AJAY
PLUMBING FOR LIFE

FLOWLINE PLUS

CPVC PIPES & FITTINGS

25% Higher Performance

NSF/ANSI 14
IAPMO-I
TM

NSF/ANSI 61
IAPMO-I
TM

COMPLETE SOLUTION FOR HOT AND COLD WATER PLUMBING

Product listed in (IAMPO.ORG) are NSF Certified

www.ajaypipes.com

ABOUT US

Ajay Pipes is part of an over 50 year old organization, a leader in plumbing & drainage solutions offering complete range of piping products for internal and external use. The company offers advanced engineered, value added and superior quality products through its multi-locational manufacturing, nationwide dealer network and support team.

The company has been the pioneer in

- UPVC pipe
- Reinforced suction Hose
- Reinforced Layflat Hose
- UPVC Corrugated pipes
- Handpumps

MISSION

"To ensure customer service & satisfaction by providing high quality plastic piping solutions through a ubiquitous distribution network, spreading product awareness and constantly improving manufacturing and operational efficiencies through systems and result oriented, competent manpower resources thereby creating sustained value for all our customers and stakeholders while maintaining high ethical standards"

CORE VALUES

- Invest in Quality of People First
- Go the Last Mile for the Customer
- Focus on Innovation & Speed
- Run Lean & Unbureaucratic
- Improve Performance every singleday
- Act Honestly, with Integrity & Citizenship
- Work Hard, Oriented to Results, yet have fun

INFRASTRUCTURE

- Factories at Pune and Delhi
- Certified ISO 9001, ISO 14001 and OHSAS 18001
- Pipes manufactured using latest twin screw technology
- Fittings using advanced injection molding technique
- 11 Warehouses in different parts of the country
- Well equipped Tool rooms
- Full equipped laboratories and development facilities
- 500+ strong distribution network
- Trained sales force

OTHER DIVISIONS

- Handpumps • Screen and Casing pipes
- Reliefline products • Tubelight Fixtures
- Mainline electrical power outlet system
- Customised extruded profiles

DELHI OFFICE


PUNE PLANT

AJAY MANUFACTURES COMPLETE RANGE OF:

AJAY GREENLINE UPVC PIPES & FITTINGS

FEATURES AND BENEFITS

- Manufactured from environment friendly virgin UPVC Compounds
- Lead free material does not affect water quality for human health
- Does not corrode
- Does not support scaling even in hard water conditions.
- High strength.
- All weather UV resistance.
- Does not support combustion.
- Good impact resistance.
- Fast and Easy installation
- Consistent and reliable jointing
- Stringent quality control
- Cost effective with very low lifetime ownership cost
- Ajay Greenline is fully compatible with cold water plumbing system

RANGE AVAILABE

UPVC Pipes – SCH 40 - 1/2" to 8"
UPVC Pipes – SCH 80 - 1/2" to 8"

Fittings – SCH 80 - 1/2" to 8"
Fittings – SCH 40 - 2 1/2" to 4"
Ball Valves, Unions & Flanges
Solvents & Primers

LEADFREE
UV RESISTANT

AJAY DRAINLINE SWR PIPES & FITTINGS

DM SEAL
Engineered For Superior Performance

FEATURES AND BENEFITS

- Quick & Easy Installation due to Light weight pipes & Fittings.
- Leak proof joints.
- Maintenance free systems.
- All pipe & fittings in strict compliance to standards.
- Available in Ring fit jointing & solvent fit jointing systems
- Full range of pipe & fittings
- Pipe manufactured using latest twin screw technology & fittings using latest injection molding technology.
- Corrosion & rust proof.
- Chemical resistant {Specially to most household chemicals}
- High flow rate with smooth & no scaling or depositions.

RANGE AVAILABE

SWR Pipe - Solvent Fit and Ring Fit
Size: 75 mm, 90 mm, 110 mm, 160 mm

AGRI Pipe - 20 mm, 25 mm, 32 mm, 40 mm, 63 mm, 75 mm, 90 mm, 110 mm, 140 mm, 160 mm, 180 mm, 200 mm, 225 mm, 250 mm, 315 mm

SWR Fittings - Solvent Fit and Ring Fit
Type: 75 mm, 90 mm, 110 mm, 160 mm

AGRI Fittings - 40 mm, 50 mm, 63 mm, 75 mm, 90 mm, 110 mm,

WC & Pan Connectors

Wash Basin & Sink Bottle Traps & P-Traps

Air Admittance Valves

Aerator

AJAY TERRALINE UDS PIPES & FITTINGS

ANTI RODENT

FEATURES AND BENEFITS

- Freedom from leakage
- Long life
- Anti-rodent
- Easy transportation, light in weight and easy to handle
- Fast and easy installation, even in wet conditions
- Resistance to abrasion, smooth bore pipe with longer intervals between joints reduces the risk of blockage
- Resistance to high temperatures (40°C @ constant flow and 60°C @ short-term flow)
- Good Impact resistance
- Guaranteed stiffness

RANGE AVAILABE

PIPES - Foam Core Type
Class - SN 2/ SN 4/ SN 8
Size - 110/160/200/250/315
Fitment - Ring Fit & Solvent Fit

FITTINGS
Class - SN 4
Size - 110/160/200/250/315
Fitment - Ring Fit & Solvent Fit

VALVES & TRAPS
Non-Return Valve – 110 & 160
Bottle Gully Trap – 110
Low Back & Long Body P-Trap – 110
Swivel Adapter – 110 & 160

INSPECTION CHAMBERS WITH ACCESSORIES
Size – 315 & 450
Type: Multi – Inlet Universal
Shaft – Riser Pipe
Frame & Cover – Circular Type A
End Plugs – 110 & 160

WHY AJAY FLOWLINE PLUS

A) Ajay is an over 50 year old manufacturing organization with a focus on plastic extrusion. The company is highly engineering focussed with a mandate to offer only the best plumbing products in the country. Our products are designed to offer :

- Ease of Use
- Superior performance
- Improved durability

B) Raw Material: Ajay Flowline Plus is manufactured from advanced NSF certified CPVC Compounds.

C) Ajay Flowline Plus is the most certified CPVC system in India.

Refer to Page No. 9

D) Ajay Flowline Plus incorporates the latest innovation in CPVC polymer technology which offers 25% higher pressure rating at elevated temperatures and substantially increased impact strength when compared to generic CPVC

E) Unique performance enhancing features designed and offered only by Ajay (Copyright protected)
Refer to Page No. 6

F) Complete Range: Ajay offers a complete range of pipe and fittings from ½" upto 6" with all Pipes, Fittings, Ball Valves, Primers and Solvent cements.

G) Availability: Products available throughout the country through network of 11 Warehouses & over 500 Dealers & Distributors.

H) Onsite Training: a brief session that covers Do's and Dont's, Things to remember and good practices in an attempt to reduce mistakes during installation.

HIGHLIGHTS OF FLOWLINE PLUS

25% Higher Performance

Pipe Pressure rating is upto 25% higher at higher operating temperatures compared to generic CPVC thus giving a better margin of safety, more peace of mind and cost-effectiveness for the users.

Pr. Rating of SDR 11 pipes @82°C: 8.8 Kg/cm2
Pr. Rating of SDR 13.5 pipes @82°C: 7.0 Kg/cm2

Higher Impact Strength

Pipes resistance to impact loads is 3 times compared to generic CPVC resulting in much lower handling, transportation and installation related damages.

Min. 266.9 J/m against min. 80.1 J/m

Non-Toxic

The system is approved for use with potable water and is totally safe for human health. The Raw Material as well as solvent cement comply with toxicology requirements of both American and Indian standards

NSF Certified by American and CFTRI, India.

50 Years Designed Life

The system is designed to withstand operating temperatures and pressures for a very long period of time and incorporates a factor of safety of 2. This ensures a long trouble-free performance delivering one of the lowest lifetime ownership cost for the system.

The material has a HDB of 1250 PSI @ 82°C

Leak Proof

Easy installation technique, "Perfect-fit" system and use of high performance one-step Lo-VOC Solvent Cement ensures leaf-proof performance over the lifetime of the system.

Pipe and fittings comply with ASTM D 2846 and solvent cement complies with ASTM F493

Perfect Fit System

Pipe and fittings manufactured under very close dimensional tolerance and with high level of consistency using state-of-the-art machinery.

Ajay follows tighter tolerance than those specified by the standards for a consistent interference fit.

COMPARISON CHART

Flowline Plus meeting cell class 24448	Generic CPVC as per IS 15778 meeting cell class 23447
SDR- 11	
• Higher pipe Pressure Rating at elevated temp.	• Pressure Rating lower at elevated temp.
• Higher factor of safety for the system	• Normal factor of safety
• Longer service life at same operating condition	• Normal service life
SDR- 13.5	
• Higher Pressure Rating at elevated temp.	• Lower Pressure Rating at elevated temp.
• Higher flowrate of the system for particular pressure rating	• Not applicable
• Cost benefit & Environment friendly	• No cost benefit

PRESSURE DERATING CHART

To determine the pressure rating at elevated temperatures, multiply the pressure rating at 23°C by the appropriate temperature derating factor.

Temperature	Flowline Plus Derating Factor
°C	CPVC 4120-06
23 to 27	1.00
32	0.91
38	0.83
49	0.70
60	0.57
71	0.44
82	0.31

FLOWLINE PLUS SOLVENT

- For Strong Joints
- Contains "Joint-Check Technology"
- Suitable For Potable Water Applications

Joint Made with CPVC Solvent Cement

Shine Torch on Joint

Flowline Plus Solvent

Solvent Color Changes to Bluish & Border Becomes White

Any Other Solvent

No Colour Change

OTHER FEATURES OF FLOWLINE PLUS

- Pipe passes flattening test at 100% compression.
- VST of Ajay Flowline Plus pipe compound is 112° C.
- Ajay Flowline Plus CPVC Pipe passes malfunction test of 10 kg/cm² for 1000 hrs at 95° C.
- Ajay Flowline Plus CPVC Pipe passes hydrostatic sustained pressure test of 26 kg/cm² for 4 hrs and 36 kg/cm² for 6 min at 82° C.

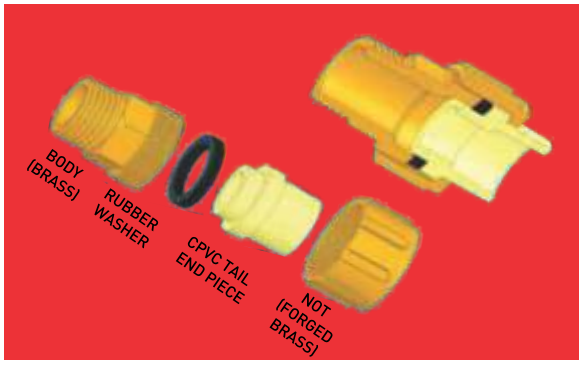
AJAY FLOWLINE PLUS: UNIQUE ADVANTAGES

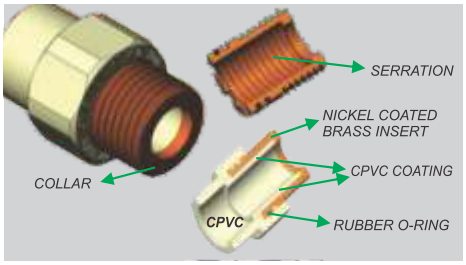
CPVC ELBOW (90°):
TWICE THE PERFORMANCE

- Curvilinear in shape & higher radius results in gradual change in direction hence smoother flow.
- More laminar the flow, lower the pressure loss.
- Pressure loss half of competitive design (certified by IIT)

UNION TYPE BRASS MTA/FTA:
TWICE THE PERFORMANCE

- Multiple Functionality: Functions as a threaded adaptor as well as union.
- Cost Effective: Requirement of union is eliminated & reduction in no. of joint.
- Convenient: Very easy to assemble and handle.
- Very convenient for use with overhead tanks & metal valves for easy maintenance.
- Absorbs expansion/contraction and vibrations.



