

ajay **FLOWGUARD**[™]
CPVC Pipes & Fittings

Plumbing for Life[™]

CPVC

Pipes and Fittings
for
Hot and Cold Water



Product Catalogue

ajay FlowGuard™ CPVC Pipes and Fittings

THE MOST ADVANCED HOT AND COLD WATER PLUMBING SOLUTION FOR NEW GENERATION

ADVANTAGES

The system offers

- Tremendous durability
- Enormous cost saving
- Extraordinary safety
- Enviably reliability
- Unparalleled performance

The **ajay** FlowGuard™ Advantage :

1. Proven performance in plumbing application In the harshest of condition since 1956 globally (FlowGuard™ : recognized globally)
2. Quality assured through stringent sample testing at independent laboratories
3. Very low lifetime ownership cost making the system very cost effective.
4. Highly durable plumbing system having a designed life of 50 years.
5. NSF approved means safe for drinking water
6. Exceptional all weather corrosion resistance even against many corrosive liquids.
7. Lowest bacterial growth
8. No scaling, pitting or leaching
9. Does not sustain or support combustion
10. Low thermal expansion
11. Low thermal expansion
12. Temperature/pressure bearing capacity remains unaffected by UV exposure
13. Resistant to high levels of chlorine normally used to treat water in India
14. Good impact resistance
15. Easy and considerably fast installation with fusion compound joining system
16. Consistent and reliable jointing with substantial saving in installation costs



Ajay Flowguard CPVC Pipes and Fittings are ideal for use in:	CPVC Pipes can also be used for
• High Rise Residential Buildings	• Home and commercial building piping systems
• Condominiums	• Chemical Processing and Air Pollution systems
• Hotels	• Pulp and Paper water and drainage systems
• Office Complexes	• Fertilizer processing systems
• Commercial And Industrial Installations	• Water Service systems
• Villas And Individual Houses	• Waste Water Treatment systems
• Solar Water Heaters	• Metal Treating and Mining industry systems

Product	Item Code	Size	
		Inch	MM

CPVC PIPE

CDR-11

AIC00010H	1/2"	15
AIC00020H	3/4"	20
AIC00030H	1"	25
AIC00040H	1-1/4"	32
AIC00050H	1-1/2"	40
AIC00060H	2"	50

CPVC PIPE

CDR-13.5

AIC00010P	1/2"	15
AIC00020P	3/4"	20
AIC00030P	1"	25
AIC00040P	1-1/4"	32
AIC00050P	1-1/2"	40
AIC00060P	2"	50

CPVC TEE

AIC00210	1/2"	15
AIC00220	3/4"	20
AIC00230	1"	25
AIC00240	1-1/4"	32
AIC00250	1-1/2"	40
AIC00260	2"	50

CPVC ELBOW 90°

AIC00110	1/2"	15
AIC00120	3/4"	20
AIC00130	1"	25
AIC00140	1-1/4"	32
AIC00150	1-1/2"	40
AIC00160	2"	50
AIC00121	3/4" x 1/2"	20X15
AIC00131	1" x 1/2"	25X15
AIC00132	1" x 3/4"	25X20

CPVC ELBOW 45°

AIC00310	1/2"	15
AIC00320	3/4"	20
AIC00330	1"	25
AIC00340	1-1/4"	32
AIC00350	1-1/2"	40
AIC00360	2"	50

CPVC PREDRILL PLASTIC

AIC01010	1/2"	15
AIC01020	3/4"	20

STEP OVER BAND

AIC01210	1/2"	15
AIC01220	3/4"	20
AIC01230	1"	25
AIC01240	1-1/4"	32

CPVC REDUCING TEE

AIC00211	1/2"x1/2"x3/4"	15 x 15 x 20
AIC00221	3/4"x1/2"x3/4"	20 x 15 x 20
AIC00231	3/4"x3/4"x1/2"	20 x 20 x 15
AIC00231	3/4"x1/2"x3/2"	20 x 15 x 15
AIC00231	1"x1/2"	25 x 25 x 15
AIC00231	1"x3/4"	25 x 25 x 20
AIC00241	1-1/4"x1/2"x1/2"	32 x 32 x 15
AIC00241	1-1/4"x1/4"x3/4"	32 x 32 x 20
AIC00241	1-1/4"x1/4"x1"	32 x 32 x 25
AIC00251	1-1/2"x1-1/2"x1/2"	40 x 40 x 15
AIC00252	1-1/2"x1-1/2"x3/4"	40 x 40 x 20
AIC00252	1-1/2"x1-1/2"x1"	40 x 40 x 25
AIC00254	1-1/2"x1-1/2"x1-1/4"	40 x 40 x 32
AIC00261	2" x 2" x 1/2"	50 x 50 x 15
AIC00262	2" x 2" x 3/4"	50 x 50 x 20
AIC00263	2" x 2" x 1"	50 x 50 x 25
AIC00264	2" x 2" x 1-1/4"	50 x 50 x 32
AIC00265	2" x 2" x 1-1/2"	50 x 50 x 40

