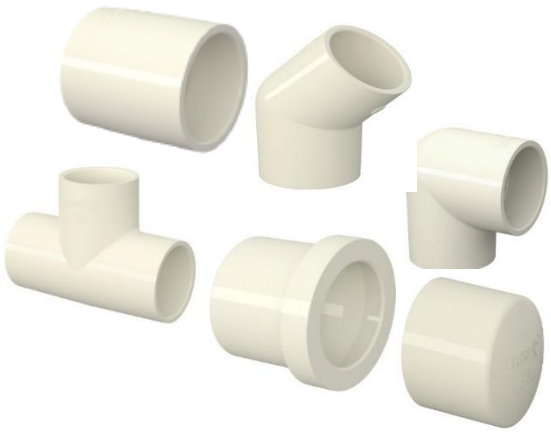
CPVC LINE



Function
CPVC is a high-temperature plastic pressure piping system used for potable plumbing. It has also been used extensively in fire sprinkler systems since 1985. This material is also used for many industrial and process piping applications.

1. TECHNICAL DATA

- Line components manufactured in CPVC (chlorinated polyvinyl chloride.
- Color: beige.
- Work maximum temperature: 176°F; It is not indicated to conduct steam; Linear Thermal Expansion Coefficient 6.12x1 0·5/,C (median).

1.1 REFERENCE SPECIFICATIONS

- ASTM D2846 Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems.
- ASTM D1784 Standard Classification System and Basis for Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
- ASTM F493 Standard Specification For Solvent Cements For Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe And Fittings

2. BENEFITS

- **EASY TO INSTALL**

There is no need of special equipment and qualified labor. The connections are welded cold (with appropriate adhesive).

- **GOOD THERMAL INSULATION**

Due to its low thermal conductivity, CPVC Line pipes and connections do not demand thermal insulation application when built-in, or in visible stretches.

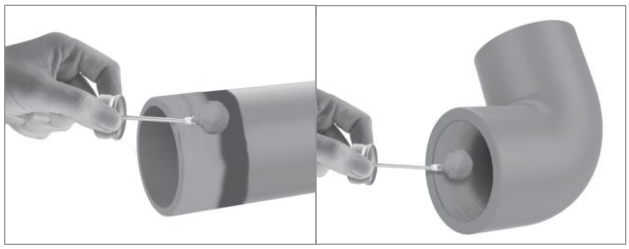
- **DURABILITY**

CPVC Line does not undergo chemical attack from water substances. This avoids oxidation, rust or corrosion of components, and incrustations that impair the design flow during service life.

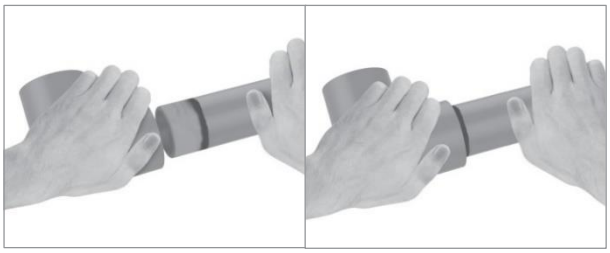
3. INSTRUCTIONS

3.1 ASSEMBLY / INSTALLATION:

Step 1: apply CEMENT CPVC to the pipe outside area and in the connection bag, while surfaces are still wet. Avoid excess use so the adhesive does not flow on the product.



Step 2: fit all at once the ends to be welded, while the adhesive is wet, rotating 1/4 turn and keep the joint under manual pressure for approximately 30 seconds, till the adhesive is resistant.



For 2 ½", 3" and 4", an additional procedure is necessary at the adhesive application step: apply a thicker layer of adhesive to the pipe extremity and after that apply an adhesive layer to the connection pocket;
After that, apply a new layer of adhesive to the pipe end (or connection end); To ensure the adhesive reaction in the pipe, it is important to apply the adhesive so that it covers the whole pipe surface. Generally 3 to 5 turns on the pipe with the applicator brush are enough to reach the level desired by the procedure above. Eventual adhesive excesses shall be removed with a swab;
Do not interfere with the connection welded in the first 15 minutes. Wait for 24 hours to make the pressure test.

3.1.2 EXECUTION OF THREAD CONNECTIONS:

In a hot water facility with CPVC Line it will be necessary to interlink metallic parts, with the slide, pressure, ball valves, terminal points of use, heaters inlet and outlet, etc. In such cases thread connections will be necessary.

Important:
Always clean the threads surfaces before applying the product, letting them dry and free of fats and oxidation.
TIGRE Thread Sealing Tape supports 482ºF maximum temperature, therefore, it can be used both for cold water and hot water, in PVC or metallic threads.