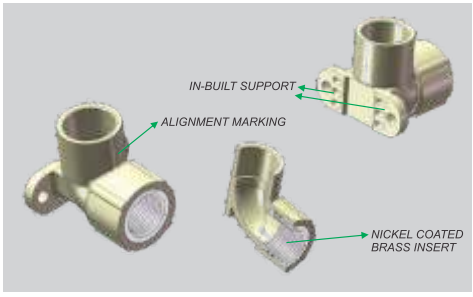


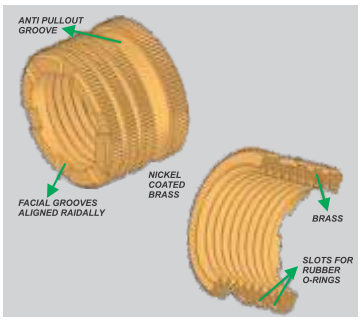
FIXED TRANSITION MTA:
TWICE THE PERFORMANCE

- Patented design MTA with CPVC coating ideal for hot & cold water.
- Special high torque brass insert.
- No Leakage due to thermal expansion/contraction.
- CPVC coating prevents water-metal contact & reduces pressure loss.
- Reduces corrosion.

BRASS ELBOW WITH DROP EAR:
TWICE THE PERFORMANCE

- Unique design with projection known as Drop-Ear.
- Contains high torque brass insert.
- Provides reference for proper alignment against the wall.
- Eliminates need of Elbow holder.
- Better stability after cementing inside wall.
- Can be screwed directly to wall.





BRASS THREADED INSERTS (MALE & FEMALE)
TWICE THE PERFORMANCE

- Made of special Brass
- Specially designed grooves and deep knurling ensures superior torque bearing capability atleast twice compared to competitive designs (certified by IIT).
- Two numbers EPDM O-rings used in female brass insert for leakage proofing.
- High pull-out resistance.

ADVANTAGES OF CPVC

- Proven Hot Water performance upto 93° C
- Manufactured from environment friendly virgin CPVC Compounds
- Safe for drinking water and human health
- Exceptional all weather corrosion resistance
- No scaling or pitting maintains flow
- Low microbial growth
- Does not support combustion
- UV resistance ensures pressure and temperature bearing capability unaffected even after long term exposure
- Low thermal expansion
- High Impact resistance
- Fast and Easy installation
- Consistent and reliable jointing
- Very low lifetime ownership cost

APPLICATIONS

Hot and Cold Water for Indoor and Outdoor use upto 93° C for

- Individual residential units
- Large residential complexes
- Commercial buildings
- Hotels and Hospitals
- Swimming Pools
- RO and DM water plants
- Industrial Applications (based on chemical resistance chart)
- For other applications, kindly check with authorised Ajay representative

Note: Not for use with compressed air and gases

QUALITY CONTROL

All pipes and fittings at Ajay undergo stringent testing for strict control of quality in order to ensure that only the best product reaches its customers. Some of the tests that are performed in-house are:

RAW MATERIALS:

- Cell Classification Test
- Tensile Strength
- Modulus of elasticity in tension
- Izod Impact Strength
- Heat Deflection Temperature under load
- Density
- Color

FITTINGS:

- Burst Pressure Test
- Heat Distortion Test
- Dimensions
- Visual Appearance
- Thermocycling Test
- Torque Test

PIPES:

- Tensile Strength Test
- Hydrostatic pressure test
  - Short Term
  - Long Term
- Maximum Burst pressure test
- Effect on water
- Drop Impact Test
- Flattening Test
- Heat Reversion Test
- Opacity Test
- UV Stability Test
- Visual Appearance
- Dimensions and Ovality
- Vicat Softening temperature test

SYSTEM:

- Malfunction Test at 95 Deg C @ 10 Kg/cm2 for 1000 Hrs.
- Hydrostatic sustained pressure test at 82 Deg C: 26 Kg/cm2 for 4 Hrs and 36 Kg/cm2 for 6 mins.
- Joint Test

CERTIFICATIONS

TRUSTWORTHINESS INSPIRES DEPENDABILITY

IAPMO Plumbing Codes and Standards India Pvt. Ltd.
No.43, 4th Floor, PMR Towers, Beratena Agrahara, Near Hosa Road junction, Bangalore, Karnataka 560100

CERTIFICATE OF LISTING

IAPMO Plumbing Codes and Standards India Private Ltd. (aka IAPMO India) is a product certification body which lists and inspects samples taken from the supplier's stock or from the market or a combination of both to verify compliance to the requirements of applicable codes and standards. This activity is coupled with periodic surveillance of the supplier's factory and warehouses as well as the assessment of the supplier's Quality Assurance System. This listing is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO India of the product acceptance by Authorities Having Jurisdiction.

Licensee: Ajay Industrial Corporation Limited, B – II/29, Mohan Co-operative Industrial Estate, Badapur Border, New Delhi 110044
Facility Location: Gate,No. 81/382, Bhor Shirwal Road, Village Wing, Tal Khandala, Dist. Satara.
File No: IN-N1068 Product: CPVC Pipes & Fittings (Drinking Water System Components - Health Effects) Void After: December 31, 2020

IDENTIFICATION: Each Pipe and tubing shall be permanently and legibly markedwith the standard designation **"NSF/ANSI 61" and NSF/ANSI 14** at a length intervals of not more than 5 ft (1.5m) with manufacturer's name or trademark, production code, material designation, pressure rating, nominal size, standard dimensional ratio, a code number identifying the compound, the date of manufacture, and the seal or mark of the laboratory making the evaluation for use in potable water applications, spaced at intervals specified by the laboratory.Each f itting shall be permanently and legibly marked with manufacturer's name or trademark, production code, material designation, and the seal or mark of the laboratory making the evaluation for use in potable water applications, spaced at intervals specified by the laboratory

CHARACTERISTICS: Each of the Chlorinated polyvinyl chloride plastic hot and cold potable water distribution system components pipes and fittings or materials or products made for hot and cold potable water distribution system components made in compliance with standard dimension ratio and intended for water application up to and including 180°F (82°C), the system comprises pipe and fittings, and only listed pipes or tubing and all range of fittings. All listed products are manufactured in compliance to ASTM D2846-2017 and to NSF/ANSI 61-2017 and NSF/ANSI 14-2016a, and are to be installed in accordance with the manufacturer's instruction and the requirements of the latest edition of the applicable code.

COMPLIANCE: Products are verified and found in compliance with NSF/ANSI 61-2017 and NSF/ANSI 14-2016a standard.

K. Chandrasekhar
Dr. K. Chandrasekhar
IAPMO India

GP Russ Chaney
CEO, The IAPMO Group

This listing period is based upon the last date of the month indicated on the Effective Date and Void After Date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of IAPMO India, or any evidence of non-compliance with applicable codes and standards or of inferior workmanship, may be deemed sufficient cause for revocation of this listing. Production of or reference to this form for advertising purposes may be made only by specific written permission of IAPMO India. Any unauthorized alteration of this certificate will be grounds for revocation of this listing.

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Licensee: Ajay Industrial Corporation Limited, B - II/29 Mohan Co-operative Industrial Estate, Badarpur Border, Delhi 110044
File No: IN-N1068-1 Product: Plastic Piping System components and related materials Void After: December 31, 2020

IDENTIFICATION: Each Pipe and tubing shall be permanently and legibly marked with the standard designation **NSF/ANSI 14** at a length intervals of not more than 5 ft (1.5m) with manufacturer's name or trademark, production code, material designation, pressure rating, nominal size, standard dimensional ratio, a code number identifying the compound, the date of manufacture, and the seal or mark of the laboratory making the evaluation for use in potable water applications, spaced at intervals specified by the laboratory. Each fitting shall be permanently and legibly marked with manufacturer's name or trademark, production code, material designation, and the seal or mark of the laboratory making the evaluation for use in potable water applications, spaced at intervals specified by the laboratory

CHARACTERISTICS: Materials or products that come in contact with drinking water and/or drinking water treatment chemicals. Products and materials may include process media, protective materials, joining and sealing materials, pipes and related products, mechanical devices used with treatment/transmission/distribution systems, and devices. To be installed in accordance with the manufacturer's instruction.
Products found in compliance with the following standard(s): NSF/ANSI 61-2017 and NSF/ANSI 14-2016a.

K. Chandrasekhar
Dr. K. Chandrasekhar
IAPMO India

GP Russ Chaney
CEO, The IAPMO Group

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NSF - National Sanitation Foundation

Product listed In (IAPMO.ORG) are NSF Certified.

Products Certified By

- CFTRI - Central Food Technology Research Institute
- SIIR - Shriram Institute for Industrial Research
- MCGM - Municipal Corporation of Greater Mumbai
- CIPET - Central Institute Plastics Engineering and Technology
- IIT - Indian Institute of Technology, Delhi
- IIT - Indian Institute of Technology, Bombay
- PWD - Public Works Department, Tamil Nadu
- BIS - Bureau of Indian Standard, Pune
- IRWO - Indian Railway Welfare Organization
- MES - Military Engineer Services, Pune
- AIR - All India Radio
- CPWD - Central Public Works Department, Assam
- CPWD - Central Public Works Department, South Zone I

Our facilities are accredited with

- ISO 9001 for Quality System Management
- ISO 14001 for Environmental Management
- OHSAS 18001 for Occupational Health & Safety Management

STANDARDS

CPVC PIPES			CPVC FITTINGS		
Class of Pipe	Standard	Sizes available	Class of Fitting	Standard	Sizes available
Class-1/SDR-11	IS:15778:2007 ASTM D 2846	½" – 2"	SDR – 11	ASTM D 2846	½" – 2"
Class-2/SDR-13.5	IS:15778:2007 ASTM D 2846	½" – 2"	SCH-40	ASTM F 438	2-1/2" – 4"
SCH-40	ASTM F 441	2 ½" – 8"	SCH-80	ASTM F 439	2 ½" – 8"
SCH-80	ASTM F 441	2 ½" – 8"	SOLVENT CEMENT	ASTM F 493	
			Threads as per IS 554		

TECHNICAL DETAILS

DIMENSIONAL DETAIL OF SDR-11 (CLASS-1) AND SDR-13.5 (CLASS-2)
CPVC PIPES CONFORMING TO IS: 15778:2007

Size	Outside Diameter (mm)		Tolerance	Min. Wall Thickness (mm)	
mm (inch)	Min.	Max.		SDR-11	SDR-13.5
15 (1/2")	15.80	16.00	± 0.08	1.70	1.40
20 (3/4")	22.20	22.40	± 0.08	2.00	1.70
25 (1")	28.40	28.80	± 0.08	2.60	2.10
32 (1-1/4")	34.70	35.10	± 0.08	3.20	2.60
40 (1-1/2")	41.10	41.50	± 0.10	3.80	3.10
50 (2")	54.30	54.70	± 0.10	4.90	4.00