CPVC REDUCER BUSHING

AIC00401	3/4" x 1/2"	20 x 15
AIC00401	1" x 1/2"	25 x 15
AIC00402	1" x 3/4"	25 x 20
AIC00401	1-1/4" x 1/2"	32 x 15
AIC00402	1-1/4" x 3/4"	32 x 20
AIC00401	1-1/4" x 1"	32 x 25
AIC00402	1-1/2" x 1/2"	40 x 15
AIC00403	1-1/2" x 3/4"	40 x 20
AIC00403	1-1/2" x 1"	40 x 25
AIC00404	1-1/2" x 1-1/4"	40 x 32
AIC00401	2" x 1/2"	50 x 15
AIC00402	2" x 3/4"	50 x 20
AIC00403	2" x 1"	50 x 25
AIC00404	2" x 1-1/4"	50 x 32
AIC00405	2" x 1-1/2"	50 x 40

Product	Item Code	Size	
		Inch	MM

CPVC EXPANSION JOINT

AIC01710U	1/2"	15
AIC01720U	3/4"	20
AIC01730U	1"	25
AIC01740U	1-1/4"	32
AIC01750U	1-1/2"	40
AIC01760U	2"	50

CPVC END CAP

AIC00610	1/2"	15
AIC00620	3/4"	20
AIC00630	1"	25
AIC00640	1-1/4"	32
AIC00650	1-1/2"	40
AIC00660	2"	50

CPVC UNION

AIC01110	1/2"	15
AIC01120	3/4"	20
AIC01130	1"	25
AIC01140	1-1/4"	32
AIC01150	1-1/2"	40
AIC01160	2"	50

CPVC BALL VALVE

AIC00910	1/2"	15
AIC00920	3/4"	20
AIC00930	1"	25
AIC00940	1-1/4"	32
AIC00950	1-1/2"	40
AIC00960	2"	50

CPVC TANK NIPPLE

AICTN001	1/2"	15
AICTN002	3/4"	20
AICTN003	1"	25
AICTN004	1-1/4"	32
AICTN005	1-1/2"	40
AICTN006	2"	50

CPVC PPE CLAMP (METAL)

AIC01010M	1/2"	15
AIC01020M	3/4"	20
AIC01030M	1"	25
AIC01040M	1-1/4"	32
AIC01050M	1-1/2"	40
AIC01060M	2"	50

TRANSITION BUSHING

AIC00410M	1/2"	15
AIC00420M	3/4"	20
AIC00430M	1"	25
AIC00440M	1-1/4"	32
AIC00450M	1-1/2"	40
AIC00460M	2"	50

Product	Item Code	Size	
		Inch	MM

CPVC BRASS MTA FIXED

AICT0810M	1/2"	15
AICT0820M	3/4"	20
AICT0830M	1"	25
AICT0840M	1-1/4"	32
AICT0850M	1-1/2"	40
AICT0860M	2"	50
AICT0821M	3/4" x 1/2"	20 x 15

CPVC MTA

AIC0810P	1/2"	15
AIC0820P	3/4"	20
AIC0830P	1"	25
AIC0840P	1-1/4"	32
AIC0850P	1-1/2"	40
AIC0860P	2"	50
AIC0821P	3/4" x 1/2"	20 x 15

CPVC BRASS MTA UNION

AICT0810U	1/2"	15
AICT0820U	3/4"	20
AICT0830U	1"	25
AICT0840U	1-1/4"	32
AICT0850U	1-1/2"	40
AICT0860U	2"	50

CPVC BRASS FTA FIXED

AICT0710M	1/2"	15
AICT0720M	3/4"	20
AICT0730M	1"	25
AICT0740M	1-1/4"	32
AICT0750M	1-1/2"	40
AICT0760M	2"	50
AICT0721M	3/4" x 1/2"	20 x 15
AICT0731M	1" x 1/2"	25 x 15

