0.1	3.45	±0.25	27.6	2.76	6.8	0.68
1½	40	41.30	±0.1	4.05	±0.25	27.6	2.76	6.8	0.68
2	50	54.30	±0.1	5.20	±0.30	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				Wall Thickness				Pressure at 23° C		Pressure at 83° C	
		Average		Tolerance		Minimum		Tolerance					
(in)	(mm)	(in)	mm	(in)	(mm)	(in)	(mm)	(in)	(mm)	PSI (kg/cm <sup>2</sup> )	PSI (kg/cm <sup>2</sup> )		
2½	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	4.5	114.3	±0.009	0.23	0.237	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				Wall Thickness				Pressure at 73.4° F/23° C		Pressure at 180° F/83° C	
		Average		Tolerance		Minimum		Tolerance					
(in)	(mm)	(in)	mm	(in)	(mm)	(in)	(mm)	(in)	(mm)	PSI (kg/cm <sup>2</sup> )	PSI (kg/cm <sup>2</sup> )		
2½	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	0.20	0.30	7.62	0.036	+0.91	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)		

## Consumption of Solvent Cement

Pipe Size (inch)	½	¾	1	1¼	1½	2
No. of Joints (per ltr.)	1200	750	500	450	325	225



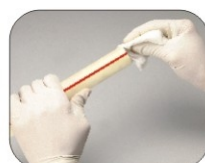
Measuring



Cutting



Deburring



Cleaning



Solvent Application



Joining

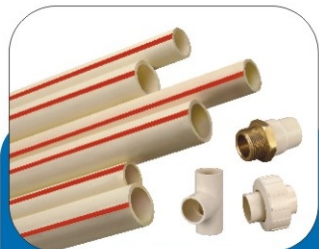
Disclaimer: Specifications are subject to change without prior notification.



# Why APL Apollo CPVC?

Apollo Pipes Limited (APL) is a part of the Sudesh Group of Industries and is engaged in the manufacturing of a wide variety of pipes and tubes for the last two decades. In view of our manufacturing excellence, experience and a vision for innovation, we at APL decided to introduce our all-new range of CPVC Pipes & Fittings especially meant for those who settle for nothing but the best. APL Apollo CPVC Pipes & Fittings are not only light weight and convenient-to-use but also help reduce labor and added expenses during installation. Our CPVC Pipes & Fittings can sustain years of use to provide you with water that is safe for drinking and for other potable water applications.

## Our Product Range



CPVC  
Pipes & Fittings



uPVC Plumbing  
Pipes & Fittings



uPVC Pressure  
Pipes & Fittings



uPVC  
Well Casing Pipes



uPVC  
Column Pipes



uPVC SWR  
Pipes & Fittings



HDPE Pipes



Sprinkler  
System



Black/ G.I.  
Steel Pipes



Pre-galvanised  
Pipes & Coils



Hollow  
Sections

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