DIMENSIONAL DETAIL OF SCH-40 & SCH-80 CPVC PIPES AS PER ASTM F 441

Nominal Size		Average O.D. (mm)		Tolerance	Min. Wall Thickness (mm)	
		SCH 40	SCH 80		SCH 40	SCH 80
2 1/2"	65	73.00	73.00	±0.18	5.16	7.01
3"	80	88.90	88.90	±0.20	5.49	7.62
4"	100	114.30	114.30	±0.23	6.02	8.56
6"	150	168.30	168.30	±0.28	7.11	10.97
8"	200	219.10	219.10	±0.38	8.18	12.70

WORKING PRESSURE DETAIL OF SDR-11 & SDR-13.5 CPVC PIPE

Pressure vs. Temperature rating Chart for CPVC 4120 as per ASTM D 2846

Operating Temperature		27°c	32°c	38°c	43°c	49°c	54°c	60°c	66°c	71°c	77°c	82°c	93°c
½", 3/4", 1", 1 ¼", 1 ½" & 2"	SDR-11	27.60	25.12	22.65	20.30	18.00	15.90	13.80	12.50	11.04	9.00	6.80	5.52
	SDR-13.5	21.80	19.80	17.90	16.05	14.20	12.55	10.90	9.81	8.72	7.09	5.50	4.36

Note: The above pressure ratings does not reflect the superior pressure ratings available for Flowline Plus system.
Ajay recommends that these pressure ratings only be used till the upgraded material is incorporated in the relevant standards.

Pressure in (Kg/cm²)

WORKING PRESSURE DETAIL OF SCH-40 & SCH-80 PIPE

Pressure Vs.Temperature rating Chart for CPVC 4120 CPVC Pipes as per ASTM F 441

		Temperature(°c)											
Class	Size mm (Inch)	27°c	32°c	38°c	43°c	49°c	54°c	60°c	66°c	71°c	77°c	82°c	93°c
SCH -40	65(2-1/2")	21.09	19.19	17.30	16.24	13.71	13.08	10.55	9.91	8.44	6.75	5.27	4.22
	80(3")	18.28	16.64	14.99	14.08	11.88	11.33	9.14	8.59	7.31	5.85	4.57	3.66
	100(4")	15.47	14.08	12.68	11.91	10.05	9.59	7.73	7.27	6.19	4.95	3.87	3.09
	150(6")	12.66	11.52	10.38	9.74	8.23	7.85	6.33	5.95	5.06	4.05	3.10	2.53
	200(8")	11.20	10.19	9.18	9.18	7.28	7.28	5.60	5.60	4.48	4.48	2.80	2.24
SCH -80	65(2-1/2")	29.53	26.87	24.21	22.74	19.19	18.31	14.77	13.88	11.81	9.45	7.38	5.91
	80(3")	26.01	23.67	21.33	20.03	16.91	16.13	13.01	12.23	10.41	8.32	6.50	5.20
	100(4")	22.50	20.47	18.45	17.32	14.62	13.95	11.25	10.57	9.00	7.20	5.62	4.50
	150(6")	19.69	17.91	16.41	15.16	12.80	12.21	9.84	9.25	7.87	6.30	4.32	3.94
	200(8")	17.50	15.75	14.35	14.35	11.38	11.38	8.75	8.75	7.00	7.00	4.38	3.50

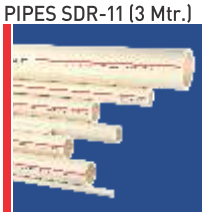
Note: The above pressure ratings does not reflect the superior pressure ratings available for Flowline Plus system.
Ajay recommends that these pressure ratings only be used till the upgraded material is incorporated in the relevant standards.

Pressure in (Kg/cm^2)

BASIC PHYSICAL PROPERTIES OF CPVC

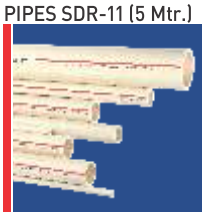
PROPERTY GENERAL	TEST	CONDITION	SI UNITS
Specific Gravity	ASTM D 792	23°C	1.55
Specific Volume		23°C	0.645 Cm^3/g
Water Absorption	ASTM D 570	23°C	+0.03%
Rockwell Hardness	ASTM D785	23°C	119
MECHANICAL			
Izod Impact	ASTM D 256	23°C	min. 80 j/m o.n.
Tensile strength	ASTM D 638	23°C	55 N/mm^2
Tensile Modulus	ASTM D 638	23°C	2500 N/mm^2
Flexural Strength	ASTM D 790	23°C	104 N/mm^2
Flexural Modulus	ASTM D 790	23°C	2860 N/mm^2
Compressive strength	ASTM D 695	23°C	70 N/mm^2
Compressive Modulus	ASTM D 695	23°C	1350 N/mm^2
THERMAL			
Coefficient of Thermal Expansion	ASTM D 696		$6.3x10^{-5}$ m/m/k
Thermal Conductivity	ASTM C 177		0.14 $Wm/k/m^2$
Heat Distortion Temperature	ASTM D 648		10°c
Heat Capacity	DSC	23°c	0.90 j/gk
		100°c	1.10 J/gk.
FLAMMABILITY			
Flammability Rating	UL 94	0.062 in/0.157cm	V-0
Flame Speed	ASTM E84		15
Smoke developed	ASTM E84		70-125
Limiting Oxygen Index	ASTM D 2863		60
ELECTRICAL			
Dielectric Strength	ASTM D 147		4,92000 V/cm
Dielectric Constant	ASTM D 150	60 Hz,-1°c	3.7
Power Factor	ASTM D 150	1000 Hz	0.007 %
Volume Resistivity	ASTM D 257	23°c	$3.4x10^{15}$ ohm/cm

PIPES SDR-11 (3 Mtr.)



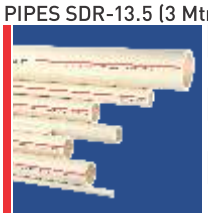
Product name	Item Code	Size Inch	Size MM
	FGCPISI11315	½"	15
	FGCPISI11320	¾"	20
	FGCPISI11325	1"	25
	FGCPISI11332	1-1/4"	32
	FGCPISI11340	1-1/2"	40
	FGCPISI11350	2"	50

PIPES SDR-11 (5 Mtr.)



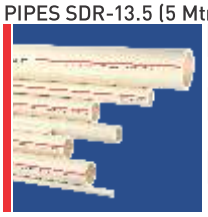
Product name	Item Code	Size Inch	Size MM
	FGCPISI11515	½"	15
	FGCPISI11520	3/4"	20
	FGCPISI11525	1"	25
	FGCPISI11532	1-1/4"	32
	FGCPISI11540	1-1/2"	40
	FGCPISI11550	2"	50

PIPES SDR-13.5 (3 Mtr.)



Product name	Item Code	Size Inch	Size MM
	FGCPISI13315	½"	15
	FGCPISI13320	3/4"	20
	FGCPISI13325	1"	25
	FGCPISI13332	1-1/4"	32
	FGCPISI13340	1-1/2"	40
	FGCPISI13350	2"	50

PIPES SDR-13.5 (5 Mtr.)



Product name	Item Code	Size Inch	Size MM
	FGCPISI13515	½"	15
	FGCPISI13520	3/4"	20
	FGCPISI13525	1"	25
	FGCPISI13532	1-1/4"	32
	FGCPISI13540	1-1/2"	40
	FGCPISI13550	2"	50

ELBOW/REDUCING ELBOW 90°

Product name	Item Code	Size Inch	Size MM
	FGCFELB90015	½"	15
	FGCFELB90020	3/4"	20
	FGCFELB90025	1"	25
	FGCFELB90032	1-1/4"	32
	FGCFELB90040	1-1/2"	40
	FGCFELB90050	2"	50
	FGCFELB02015	3/4"X1/2"	20X15
	FGCFELB02515	1" x1/2"	25X15
	FGCFELB02520	1" x 3/4"	25X20

ELBOW 45°

Product name	Item Code	Size Inch	Size MM
	FGCFELB45015	½"	15
	FGCFELB45020	3/4"	20
	FGCFELB45025	1"	25
	FGCFELB45032	1-1/4"	32
	FGCFELB45040	1-1/2"	40
	FGCFELB45050	2"	50

TEE

Product name	Item Code	Size Inch	Size MM
	FGCFTEE00015	1/2"	15
	FGCFTEE00020	3/4"	20
	FGCFTEE00025	1"	25
	FGCFTEE00032	1-1/4"	32
	FGCFTEE00040	1-1/2"	40
	FGCFTEE00050	2"	50

SOCKET/REDUCING SOCKET

Product name	Item Code	Size Inch	Size MM
	FGCFCUP00015	½"	15
	FGCFCUP00020	3/4"	20
	FGCFCUP00025	1"	25
	FGCFCUP00032	1-1/4"	32
	FGCFCUP00040	1-1/2"	40
	FGCFCUP00050	2"	50
	FGCFCUP02015	3/4" x 1/2"	20X15
	FGCFCUP02515	1" x 1/2"	25X15
	FGCFCUP02520	1" x 3/4"	25X20
	FGCFCUP03215	1-1/4" x 1/2"	32x15
	FGCFCUP03220	1-1/4" x 3/4"	32x20
	FGCFCUP03225	1-1/4" x 1"	32x25
	FGCFCUP04015	1-1/2" x 1/2"	40x15
	FGCFCUP04020	1-1/2" x 3/4"	40x20
	FGCFCUP04025	1-1/2" x 1"	40x25
	FGCFCUP04032	1-1/2" x 1-1/4"	40x32
	FGCFCUP05015	2" x 1/2"	50x15
	FGCFCUP05020	2" x 3/4"	50x20
	FGCFCUP05025	2" x 1"	50x25
	FGCFCUP05032	2" x 1-1/4"	50x32
	FGCFCUP05040	2" x 1-1/2"	50x40

CROSS

Product name	Item Code	Size Inch	Size MM
	FGCFCROSS015	½"	15
	FGCFCROSS020	3/4"	20

END CAP

Product name	Item Code	Size Inch	Size MM
	FGCFECAP0015	1/2"	15
	FGCFECAP0020	3/4"	20
	FGCFECAP0025	1"	25
	FGCFECAP0032	1-1/4"	32
	FGCFECAP0040	1-1/2"	40
	FGCFECAP0050	2"	50

TRANSITION BUSHING

Product name	Item Code	Size Inch	Size MM
	FGCFTBUSH015	1/2"	15
	FGCFTBUSH020	3/4"	20
	FGCFTBUSH025	1"	25
	FGCFTBUSH030	1-1/4"	32
	FGCFTBUSH040	1-1/2"	40
	FGCFTBUSH050	2"	50