CPVC BRASS FTA UNION

AICT0710U	1/2"	15
AICT0720U	3/4"	20
AICT0730U	1"	25
AICT0740U	1-1/4"	32
AICT0750U	1-1/2"	40
AICT0760U	2"	50

END PLUG

AIC01310P	1/2"	15
AIC01320P	3/4"	20

CPVC FUSION COMPOUND

AIC02001P	29 ML
AIC02005P	59 ML
AIC02010P	118 ML
AIC02020P	237 ML
AIC02030P	473 ML
AIC02040P	946 ML

CPVC REDUCER COUPLING/ SOCKET

AIC00510	1/2"	15
AIC00520	3/4"	20
AIC00530	1"	25
AIC00540	1-1/4"	32
AIC00550	1-1/2"	40
AIC00560	2"	50
AIC00521	3/4" x 1/2"	20 x 15
AIC00531	1" x 1/2"	25 x 15
AIC00532	1" x 3/4"	25 x 20
AIC00541	1-1/4" x 1"	32 x 25

CPVC BRASS TEE

AICT0211	1/2" x 1/2" x 1/2"	15 x 15 x 15
AICT0212	3/4" x 3/4" x 1/2"	20 x 20 x 15
AICT0213	1" x 1" x 1/2"	25 x 25 x 15

CPVC BRASS ELBOW

AICT0110M	1/2" x 1/2"	15x15
AICT0120M	3/4" x 3/4"	20x20
AICT0130M	1" x 1"	25x25
AICT0140M	1-1/4" x 1-1/4"	32x32

CPVC CROSS

AIC0210	1/2"	15
AIC0220	3/4"	20

STANDARDS AND CODE COMPLIANCE

ajayFlowGuard™ CPVC plumbing pipes comply with the following :-

- APPROVED BY BUREAU OF INDIAN STANDARD IS 157778 : 2007 (BIS)
- ALSO COMPLIES TO ASTM D 2846/F493
- ISO-9001: 2000
- APPROVED BY CENTRAL PUBLIC WORKS DEPARTMENT (CPWD)
- CERTIFIED BY SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH (SIIR)
- CERTIFIED BY CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY (CIPET)
- APPROVED BY CENTRAL BUILDING RESEARCH INSTITUTE-ROORKEE (CBRI)
- APPROVED BY CENTRAL FOOD TECHNOLOGY RESEARCH INSTITUTE-MYSORE (CFTRI)
- APPROVED BY NATIONAL BUILDING CONSTRUCTION CORPORATION LIMITED (NBCC)
- APPROVED BY INDIAN RAILWAY WELFARE ORGANISATION (IRWO)
- APPROVED BY MUNICIPAL CORPORATIONS OF GREATER MUMBAI (BMC)
- ALL MATERIALS USED TO MANUFACTURE AJAY FLOWGUARD ARE NSF CERTIFIED FOR POTABLE WATER APPLICATION

TECHNICAL DETAILS

Outside Diameter and Wall Thickness For CPVC 4120, SDR 11 & SDR 13.5 Plastic Pipe

Nominal Size		Avg. OD MM		Tolerance	Min. Wall Thickness MM		Tolerance
INCH	MM	SDR 11	SDR 13.5	MM	SDR 11	SDR 13.5	MM
1/2"	15	15.90	15.90	+/- 0.08	1.73	1.40	+ 0.51
3/4"	20	22.20	22.20	+/- 0.08	2.03	1.65	+ 0.51
1"	25	28.60	28.60	+/- 0.08	2.59	2.12	+ 0.51
1-1/4"	32	34.90	34.90	+/- 0.08	3.18	2.59	+ 0.51
1-1/2"	40	41.30	41.30	+/- 0.10	3.76	3.06	+ 0.51
2"	50	54.00	54.00	+/- 0.10	4.90	4.00	+ 0.58

CPVC 4120 CTS SDR 11 Pipe Pressure Rating vs Temperature Table

Operating Temperature	Working Pressure Rating (kg/cm ²)	
	SDR 11	SDR 13.5
	1/2", 3/4", 1", 1 1/4", 1 1/2", 2"	1/2", 3/4", 1", 1 1/4", 1 1/2", 2"
23°C	28.10	22.50
27°C	28.10	22.50
32°C	25.57	20.48
38°C	23.05	18.45
43°C	21.64	17.33
49°C	18.27	14.63
54°C	17.42	13.95
60°C	14.05	11.25
66°C	13.21	10.58
71°C	11.24	9.00
77°C	8.99	7.20
82°C	7.03	5.63
93°C	5.62	4.50

Ajay Flowguard SDR 11 Pipe and Fittings can withstand a 10 Kg/cm² pressure test at 99°C for 48 hours.
 At 82°C, CPVC withstands a pressure of 26 Kg/cm² for 4 hrs and a pressure of 37 Kg/cm² for 6 minutes.