REDUCING TEE

Product name	Item Code	Size Inch	Size MM
	FGCFTEE02015	3/4"x 3/4"x ½"	20x20x15
	FGCFTEE02515	1" x 1" x ½"	25x25x15
	FGCFTEE02520	1"x 1 x ¾"	25x25x20
	FGCFTEE03215	1¼" x 1¼" x ½"	32x32x15
	FGCFTEE03220	1¼" x 1¼" x ¾"	32x32x20
	FGCFTEE03225	1¼" x 1¼" x 1"	32x32x25
	FGCFTEE04015	1½" x 1½" x ½"	40x40x15
	FGCFTEE04020	1½"x 1½" x ¾"	40x40x20
	FGCFTEE04025	1½" x 1½" x 1"	40x40x25
	FGCFTEE04032	1½" x 1½" x 1¼"	40x40x32
	FGCFTEE05015	2" x 2" x ½"	50x50x15
	FGCFTEE05020	2" x 2" x ¾"	50x50x20
	FGCFTEE05025	2" x 2" x 1"	50x50x25
	FGCFTEE05032	2" x 2" x 1¼"	50x50x32
	FGCFTEE05040	2" x 2" x 1½"	50x50x40

Product name	Item Code	Size Inch	MM

STEP OVER BEND

FGCFSTPBD015	1/2"	15
FGCFSTPBD020	3/4"	20
FGCFSTPBD025	1"	25
FGCFSTPBD032	1-1/4"	32
FGCFSTPBD040	1-1/2"	40

LONG BEND

FGCFLNGBD015	1/2"	15
FGCFLNGBD020	3/4"	20
FGCFLNGBD025	1"	25
FGCFLNGBD032	1-1/4"	32
FGCFLNGBD040	1-1/2"	40
FGCFLNGBD050	2"	50

REDUCER BUSHING

FGCFBUS02015	3/4" x 1/2"	20x15
FGCFBUS02515	1" x ½"	25x15
FGCFBUS02520	1" x 3/4"	25x20
FGCFBUS03215	1-1/4" x 1/2"	32x15
FGCFBUS03220	1-1/4" x 3/4"	32x20
FGCFBUS03225	1-1/4" x 1"	32x25
FGCFBUS04015	1-1/2" x ½"	40x15
FGCFBUS04020	1-1/2" x 3/4"	40x20
FGCFBUS04025	1-1/2" x 1"	40x25
FGCFBUS04032	1-1/2" x 1-1/4"	40x32
FGCFBUS05015	2" x ½"	50x15
FGCFBUS05020	2" x 3/4"	50x20
FGCFBUS05025	2" x 1"	50x25
FGCFBUS05032	2" x 1-1/4"	50x32
FGCFBUS05040	2" x 1-1/2"	50x40

CONCEALED VALVE (CP Brass)

FGCONCNVLV20	3/4"	20

MAPT (All CPVC)

FGCFMTAF0015	½"	15
FGCFMTAF0020	3/4"	20
FGCFMTAF0025	1"	25
FGCFMTAF0032	1-1/4"	32
FGCFMTAF0040	1-1/2"	40
FGCFMTAF0050	2"	50
FGCFMTAF2015	3/4"X1/2"	20X15

FAPT (All CPVC with Rubber Washer)

FGCFFTAP0015	½"	15
FGCFFTAP0020	3/4"	20
FGCFFTAP0025	1"	25
FGCFFTAP0032	1-1/4"	32
FGCFFTAP0040	1-1/2"	40
FGCFFTAP0050	2"	50
FGCFFTAP2015	3/4"X1/2"	20X15

Product name	Item Code	Size Inch	MM

BRASS TEE

FGCTTEEW1515	½" x ½" x ½"	15x15X15
FGCTTEEW2015	¾ x ¾" x ½"	20X20x15
FGCTTEEW2515	1" X 1" X ½"	25X25X15
FGCTTEEW2520	1" x 1" x 3/4"	25x25x20
FGCTTEEW2525	1" x 1" x 1"	25x25x25

BRASS ELBOW 90 (without drop ear & without end plug)

FGCTELBW1515	½" x ½"	15x15
FGCTELBW2015	3/4" x ½"	20x15
FGCTELBW2020	3/4" x 3/4"	20x20
FGCTELBW2515	1" x ½"	25x15
FGCTELBW2520	1" x 3/4"	25x20
FGCTELBW2525	1" x 1"	25x25

BRASS ELBOW 90° (with drop ear & with end plug)

FGCTELB01515	½" x ½"	15x15
FGCTELB02015	3/4" x ½"	20x15

BRASS ELBOW 90° (with drop ear & without end plug)

FGCTELBW3232	1-1/4" x 1-1/4"	32x32

BRASS MTA UNION

FGCTMTAU0025	1"	25

BRASS MTA FIXED

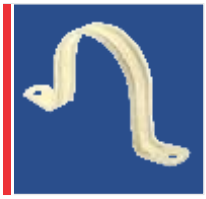
FGCTMTAFW015	1/2"	15
FGCTMTAFW020	3/4"	20
FGCTMTAFW025	1"	25
FGCTMTAFW032	1-1/4"	32
FGCTMTAFW040	1-1/2"	40
FGCTMTAFW050	2"	50
FGCTMTAW2015	3/4"X1/2"	20X15
FGCTMTAW2515	1 x ½"	25x15
FGCTMTAW2520	1 x 3/4"	25x20

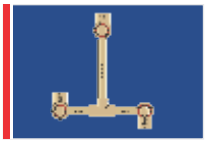
CPVC TRANS MTA (MABT HEXAGONAL)

FGCTMTAH0015	1/2"	15
FGCTMTAH0020	3/4"	20
FGCTMTAH0025	1"	25
FGCTMTAH0032	1-1/4"	32
FGCTMTAH0040	1-1/2"	40
FGCTMTAH0050	2"	50
FGCTMTAH2015	3/4"x1/2"	20x15

BRASS FTA FIXED

FGCTFTAW0015	1/2"	15
FGCTFTAW0020	3/4"	20
FGCTFTAW0025	1"	25
FGCTFTAW0032	1-1/4"	32
FGCTFTAW0040	1-1/2"	40
FGCTFTAW0050	2"	50
FGCTFTAW2015	3/4"X1/2"	20X15
FGCTFTAW2515	1 x ½"	25x15
FGCTFTAW2520	1 x 3/4"	25x20

Product name	Item Code	Size Inch	Size MM
CPVC TRANS FTA (FABT HEXAGONAL)			
	FGCTFTAH0015	1/2"	15
	FGCTFTAH0020	3/4"	20
	FGCTFTAH0025	1"	25
	FGCTFTAH0032	1-1/4"	32
	FGCTFTAH0040	1-1/2"	40
	FGCTFTAH0050	2"	50
	FGCTFTAH2015	3/4"x1/2"	20x15
BALL VALVE (2 Pcs)			
	TGCBVASPD015	1/2"	15
	TGCBVASPD020	3/4"	20
	TGCBVASPD025	1"	25
	TGCBVASPD032	1-1/4"	32
	TGCBVASPD040	1-1/2"	40
	TGCBVASPD050	2"	50
BALL VALVE (LONG HANDLE) (2 Pcs)			
	TGCBVLHSD020	3/4"	20
	TGCBVLHSD025	1"	25
	TGCBVLHSD032	1-1/4"	32
	TGCBVLHSD040	1-1/2"	40
UNION			
	FGCFUNION015	1/2"	15
	FGCFUNION020	3/4"	20
	FGCFUNION025	1"	25
	FGCFUNION032	1-1/4"	32
	FGCFUNION040	1-1/2"	40
	FGCFUNION050	2"	50
TANK NIPPLE			
	FGCFTNPL0015	½"	15
	FGCFTNPL0032	1-1/4"	32
	FGCFTNPL0040	1-1/2"	40
	FGCFTNPL0050	2"	50
SOCKETED TANK NIPPLE			
	FGCFTNPLS020	3/4"	20
	FGCFTNPLS025	1"	25
END PLUG			
	TGCFEPLUG015	1/2"	15
	TGCFEPLUG020	3/4"	20
PIPE CLAMP METAL			
	TGCCLAMPMT15	1/2"	15
	TGCCLAMPMT20	3/4"	20
	TGCCLAMPMT25	1"	25
	TGCCLAMPMT32	1-1/4"	32
	TGCCLAMPMT40	1-1/2"	40
	TGCCLAMPMT50	2"	50
PIPE CLAMP PLASTIC			
	TGCCLAMPPL15	1/2"	15
	TGCCLAMPPL20	3/4"	20
CPVC WALL MIXER ADAPTOR HOT & COLD UP			
	FGCP2015MXCU	3/4" x 1/2"	20 x 15

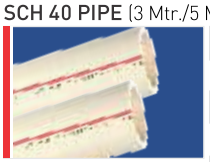
Product name	Item Code	Size Inch	Size MM
CPVC WALL MIXER ADAPTOR HOT & COLD BOTTOM			
	FGCP2015MXCB	3/4" x 1/2"	20 x 15
CPVC WALL MIXER ADAPTOR HOT & COLD SIDE			
	FGCP2015MXCS	3/4" x 1/2"	20 x 15
CPVC WALL MIXER ADAPTOR HOT UP & COLD DOWN			
	FGCP2015MXCD	3/4" x 1/2"	20 x 15
CPVC WALL MIXER ADAPTOR HOT SIDE & COLD DOWN			
	FGCP2015MXHD	3/4" x 1/2"	20 x 15

SCHEDULE 40 FITTINGS

TEE			
	FGCSH4TEE065	2 -1/2"	65
	FGCSH4TEE080	3"	80
	FGCSH4TEE100	4"	100
ELBOW 90º			
	FGC4ELB90065	2 -1/2"	65
	FGC4ELB90080	3"	80
	FGC4ELB90100	4"	100
SOCKET/ COUPLER			
	FGC4CUP00065	2 -1/2"	65
	FGC4CUP00080	3"	80
	FGC4CUP00100	4"	100
ELBOW 45º			
	FGC4ELB45065	2 -1/2"	65
	FGC4ELB45080	3"	80
	FGC4ELB45100	4"	100
HEAVY DUTY GRAY SOLVENT CEMENT			
	TGCPINDSL473	473 ML (Can)	
	TGCPINDSL946	946 ML (Can)	
PURPLE PRIMER			
	TGPRIMER0473	473 ML (Can)	
	TGPRIMER0946	946 ML (Can)	
FASTLINE SOLVENT CEMENT			
	TGCOSOLOR118	118 ML (Can)	
	TGCOSOLOR237	946 ML (Can)	
SOLVENT CEMENT			
	TGCPSOLVNT15	15 ML (Tube)	
	TGCPSOLVNT29	29 ML (Tube)	
	TGCPSOLVNT59	59 ML (Tube)	
	TGCPSOLVN118	118 ML (Can)	
	TGCPSOLVN237	237 ML (Can)	
	TGCPSOLVN473	473 ML (Can)	
	TGCPSOLVN946	946 ML (Can)	

Product name	Item Code	Size Inch	Size MM

SCH 40 PIPE (3 Mtr./5 Mtr.)



FGCPSC400365	2-1/2"	65
FGCPSC400380	3"	80
FGCPSC403100	4"	100
FGCPSC403150	6"	150
FGCPSC403200	8"	200

SCH 80 PIPE (3 Mtr./5 Mtr.)