Approximate Number Of Joints That Can Be Made With One Fusion Compound (Solvent Cement) Can

Nominal Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
	MM	15	20	25	32	40	50
Approx. Number of Joints Per Can	50 ml	35	23	15	14	10	07
	118 ml	82	55	34	33	23	17
	237 ml	164	110	68	66	46	34
	473 ml	328	220	136	132	92	68
	946 ml	656	440	272	264	184	136

Recommended Horizontal Support Spacing (Distance between pipe clamps)

Nominal Pipe Size		23°C		38°C		60°C		82°C	
inch	mm	Ft.	Mt.	Ft.	Mt.	Ft.	Mt.	Ft.	Mt.
1/2	15	4.0	1.22	4.0	1.22	3.5	1.07	3	0.92
3/4	20	5.0	1.53	4.5	1.37	4.0	1.22	3	0.92
1	25	5.5	1.68	5.0	1.53	4.5	1.37	3	0.92
1-1/4	32	6.0	1.83	5.5	1.68	5.0	1.53	4	1.22
1-1/2	40	6.5	1.98	6.0	1.83	5.5	1.68	4	1.22
2	50	7.5	2.29	7.0	2.14	6.5	1.98	4	1.22

Note: Vertical CPVC piping should be supported at each floor and should have a mid-story guide, unless thermal expansion design calls for other provision.

Pressure Testing: (Please insist on pressure testing after installation from your plumber or call company representatives for assistance)

Once an installation is completed, it should be provided adequate time to cure before undertaking pressure testing or use. Kindly refer to the below mentioned cure timetables.

Joining Procedure

- Cut pipe straight (very important). This will allow pipe to bottom into the socket.
- Remove burr (shaving), use clean dry cloth or knife. Do not use abrasive material.
- Clean pipe and fitting & ensure no dirt, grease or any other foreign matter
- Check dry fit. Pipe should easily go into the socket 1/3 to 2/3 of the way before any resistance is felt. This is commonly referred to as interference fit. If pipe goes to the bottom of the fitting without any resistance (interference) ensure fitting is correct size. If it is not correct size get another fitting.
- Apply a thin coat of cement into the fittings socket and a full even coat on the pipe to the depth of socket bottom. Do not puddle cement in socket.
- Insert pipe into the socket quickly while cement is still fluid (wet), if cement has dried, re-coat pipe and fitting. Twist pipe turn, this will allow cement to cover any dry spot. Make sure pipe goes all the way to the bottom of the fitting.
- Hold pipe and fitting together(30 second) to make sure pipe does not push out.
- Wipe off excess cement with clean dry cloth.
- Allow cement to cure before applying water (fluid) pressure. Cure time is dependent upon temperature, humidity etc however under normal conditions, allow 24 hours cure time.



Frequently Asked Questions (FAQ'S)

1. What is Ajay Flowguard CPVC?

- Ajay Flowguard pipe and fittings are made from a specialty plastic known chemically as chlorinated polyvinyl chloride (CPVC). Flowguard CPVC is the result of new technology that ensures increased product toughness year round. Ajay Flowguard CPVC pipes and fittings are designed for potable hot and cold-water distribution and are assembled with commonly used or special inexpensive tools. CPVC Fusion Compound Joining- proven with more than 40 years of successful service history - assure the reliability of a Flowguard plumbing system. Ajay Flowguard pipe and fittings are available in copper tube sizes (CTS) from 1/2" to 2". Quality of both Special CPVC raw materials as well as finished products is very stringently controlled by Noveon Inc. and is supplied to licensed manufacturers only.

2. Can we use combination of Ajay Flowguard other piping systems? (Example Flowguard for Hot and UPVC/GI for Cold) ?

- NO! We do not recommend such mix-n-match combinations. In case, GI is used in a Plumbing System, all the advantages of Ajay Flowguard will be lost because of contamination from the rust and other disadvantages of GI Pipes. UPVC pipes are not designed and cannot be used for Hot water distribution. Many times during peak summer time, water from the storage tanks become hotter than what UPVC pipes can withstand which can cause failure of the system. Sometimes even the backflow of Hot water into the system can adversely affect the UPVC system. Further there is always a chance of mistake during installation of plumbing system or the heating device (Geyser/Solar Heater), which surely will lead to failure of the system. There is also a chance that the Solvent-cement/Fusion-Compound for CPVC and UPVC might get interchanged, which will also cause system failure. In the worst case of a leakage it would be difficult to pinpoint the blame on one of different suppliers. Lastly there is the problem of keeping inventory of different pipes, fittings, fusion compounds, installation tools and dealing with different suppliers, which will add to the cost.