FGCPSC800365	2-1/2"	65
FGCPSC800380	3"	80
FGCPSC803100	4"	100
FGCPSC803150	6"	150
FGCPSC803200	8"	200

SCHEDULE 80 FITTINGS

UNION

TGC8UNION065	2"-1/2	65
TGC8UNION080	3"	80
TGC8UNION100	4"	100

SOCKET/ COUPLER

FGC8CUP00065	2-1/2"	65
FGC8CUP00080	3"	80
FGC8CUP00100	4"	100
FGC8CUP00150	6"	150
FGC8CUP00200	8"	200

END CAP

FGC8ECAP0065	2-1/2"	65
FGC8ECAP0080	3"	80
FGC8ECAP0100	4"	100
TGC8ECAP0150	6"	150

CPVC MTA

FGCFMTAF0065	2-1/2"	65
FGCFMTAF0080	3"	80
FGCFMTAF0100	4"	100

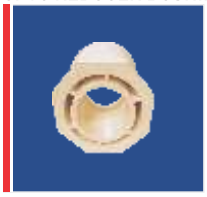
CPVC BRASS MTA

FGCFMTAF0065	2-1/2"	65
FGCFMTAF0080	3"	80
FGCFMTAF0100	4"	100

CPVC FLANGE

FGC8TSFL0025	1"	25
FGC8TSFL0032	1-1/4"	32
FGC8TSFL0040	1 ½"	40
FGC8TSFL0050	2"	50
FGC8TSFL0065	2-1/2"	65
FGC8TSFL0080	3"	80
FGC8TSFL0100	4"	100
TGC8TSFL0150	6"	150

CPVC REDUCER BUSHING (IPS X CTS)



FGCRBIC06532	2-1/2" x 1-1/4"	65 x 32
FGCRBIC06540	2-1/2" x 1-1/2"	65 x 40
FGCRBIC06550	2-1/2" x 2"	65 x 50
FGCRBIC08040	3" x 1-1/2"	80 x 40
FGCRBIC08050	3" x 2"	80 x 50
FGCRBIC10050	4" x 2"	100 x 50

Product name	Item Code	Size Inch	Size MM

CPVC REDUCER BUSHING

FGC8BU008065	3" x 2-1/2"	80x65
FGC8BU010065	4" x 2-1/2"	100x65
FGC8BU010080	4" x 3'	100x80
TGC8BU015080	6"X3"	150X80
TGC8BU150100	6"X4"	150X100

CPVC REDUCER TEE (IPS X CTS)

FGC8TEE06525	2-1/2" x 2-1/2" x 1"	65 x 65 x 25
FGC8TEE06532	2-1/2" x 2-1/2" x 1-1/4"	65 x 65 x 32
FGC8TEE06540	2-1/2" x 2-1/2" x 1-1/2"	65 x 65 x 40
FGC8TEE06550	2-1/2" x 2-1/2" x 2"	65 x 65 x 50
FGC8TEE08025	3" x 3" x 1"	80 x 80 x 25
FGC8TEE08032	3" x 3" x 1-1/4"	80 x 80 x 32
FGC8TEE08040	3" x 3" x 1-1/2"	80 x 80 x 40
FGC8TEE08050	3" x 3" x 2"	80 x 80 x 50
FGC8TEE10032	4" x 4" x 1-1/4"	100 x 100 x 32
FGC8TEE10040	4" x 4" x 1-1/2"	100 x 100 x 40
FGC8TEE10050	4" x 4" x 2"	100 x 100 x 50

ELBOW 45° SCH 80

FGC8ELB45065	2-1/2"	65
FGC8ELB45080	3"	80
FGC8ELB45100	4"	100
TGC8ELB45150	6"	150

BALL VALVE (1 Pc.)

TGCBVALVE065	2-1/2"	65
TGCBVALVE080	3"	80
TGCBVALVE100	4"	100

TEE SCH 80

FGC8TEE00065	2-1/2"	65
FGC8TEE00080	3"	80
FGC8TEE00100	4"	100
TGC8TEE00150	6"	150

ELBOW 90° SCH 80

FGC8ELB90065	2-1/2"	65
FGC8ELB90080	3"	80
FGC8ELB90100	4"	100
TGC8ELB90150	6"	150

CPVC FTA

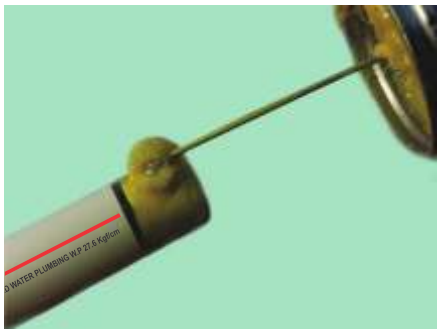
FGCFFTAF0065	2 -1/2"	65
FGCFFTAF0080	3"	80
FGCFFTAF0100	4"	100

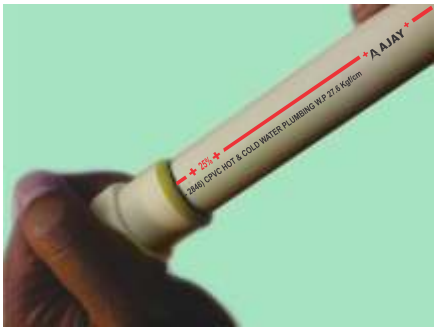
CPVC BRASS FTA

FGCTFTAF0065	2 -1/2"	65
FGCTFTAF0080	3"	80
FGCTFTAF0100	4"	100

AJAY FLOWLINE PLUS INSTALLATION GUIDELINES

- 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 particle.
- 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 of correct size. In case fitting is loose, change fitting.
- Mark the socket depth on the pipe with a marker.
- Apply a thin coat of cement into the fittings socket and a full even coat on the pipe till the mark to the depth of socket bottom Do not puddle cement in socket. Use brush or dauber atleast ½ the OD of the pipe.
- For sizes above 2 inch AJAY recommends jointing with purple primer & Heavy duty gray solvent cement.
- Insert pipe into the socket quickly while cement is still fluid (wet), if cement has dried, re-coat pipe and fitting. Twist pipe quarter 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 pressure testing. Cure time is dependent upon temperature, humidity etc. however under normal conditions, allow 24 hours curing time.
- https://www.youtube.com/watch?v=CcvKfh7yttg





THREAD SEALANT

- All the AJAY Flowine Plus (brass / plastic) threaded Fittings must be used with a suitable thread sealant to ensure leak proof joints. Over the years, PTFE (Teflon or equivalent) tape has been the preferred thread sealant is still the most widely accepted & approved sealant. Some paste sealant can also be used, therefore only sealants recom–ended for use with CPVC by threaded sealant manufacturer should be used.
- Don't use strings or jute to seal threads.
- Do not over tighten plastic threaded fittings.
- Ajay does not recommend use of plastic threaded fittings above 60° C.

AJAY FLOWLINE PLUS SUGGESTED JOINT CURING TIME

Assembly Temp.	1/2" to 11/4"		11/2" to 3"		4" to 5"		6" to 8"	
	Below 12kgf/cm²	Above 12kgf/cm²	Below 12kgf/cm²	Above 12kgf/cm²	Below 12kgf/cm²	Above 12kgf/cm²	Below 12kgf/cm²	Above 12kgf/cm²
15° to 37°C	1 hour	6 hours	2 hours	12 hours	6 hours	18 hours	8 hours	24 hours
4° to 15°C	2 hours	12 hours	4 hours	24 hours	12 hours	36 hours	16 hours	48 hours
-6° to 4°C	6 hours	36 hours	12 hours	72 hours	36 hours	96 hours	72 hours	9 days
-18° to -6°C	8 hours	48 hours	16 hours	96 hours	48 hours	8 days	96 hours	12 days

The joint should not be pressure tested until it has cured. The exact curing time varies with temperature, humidity and pipe size.

- For relative humidity above 60%, allow 50% more cure time.
- The above data are based on laboratory tests and are intended as guidelines.

APPROX. NUMBER OF JOINTS THAT CAN BE MADE WITH SOLVENT CEMENT

Nominal Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
Approximate no. of joints / Can	118 ML	41	31	19	16	11	9	8	6	4	1	1
	237 ML	81	63	38	31	23	18	15	13	8	3	2
	473 ML	163	125	75	63	45	35	30	25	15	5	4
	946 ML	325	250	150	125	90	70	60	50	30	10	8

PRESSURE TESTING

- Prior to testing, safety precautions should be instituted to protect personal & property in case of test failure.
- Conduct pressure testing with water only.
- The piping system should be adequately anchored to limit movement. Water under pressure exerts thrust forces in piping systems. Thrust blocking should be provided at changes in direction, change in size and at dead end.
- The piping system should be slowly filled with water, taking care to prevent surge and air entrapment. The flow velocity should not exceed 1ft./sec.
- All trapped air must be slowly released. Vent must be provided at all high points of the piping system. All valves and air relief mechanisms should be opened so that the air can be vented while system is being filled.
- Once an installation is completed and cured the system should be filled with water and pressure tested in accordance with local code requirements. However, care must be taken to ensure the pressure does not exceed the working pressure of the lowest component in the system (valves, unions, flanges, threaded parts, etc.)
- Any leaking joints or pipe must be cut out and replaced and the line recharged and retested using the same procedure.

HORIZONTAL & VERTICAL SUPPORT SPACING

Horizontal & vertical runs of Ajay Flowline Plus pipe should be supported by pipe clamps or by hangers located on the horizontal connection close to the riser. Hangers should not have rough or sharp edges.

Ajay Flowline **Plus** CPVC pipes horizontal & vertical support spacing based on water temp.									
Nominal Pipe Size		**Spacing**							
Inch	mm	20°C		50°C		70°C		80°C	
		ft.	mtr.	ft.	mtr.	ft.	mtr.	ft.	mtr.
½''	15	5.50	1.70	4.50	1.40	3.00	0.90	2.50	0.80
3/4''	20	5.50	1.70	5.00	1.50	3.00	0.90	2.50	0.80
1''	25	6.00	1.80	5.50	1.70	3.50	1.10	3.00	0.90
1 1/4''	32	6.50	2.00	6.00	1.80	3.50	1.10	3.00	0.90
1 ½''	40	7.00	2.10	6.00	2.00	3.50	1.10	3.50	1.10
2''	50	7.00	2.10	6.50	2.00	4.00	1.20	5.50	1.10
2 ½''	65	8.00	2.44	7.50	2.28	4.50	1.37	4.00	1.21
3''	80	8.00	2.44	7.50		4.50	1.37	4.00	1.21
4''	100	9.00	2.75	8.50	2.59	5.00	1.52	4.50	1.37
6''	150	10.00	3.04	9.00	2.74	5.50	1.67	5.00	1.52
8''	200	11.00	3.35	10.00	3.04	6.00	1.82	5.50	1.67

HEAT LOSS TABLE

Heat loss in watts per meter of pipe based on different pipe sizes and temperature difference between water temp. & ambient temp.

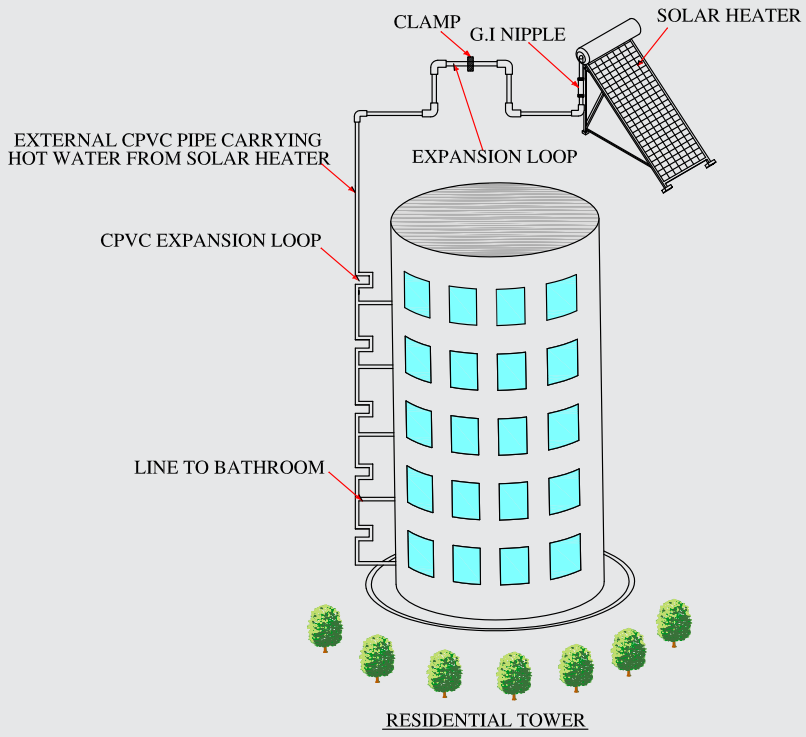
Heat Loss Table (Watts per Meter)													
PIPE TYPE		**SDR 11**						**SDR 13.5**					
Pipe Size (inch)		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Pipe Size (mm)		15	20	25	32	40	50	15	20	25	32	40	50
K Value		3.58	4.35	4.39	4.38	4.37	4.39	4.53	5.47	5.47	5.48	5.48	5.48
Temperature Difference between Hot Fluid and Ambient (T1-T2)	5	17.9	21.8	22	21.9	21.9	21.9	22.7	27.4	27.4	27.4	27.4	27.4
	10	35.8	43.5	44	43.8	43.7	43.8	45.3	54.7	54.7	54.7	54.8	54.8
	15	53.7	65.3	65.9	65.7	65.6	65.8	68	82.1	82.1	82.2	82.2	82.2
	20	71.7	87.1	87.9	87.6	87.5	87.7	90.6	109.4	109.5	109.5	109.6	109.6
	25	89.6	108.8	109.9	109.5	109.3	109.6	113.3	136.7	136.8	136.9	137	137
	30	107.5	130.6	131.8	131.4	131.2	131.6	136	164.1	164.2	164.3	164.4	164.4
	35	125.4	152.4	153.8	153.4	153	153.5	158.6	191.5	191.6	191.7	191.7	191.8
	40	143.3	174.2	175	175.3	174.9	175.4	181.2	218.8	219	219.1	219.1	219.2
	45	161.2	195.9	197.7	197.2	196.7	197.4	203.9	246.2	246.3	246.4	246.5	246.6
	50	179.1	217.7	219.7	219.1	218.6	219.3	226.6	273.5	273.7	273.8	273.9	274
	55	197.1	239.5	241.7	241	240.5	241.2	249.2	300.9	301.1	301.2	301.3	301.4
	60	215	261.2	263.7	262.9	262.3	263.2	271.9	328.2	328.4	328.6	328.7	328.8
	65	232.9	283	285.6	284.8	284.2	285.1	294.5	355.5	355.8	356	356.1	356.2
	70	250.8	304.8	307.6	306.7	306.1	307	317.2	382.9	383.2	383.4	383.5	383.6
	75	268.7	326.5	329.6	328.6	327.9	328.9	339.8	410.2	410.5	410.7	410.9	411
	80	286.6	348.3	351.5	350.5	349.8	350.9	362.5	437.6	437.9	438.1	438.3	438.4

INSTALLATION GUIDELINES FOR CPVC PIPE WITH SOLAR WATER HEATERS & GAS BOILERS

- Certain precautions are recommended to be undertaken while installation of CPVC pipes with solar water heating systems and gas boilers.
- Venting or Thermo-regulating valve: It is strongly recommended that Solar Water Heaters be installed with Thermo-regulating valves. However if no thermo-regulating valves are provided then providing proper air-venting on the hot water outlet side is a must.
- SDR 11 Pipes only: Ajay recommends that only SDR 11 pipes be used with Solar Water Heater main lines.
- Expansion and Contraction Loops: Based on the height of the building, it is necessary to provide expansion and contraction loops in case of exposed piping being used with solar water heater installations. The design calculations of loops are available on (p-14) of our product manual and depends upon the maximum estimated water temperature difference and the maximum length of run of the pipe. For detailed information on expansion and contraction loops. Kindly contact authorised Ajay representative.
- Pipe Insulation: All exposed piping leading from Water Heaters including the down-takes (vertical risers) should be insulated. Even though CPVC has the low thermal conductivity amongst all alternate plastic plumbing systems, however to maintain thermal efficiency, it is recommended that the pipes be insulated. Nitrile rubber or PE foam may be spirally wound round the pipe to provide adequate insulation. For longevity; it is also advised to cover the insulation with aluminum tape for protection against water and sunlight.
  (Note: The insulation cost of CPVC pipe will be far lower than any alternate plumbing system such as GI, Cu or PPR).
- Support Spacing: Ensure that proper support spacing (pipe clamp spacing) as specified in the Ajay Flowline Plus product manual (p-12) is followed. At the roof level, in case at any point proper support is not available against the wall or the floor, bricks should be used to provide proper permanent support to the piping.
- Brass Transition Fittings: Use only Brass transition fittings for all connections with solar water heaters.

GAS FIRED BOILERS

- Avoid direct exposure of plastic pipping to fire or flue gases.
- Ajay recommends that CPVC be used after 10 ft from the boiler before which metallic piping be used.
- Follow all other precautions as listed above.



THERMAL EXPANSION & CONTRACTION

Like all piping material, Flowline Plus CPVC expand when heated and contract when cooled.
CPVC piping (regardless of pipe diameter) will expand about 1 inch per 50 feet of length when subjected to a 23° C temperature increase, therefore, allowances must be made for this resulting movement. However, laboratory testing and installation experience have demonstrated that the practical issues are much smaller than the coefficient of thermal expansion would suggest. The stresses developed in CPVC pipe are generally much smaller than those developed in metal pipe for equal temperature changes because of the difference in elastic modulus.
Expansion is mainly a concern in hot water lines; generally, thermal expansion can be accommodated with the changes in direction. However, a long straight run may require an offset or loop. Only one expansion loop, properly sized is required in any single straight run, regardless of its total length. If more convenient, two or more smaller expansion loops, properly sized, can be utilized in a single run of pipe to accommodate the thermal movement. Be sure to hang pipe with smooth straps that will not restrict movement.

Expansion loop Formula

$$L = \sqrt{\frac{3\,ED\,(\Delta L)}{2S}}$$

WHERE:

L = Loop Length (in.)
E = Modulus of Elasticity at maximum temperature (psi)
S = Working Stress at Maximum Temperature (psi)
D = Outside Diameter of Pipe (in.)
ΔL = Change in length due to change in temperature (in.)

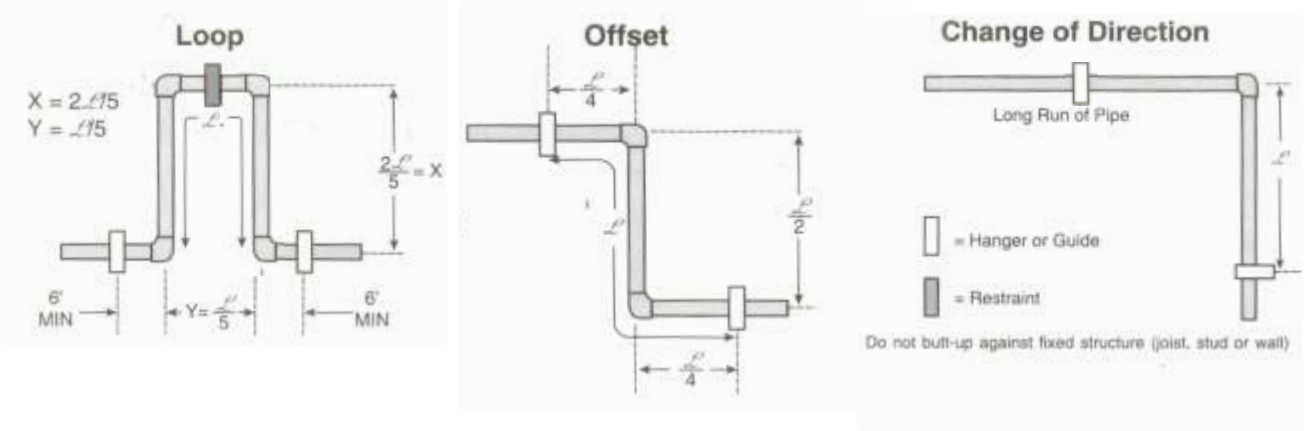
Thermal Expansion Formula

$$\Delta L = L_p C\,\Delta T$$

WHERE:

ΔL = Change in Length due to change in temperature (in.)
L_p = Length of pipe (in.)
C = Coefficient of Thermal Expansion (in./in./F)
= 3.4×10^{-5} in./in./ ^{0}F for CPVC
ΔT = Change in Temperature (^{0}F)

Expansion loop Diagram



The Clamp should be placed away from the elbows so that they do not restrict free movement of the pipe.

CHEMICAL RESISTANCE CHART

CHEMICAL	Temperature (23°C)	(82°C)
Acetaldehyde	N	N
Acetic Acid, up to 10%	R	R
Acetic Acid, greater than 10%	C	C
Acetic Acid, Glacial	N	N
Acetone, up to 5%	R	R
Acetone, greater than 5%	C	C
Acetone, pure	N	N
Acrylonitrile	N	N
Adipic Acid, sat'd in water	R	R
Alcohols	C	C
Allyl Alcohols	C	C
Alum, all varieties	R	R
Aluminium Acetate	R	R
Aluminium Chloride	R	R
Aluminium Fluoride	R	R
Aluminium Nitrate	R	R
Aluminium Sulfate	R	R
Amines	N	N
Ammonia	N	N
Ammonium Benzoate	R	R
Ammonium Bifluoride	R	R
Ammonium Carbonate	R	R
Ammonium Chloride	R	R
Ammonium Dichromate	R	R
Ammonium Flouride	R	R
Ammonium Hydroxide	N	N
Ammonium Metaphosphate	R	R
Ammonium Persulfate	R	-
Ammonium Phosphate	R	C
Ammonium Sulfamate	R	R
Ammonium Sulfate	R	R
Ammonium Thiocyanate	R	R
Ammonium Tartinate	R	R
Amyl Acetate	N	N
Amyl Alcohol	C	C
Aniline	N	N
Antimony Trichloride	R	R
Aqua Regia	R	N
Aromatic Hydrocarbons	N	N
Barium Carbonate	R	R
Barium Chloride	R	R
Barium Hydroxide	R	R
Barium Nitrate	R	R
Barium Sulfide	R	R
Beer	R	R
Beet Sugar Liquors	R	R
Benzaldehyde	N	N
Benzoic Acid sat'd in water	R	N
Benzyl Alcohol	N	N
Benzyl Chloride	N	N
Bismuth Carbonate	R	R
Bleach, household (5% Cl)	R	R
Bleach, industrial (15% Cl)	R	R