3. What is the expected life of Ajay Flowguard CPVC ?

- Flowguard has been in use successfully for the past 40 yrs. The Flowguard Hot & Cold Water Plumbing System has been designed for a service life of 50 Yrs.

4. Is Ajay Flowguard Cost Effective?

- Flowguard system has been successfully performing worldwide for over 40 yrs and has a designed life of minimum 50 yrs. The system requires low initial investment and lowest installation cost and hence has one of the lowest lifetime ownership cost.

5. Are CPVC Pipes prone to cracking?

- Ajay Flowguard is made from very high quality 100% imported raw material stringently controlled by Noveon. Superior processing technique adopted by Ajay ensures that Ajay Flowguard pipes have considerably higher impact strength (which resists cracking) than any other competitive CPVC product. In addition Ajay recommends SDR11 pipes only, which have higher cracking resistance than SDR 13.5 pipes.

The prime reason for cracking is rough handling, improper storage, unprofessional work practices or using dull edged cutters and may happen in lower temperatures. It can be easily avoided by educating the installers on proper handling, storage and maintenance of tools.

6. Can CPVC be used with solar water heater?

- Yes, CPVC works very well with solar water heater. However, certain necessary precaution are recommended as listed below
 - Venting to be provided at the outlet of the solar water heater for protection against steam formation.
 - Only SDR 11 piping is recommended to be used.
 - Use CPVC to brass transition fittings for all threaded connections.
 - Expansion loops have to be provided on all exposed piping carrying hot water.
 - Insulating the hot water piping will tremendously increase the efficiency of the system and save energy.
 - In addition to the above, in case of fuel fired (coal/wood/oil/gas) water heaters CPVC installation should be start at least 5' ft away from the heat source to protect CPVC from excessive radiant/convective heat. The first installation may be made with metallic piping.

7. Where can we use Ajay Flowguard?

- Ajay Flowguard is suitable for all Potable water supply & Hot & Cold water plumbing. It can also be used in Solar water Heaters & other hot water piping systems. The system is ideal for use in High-rise buildings, commercial/residential complexes, Small houses/villas, Farm-houses, etc.

8. Can a regular plumber install Ajay Flowguard?

- The installation is so simple that your plumber just cannot go wrong. No special technique or tools are required for Flowguard. In fact, Ajay Flowguard Hot & Cold Water Plumbing System is sold as a Do-It-Yourself system in the West.

9. Is Ajay Flowguard UV Resistant?

- While Ajay Flowguard is UV resistant it may discolour in sunlight without affecting the pressure/temperature bearing capability of the Pipe. In any case we recommend painting the exposed piping with any water-based paint.

10. Is Ajay Flowguard affected by Chlorine in treated Water?

- Unlike polymers like PPR and PEX, Flowguard CPVC is unaffected by Chlorine in treated water. Even a high concentration of 3000 PPM does not have an adverse effect on Flowguard.

11. In case somebody drills a hole in the pipe by mistake, can it be repaired?

- Yes, repairing a hole in CPVC is very easy and requires a very small pipe area to be exposed. A small piece (big enough to extend atleast half the pipe OD from both sides of the hole) of same size pipe is cut. This piece is again cut laterally such that a "patch" with an angle of approx. 200-270 Degree is formed. Now the pipe with the hole is thoroughly cleaned of all dirt, cement and water. Fusion Compound is then applied to the pipe around the hole and also on the patch. The Patch is then snap fit into place and tied with a small piece of wire on to the pipe. A properly joint patch will give almost the same pressure rating as the original pipe. This is very similar to repairing a tyre tube puncture.

12. Are Ajay Flowguard products easily available?

- Flowguard Hot & Cold Water Plumbing System is available in CTS (Copper Tube Sizes) 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" along with all associated fittings from your nearest distributor.



Manufactured & Marketed by:

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FlowguardTM is an unchallenged global brand in the field of plumbing systems recognized worldwide since 1959 and is a registered Trademark of Noveon, USA (Formerly B.F. Goodrich) A part of LUBRIZOL Corp.

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