CHEMICAL	Temperature (23°C)	(82°C)
Bromine	N	N
Bromobenzene	N	N
Bromotoluene	N	N
Butanol	C	C
Butyl Carbitol	N	N
Butyl Cellosolve	N	N
Butyric Acid, up to 1%	R	R
Butyric Acid, greater than 1%	C	C
Cadmium Acetate	R	R
Cadmium Chloride	R	R
Cadmium Sulfate	R	R
Calcium Acetate	R	R
Calcium Bisulfite	R	R
Calcium Carbonate	R	R
Calcium Chlorate	R	R
Calcium Chloride	R	R
Calcium Hypochlorite	R	R
Calcium Nitrate	R	R
Calcium Oxide	R	R
Calcium Sulphate	R	R
Caprolactam	N	N
Caprolactone	N	N
Carbitol	N	N
Carbon Dioxide	R	R
Carbon Monoxide	R	R
Carbon Tetrachloride	N	N
Carbonic Acid	R	R
Castor Oil	C	C
Caustic Soda	R	R
Cellosolve, all types	N	N
Chloric Acid	R	R
Chlorinted Water, (Hypochlorite)	R	R
Chlorine , liquid	N	N
Chlorine , trace in air	R	R
Chlorine , wet gas	N	N
Chlorobenzene	N	N
Chloroform	N	N
Chlorinated Solvents	N	N
Chromic Acid, 40% (conc.)	R	R
Citric Acid	R	R
Citrus Oils	N	N
Coconut Oil	C	C
Copper Chloride	R	R
Copper Cyanide	R	R
Copper Fluoride	R	R
Copper Nitrate	R	R
Corn Oil	C	C
Corn Syrup	R	R
Cottonseed Oil	C	C
Creosate	N	N
Crotonaldehyde	N	N
Cumene	N	N
Cupric Fluoride	R	R

CHEMICAL	Temperature (23°C)	(82°C)
Cyclohexane	N	N
Cyclohexanol	N	N
Cyclohexanone	N	N
Detergents	C	C
Dextrose	R	R
Dibulyl Phthalate	N	N
Dibulyl Ethyl Phthalate	N	N
Dichlorobenzene	N	N
Diethyfamine	N	N
Diethyl Ether	N	N
Dill Oil	N	N
Dimethylofrmamide	N	N
Distilled Water	R	R
EDTA, Tetrasodium -	R	R
Esters	N	N
Ethanol, Up to 5%	R	R
Ethers	N	N
Ethyl Acetate	N	N
Ethyl Acrylate	N	N
Ethyl Benzene	N	N
Ethyl Ether	N	N
Ethylene Bromide	N	N
Ethylene Chloride	N	N
Ethylene Diamine	N	N
Ethylene Oxide	N	N
Ferric Chloride	R	R
Ferric Hydroxide	R	R
Ferric Sulfate	R	R
Ferrous Chloride	R	R
Ferrous Hydroxide	R	R
Ferrous Nitrate	R	R
Flourine gas	N	N
Fluosilicic Acid, 30%	R	C
Formaldehyde	N	N
Formic Acid, up to 25%	R	R
Freons	C	C
Fructose	R	R
Gasoline	N	N
Glucose	R	R
Glycol Ethers	N	N
Green Liquor	R	R
Halocarbon Oils	C	C
Heptane	C	-
Hydrochloric Acid	R	R
Hydrochloric Acid, 36% (conc.)	R	C
Hydrochloric Acid, 30%	R	-
Hydrochloric Acid, 3%	R	C
Hydrogen Sulfide, Aqueous	R	R
Hypochlorous Acid	R	R
Isopropanol	C	C
Ketones	N	N
Lactic Acid 25%	R	R
Lactic Acid 85% (Full strength)	R	C

R: Recommended | **N:** Not Recommended | **C:** Caution

CHEMICAL RESISTANCE CHART

CHEMICAL	Temperature (23°C)	(82°C)
Lead Chloride	R	R
Lead Sulfate	R	R
Lemon Oil	N	N
Limonene	N	N
Linseed Oil	C	C
Lithium Sulfate	R	R
Barium Sulfate	R	R
Lubricating Oil, ASTM 1,2,3	R	-
Magnesium Carbonate	R	R
Magnesium Citrate	R	R
Magnesium Fluoride	R	R
Magnesium Hydroxide	R	R
Magnesium Salts, inorganic	R	R
Magnesium Oxide	R	R
Magnesium Sulfate	R	R
Maleic Acid, 50%	R	R
Maganese Sulfate	R	R
Mercuric Cyanide	R	R
Mercuric Sulfate	R	R
Mercurrous Nitrate	R	R
Mercury	R	R
Methanol, up to 10%	R	R
Methanol, greater than 10%	C	C
Methanol, pure	N	N
Methyl Cellosolve	N	N
Methyl Ethyl Ketone	N	N
Methyl Formate	N	N
Methyl Isobutyl Ketone	N	N
Methyl Methacrylate	N	N
Methylene Chloride	N	N
Mineral Oil	R	-
Monoethanolamine	N	N
Motor Oil	R	-
Napthalene	N	N
Nickel Acetate	R	R
Nickel Chloride	R	R
Nickel Nitrate	R	R
Nitric Acid, up to 25%	R	R
Nitric Acid, 25-35%	R	C
Nitric Acid, greater than 35%	R	N
Nitric Acid, 70%	R	N
1- Octanol	C	N
Oils, edible	C	C
Oils, Sour Crude	N	N
Oleum	N	N
Oxalic Acid, sat'd	R	C
Oxygen	R	R
Ozonised water	R	-
Palm Oil	C	C
Paenut Oil	C	C
Perchloric Acid, 10%	R	-
Phenylhydrazine	N	N
Phoshphoric acid	R	R

CHEMICAL	Temperature (23°C)	(82°C)
Pine Oil	N	N
Plating Solutions	R	R
Polyethylene Glycol	N	N
Potassium Acetate	R	R
Potassium Bicarbonate	R	R
Potassium Bichramate	R	R
Potassium Bisulfate	R	R
Potassium Bromate	R	R
Potassium Bromide	R	R
Potassium Carbonate	R	R
Potassium Chlorate	R	R
Potassium Chromate	R	R
Potassium Cyanate	R	R
Potassium Cyanide	R	R
Potassium Dichromate	R	R
Potassium Ferrocyanide	R	R
Potassium Fluoride	R	R
Potassium Hydroxide	R	R
Potassium Hypochlorite	R	R
Potassium Nitrate	R	R
Potassium Perborate	R	R
Potassium Perchlorate, sat'd	R	R
Potassium Permanganate sat'd	R	R
Potassium Phosphate	R	R
Potassium Sulfate	R	R
Potassium Sulfide	R	R
Potassium Sulfite	R	R
Propanol, up tp 5%	R	R
Propanol, greater than 5%	C	C
Propionic Acid, up to 2%	R	R
Propionic Acid, greater than 2%	C	C
Propylene Dichloride	N	N
Propylene Glycol, up to 25%	R	R
Propylene Glycol, greater than 25%	C	C
Propylene Oxide	N	N
Sea Water	R	R
Silicic Acid	R	-
Silicone Oil	R	-
Silver Chloride	R	R
Silver Nitrate	R	R
Silver Sulfate	R	R
Soaps	R	R
Sodium Acetate	R	R
Sodium Arsenate	R	-
Sodium Benzoate	R	R
Sodium Bicarbonate	R	R
Sodium Bichromate	R	R
Sodium Borate	R	R
Sodium Bromide	R	R
Sodium Carbonate	R	R
Sodium Chlorate	R	R
Sodium Chlorite	R	R
Sodium Chromate	R	R

CHEMICAL	Temperature (23°C)	(82°C)
Sodium Dichromate	R	R
Sodium Ferrocyanide	R	R
Sodium Fluoride	R	R
Sodium Formate	R	R
Sodium Hydroxide	R	R
Sodium Hypochlorite	R	R
Sodium Iodide	R	R
Sodium Metaphosphate	R	R
Sodium Nitrate	R	R
Sodium Perborate	R	R
Sodium Perchlorate	R	R
Sodium Phosphate	R	R
Sodium Silicate	R	R
Sodium Sulfide	R	R
Sodium Sulfite	R	R
Sodium Thiosulfate	R	R
Sodium Tripolyphosphate	R	R
Stannic Chloride	R	R
Stannous Chloride	R	R
Stannous Sulfate	R	R
Starch	R	R
Strontium Cloride	R	R
Styrene	N	N
Sugar	R	R
Salfamic Acid	R	R
Sulfuric Acid, Fuming	N	N
Sulfuric Acid 98%	R	N
Sulfuric Acid 85%	R	N
Sulfuric Acid 80%	R	R
Tall Oil	R	R
Tannic Acid, 30%	R	-
Tartaric Acid	R	-
Terpenes	N	N
Tetrasodiumpyrophosphate	R	R
Texanol	N	N
Thionyl Chloride	N	N
Toluene	N	N
Trichloroethylene	N	N
Trisodium Phosphate	R	R
Turpentine	N	N
Urea	R	R
Vegetable Oils	C	C
Vinegar	R	R
Vinyl Acetate	N	N
Water, Deionized	R	R
Water, Distilled	R	R
Water, Salt	R	R
Water, Swimming Pool	R	R
WD-40	C	C
Xylene	N	N
Zinc Acetate	R	R
Zinc Carbonate	R	R
Zinc Cloride	R	R

FRICTION HEAD LOSS AND FLOW VELOCITY FOR SDR 11 CPVC PIPES & FITTINGS

[Friction head loss(pressure loss) in PSI per 30 mtr. of pipe]

NOTICE: Flow velocity should not exceed 91 mtr./min. Velocities in excess of 91 mtr./min., may result in system failure.

Flow in Liter Per Minute	Velocity Meter Per Minute	Pressure Loss in PSI	Velocity Meter Per Minute	Pressure Loss in PSI	Velocity Meter Per Minute	Pressure Loss in PSI	Flow in Liter Per Minute	Velocity Meter Per Minute	Pressure Loss in PSI	Velocity Meter Per Minute	Pressure Loss in PSI	Velocity Meter Per Minute	Pressure Loss in PSI
	1/2 in.		3/4 in.		1 in.			1 1/4 in.		1 1/2 in.		2 in.	
4	31.0	1.4	14.6	0.2	8.8	0.1	40	59.1	1.7	42.3	0.8	24.7	0.2
8	62.5	5.0	29.3	0.8	17.6	0.2	60	88.6	3.6	63.5	1.2	37.1	0.5
12	93.9	10.6	43.9	1.7	26.4	0.5	80	118.2	6.2	84.7	2.7	49.4	0.8
16	125.0	18.0	58.6	2.8	35.3	0.8	100	147.7	9.3	105.8	4.2	61.9	1.2
20	156.3	27.3	73.2	4.3	44.1	1.3	120	177.1	13.1	127.0	5.8	74.1	1.6
24	187.6	38.2	87.7	6.0	52.9	1.8	140	206.8	17.4	148.1	7.7	86.6	2.2
28	218.9	50.9	102.3	8.0	61.7	2.3	160	236.3	22.3	169.3	9.9	98.8	2.8
32	250.2	65.1	116.9	10.3	70.5	3.0	180	265.7	27.7	190.5	12.3	111.3	3.4
36	281.5	81.0	131.6	12.8	79.2	3.7	200	295.4	33.7	211.6	15.0	123.5	4.2
40	312.6	98.5	146.2	15.5	88.2	4.5	220	324.8	40.2	232.8	17.9	136.0	5.0
60			219.4	32.9	132.1	9.6	240			254.0	21.0	148.2	5.8
80			292.4	55.9	176.2	16.3	280			296.3	27.9	173.1	7.8
100					220.3	24.7	320					194.2	9.9
120					264.4	34.8	360					222.5	12.4
140					308.5	46.0	400					247.2	15.0
160							500					309.1	22.7

Pressure Loss In CPVC Cts Valves & Fittings In Terms Equivalent Length (l) - Mtr. Of Straight Pipe

SIZE	VALVE FULL OPEN	90 ° ELBOW	45 ° ELBOW	LONG BEND (90 °)	TEE	
					THROUGH FLOW	BRANCH FLOW
½''	0.12	0.47	0.25	0.25	0.31	0.94
3/4''	0.16	0.62	0.33	0.33	0.41	1.24
1''	0.21	0.79	0.42	0.42	0.53	1.60
1-1/4"	0.28	1.04	0.55	0.55	0.70	2.07
1-1/2"	0.32	1.21	0.65	0.65	0.81	2.42
2''	0.41	1.56	0.83	0.83	1.04	3.10

FRICTION HEAD LOSS AND FLOW VELOCITY FOR SCH 40 & 80 CPVC PIPES & FITTINGS

[Friction head loss(pressure loss) in PSI per 30 mtr. of pipe]

NOTICE: Flow velocity should not exceed 91 mtr./min. Velocities in excess of 91 mtr./min. may result in system failure

Liter Per Minute	Velocity Meter Per Minute	Friction Loss (PSI)	Velocity Meter Per Minute	Friction Loss (PSI)	Velocity Meter Per Minute	Friction Loss (PSI)	Velocity Meter Per Minute	Friction Loss (PSI)	Velocity Meter Per Minute	Friction Loss (PSI)	Velocity Meter Per Minute	Friction Loss (PSI)	Velocity Feet Per Second	Friction Loss (PSI)	Velocity Meter Per Minute	Friction Loss (PSI)
	2-1/2 in. SCH40		2-1/2 in. SCH80		3 in. SCH40		3 in. SCH80									
19	5.5	0.0	7.1	0.0	4.0	0.0	4.6	0.0								
27	9.0	0.0	9.9	0.0	5.7	0.0	6.4	0.0								
38	12.4	0.0	14.3	0.1	8.1	0.0	9.2	0.0								
57	18.8	0.1	21.4	0.1	12.1	0.0	13.7	0.0	4 in. SCH40		4 in. SCH80					
76	25.1	0.1	28.5	0.2	16.1	0.1	18.3	0.1	9.3	0.0	10.4	0.0				
95	31.3	0.2	35.7	0.3	20.1	0.1	22.9	0.1	11.7	0.0	13.2	0.0				
114	37.5	0.3	42.8	0.4	24.3	0.1	27.3	0.1	14.1	0.0	15.7	0.0				
133	43.7	0.4	50.0	0.5	28.4	0.1	31.8	0.2	16.3	0.0	18.3	0.0				
152	50.3	0.5	57.1	0.7	32.4	0.2	36.4	0.2	18.7	0.0	21.0	0.1				
170	56.4	0.6	64.2	0.9	36.4	0.2	41.0	0.3	21.0	0.1	23.6	0.1	6 in. SCH40		6 in. SCH80	
189	62.6	0.8	71.4	1.1	40.4	0.3	45.6	0.4	23.4	0.1	26.2	0.1	10.2	0.0	11.5	0.0
227	75.0	1.1	85.6	1.5	48.5	0.4	54.7	0.5	28.0	0.1	31.5	0.1	12.3	0.0	13.7	0.0
265	87.7	1.4	99.9	2.0	56.5	0.5	63.9	0.7	32.8	0.1	36.8	0.2	14.5	0.0	16.1	0.0
284	93.9	1.6	107.1	2.2	60.6	0.6	68.4	0.7	35.1	0.2	39.3	0.2	15.4	0.0	17.2	0.0
303	100.1	1.8	114.2	2.5	64.6	0.6	73.0	0.8	37.5	0.2	41.9	0.2	16.5	0.0	18.3	0.0
341	112.5	2.3	128.5	3.1	72.8	0.8	82.0	1.0	42.1	0.2	47.2	0.3	18.5	0.0	20.7	0.0
379	125.2	2.7	142.7	3.8	80.9	0.9	91.1	1.3	46.8	0.3	52.5	0.3	20.5	0.0	22.9	0.0
473	156.5	4.2	178.4	5.7	101.0	1.4	114.0	1.9	58.6	0.4	65.7	0.5	25.8	0.1	28.7	0.1
568	187.8	5.8	214.1	8.0	121.3	2.0	136.7	2.7	70.3	0.5	78.7	0.7	30.9	0.1	34.4	0.1
663					141.5	2.7	159.6	3.6	82.0	0.7	91.9	0.9	36.1	0.1	40.3	0.1
757					161.6	3.4	182.5	4.6	93.5	0.9	104.9	1.2	41.2	0.1	47.4	0.2
946					202.0	5.1	228.0	6.9	117.1	1.4	131.0	1.8	51.4	0.2	57.5	0.2
1135									140.4	1.9	157.4	2.5	61.7	0.3	68.8	0.3
1325									163.8	2.6	183.5	3.4	72.1	0.3	80.3	0.5
1514									187.2	3.3	209.9	4.3	82.2	0.4	91.9	0.6
1703													92.6	0.6	103.2	0.7
1893													102.8	0.7	114.7	0.9
2839													154.3	1.4	172.0	1.8
3785													205.7	2.4	229.5	3.1

Pressure Loss In CPVC IPS Valves & Fittings In Terms Equivalent Length (L) - Mtr. Of Straight Pipe

SIZE	VALVE FULL OPEN	90 ° ELBOW	45 ° ELBOW	LONG BEND (90 °)	TEE	
					THROUGH FLOW	BRANCH FLOW
2-1/2"	0.60	2.14	0.94	1.00	1.55	4.57
3"	0.90	2.40	1.20	1.25	1.89	4.87
4"	1.20	3.65	1.55	1.61	2.53	6.70
6"		5.48	2.44	2.44	3.81	9.97

FAQ

WHAT IS AJAY FLOWLINE PLUS CPVC?

Ajay Flowline Plus pipe & fittings are made from a specialty plastic known chemically as chlorinated polyvinyl chloride (CPVC). Flowline Plus CPVC is the result of new technology that ensures increased products toughness year round. Ajay Flowline Plus CPVC pipes and fittings are designed for potable hot and cold water distribution and are assembled with commonly used inexpensive tools. CPVC fusion Compound Jointing-proven with more than 40 years of successful service history - assures the reliability of a Flowline Plus plumbing system.

CAN WE USE COMBINATION OF AJAY FLOWLINE PLUS WITH OTHER PIPING SYSTMES?

(example flowline Plus for hot and UPVC/GI for cold)?

Ajay doesn't recommend such mix-n-match combination. In case, GI is used in a Plumbing Systems, all the advantages of Ajay Flowline Plus will be lost because of contamination from the rust and other issues with GI pipes. UPVC pipes are not designed and cannot be used for Hot water distribution. Many times during peak Summer, water from the overhead tanks becomes hot. Sometimes even the back flow of Hot water from geyser 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 may lead to failure of the system. Another issue is a chance the solvent-cement for CPVC and UPVC might get interchanged, which will cause system failure. In case of a leakage it may be difficult to pinpoint the route cause. 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.

WHAT IS THE EXPECTED LIFE OF AJAY FLOWLINE PLUS CPVC ?

CPVC has been in use successfully for the past 40 years. Flowline Plus Hot and Cold water Plumbing System has been designed for a service life of 50 years.

IS AJAY FLOWLINE PLUS COST EFFECTIVE?

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

HOW TO REPAIR THE PIPE IN CASE IT GET PUNCTURED WHILE NAILING/ SCREWING ON THE WALL WITH CONCEALED PIPING?

Repairing of punctured & damaged pipe due to drilling/chiseling can be done by removing the cement plaster and using the pipe repair piece supplied by the company. Clean thoroughly the area of pipe damaged and make it dry. Apply solvent cement on the surface of pipe at damaged portion in the entire circumference. Also apply solvent cement on the inner surface of pipe repair piece and snap on over damaged area. Tie a small piece of string/binding wire around the repair piece and pipe for some time to allow to set. This is an unique system available with CPVC pipe where the damaged pipe need not be cut or shifted back & forth for repair. Do pressure test before re-plastering.

IS THE WATER PASSING THROUGH THE SOLVENT CEMENTED JOINTS SAFE FOR DRINKING?

Ajay Flowline Plus solvent cement is tested and certified by NSF which works for development of public health standards and certification programs that help protect the world's food, water, consumer product and environment.

DO's & DONT's

- Use Pipes and Fittings from same manufacturer.
- Install according to Ajay's Installation instructions and follow recommended safe work practices.
- Keep Pipe and Fittings in original packaging until needed and store pipes in covered areas.
- Use tools designed for use with plastic pipe and fittings.
- Take correct precautions while installing pipes and fittings above 2" in accordance with Ajay recommendations.
- Remove dirt from pipe & fittings. Clean pipe & fittings with clean cloth.
- Cut off min. 25 mm beyond the edge of the crack in case any crack is discovered on the pipe.
- Cut the pipe as square (perpendicular) as possible before making a joint.
- De-burr & Bevel: Ensure no sharp edges in contact with the fittings surface while inserting the pipe.
- Take correct precautions while installing with solar water heaters & boilers in accordance with Ajay recommendations.
- Ensure installation is done in such a way that there are no chances of air entrapment.
- Provide Vertical & Horizontal Supports as recommended.
- Use Teflon tapes only as thread sealant.
- Insulate hot water pipes exposed to the atmosphere.
- Always conduct hydraulic pressure testing after installation to detect any leaks and faults.
- Wait for appropriate cure time before pressure testing. Fill lines slowly and bleed air from the system prior to pressure testing.
- Provide expansion loops on hot water lines.
- Paint pipe water based paint incase exposed to sunlight

- Do not Use Metal Hooks or Nails to support/hold or put pressure on the pipes. Do not use straps & hangers with rough or sharp edges. Do not tighten the straps over the pipes.
- Never expose the pipe to Open Flame while trying to bend it.
- Do not drop pipes on edges from heights. Do not drop heavy objects on pipes or walk on pipes.
- Do not use Fusion Compound for PVC or any other plastics for joining CPVC pipes & Fittings.
- Do not dilute the Fusion Compound with Thinners/MTO or any other liquid etc.
- Do not use air or gases for pressure testing.
- Do not use any other petroleum or solvent-based sealant, adhesive, lubricant or fire stop material on CPVC/PVC pipes and fittings.
- Do not use CPVC/PVC Pipes & Fittings for pneumatic applications.
- Do not use plastic threaded fittings for hot water above 60°C.
- Do not thread CPVC pipes.

AJAY FLOWLINE PLUS PAN INDIA DISTRIBUTION

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