3.1.3 VISIBLE PIPING:

Piping fixation shall be carried out by means of brackets or clamps;
Supports used to fix piping shall have circular shape, with minimum width of 0.75 x D (D = diameter);
Only one of them may be fixed, the other supports shall enable piping free movement, caused by thermal expansion; When there are changes in direction, connections used shall be anchored in order to avoid facility undesired displacements;
According to the stretch length between 2 connections, there shall be expansion connection or curves to absorb this stretch thermal expansion;
When there are weights centered due to the presence of valves or 4" connections, these shall be supported and anchored regardless the piping systems;
In case of vertical piping, a maximum space of 2.0 meters shall be adopted between brackets;
In case of buildings, the ideal is to adopt 1 bracket for each floor

3.1.4 TABLE OF SPACE BETWEEN BRACKETS:

Support spacing (in)				
	Maximum water temperature (°F)			
Nominal dimension	68	100,4	140	176
1/2"	47,2	47,2	43,3	35,4
3/4"	59,1	55,1	47,2	35,4
1"	66,9	59,1	55,1	35,4
1 1/4"	70,9	63,0	59,1	47,2
1 1/2"	78,7	70,9	66,9	47,2
2"	90,6	82,7	78,7	47,2
2 1/2"	94,5	90,6	78,7	47,2
3"	94,5	94,5	82,7	47,2
4"	106,3	106,3	90,6	55,1

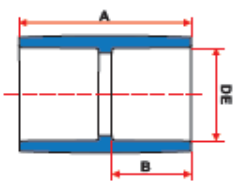
CPVC LINE does not require maintenance plan since used properly in compliance with the standard. In case of unintended hole in piping, welding sleeves shall be used, or even CPVC LINE slide sleeve

3.2.1 MAINTENANCE WITH CPVC LINE SLIDE SLEEVE:

1) Cut the part damaged;
2) Remove burrs;
3) Bevel the wall pipes ends;
4) Cut a piece of pipe the same size as the one damaged, removing burrs and beveling ends;
5) Spread lubricant paste to sleeves O´rings;
6) Mark on the pipe, the measure corresponding half the sleeve;
7) Introduce sleeves on the pipes present up to seeing the edges;
8) Fit the new piece of pipe;
9) Turn the sleeves closing them (in this case no expansion space is let, as it is a repair);
10) Fasten the sleeves to avoid their movement.

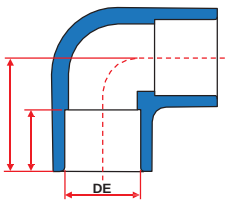
4. LINE ITEMS

COUPLING



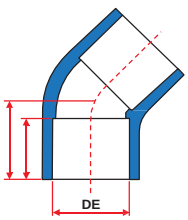
	DIMENSIONS					
	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
D	21.5	26.8	34.5	41.8	49.4	64.4
d	15.9	22.2	28.6	34.9	41.3	54
H	28.9	39.5	50	60	70.5	90.5
L	13	18	23	28.1	33.5	43.5

90° ELBOW



	DIMENSIONS					
	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
D	21.5	26.8	34.5	41.8	49.4	64.4
d	15.9	22.2	28.6	34.9	41.3	54
L	13	18	23	28.1	33.5	43.5
H	23.1	31.43	39.22	47.4	55.4	72.5

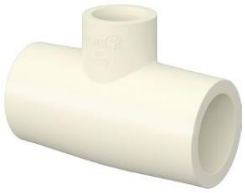
45° ELBOW

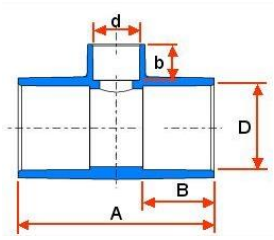


	DIMENSIONS				
	1/2"	3/4"	1"	1.1/4"	1.1/2"
D	20	26.8	34.5	41.8	49.46
d	15.9	22.2	28.6	34.9	41.3
L	13	18	23	28.1	33.5
H	18.8	24.3	30.9	37.1	44

Data Sheet

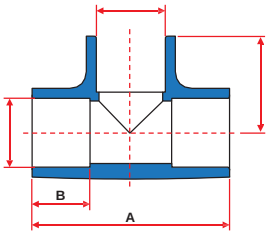
REDUCING TEE





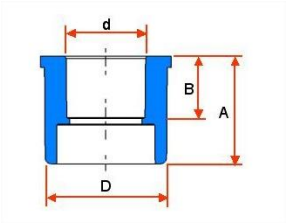
	DIMENSIONS
	3/4"x1/2"
D1	26.85
d1	22.2
L1	18
h1	27.25
D2	20.08
d2	15.9
L2	13
H2	25.33

TEE



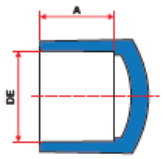
	DIMENSIONS					
	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"
D	21.5	26.8	34.5	41.8	49.4	64.4
d	15.9	22.2	28.6	34.9	41.3	54
I	13	18	23	28.1	33.5	43.5
L	43.8	62	80	95.5	112	145

REDUCTION BUSHING



	DIMENSIONS	
	3/4 x 1/2"	1"x3/4"
D	26.8	34.5
d1	15.9	22.2
d2	22.1	28.47
d3	14.72	21.1
H	21.2	26.4
L1	13	18
L2	18	23

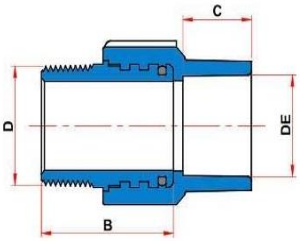
CAP



	DIMENSIONS		
	1/2"	3/4"	1"
D	21.5	26.8	34.5
d	15.9	22.2	28.6
L	13	18	23
H	17	25.5	32

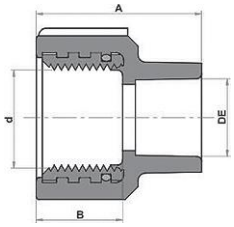
Data Sheet

TRANSITION ADAPTER (SLIP X BRASS MIP)



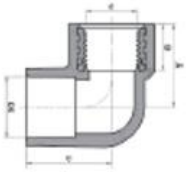
	DIMENSIONS		
	1/2"	3/4"	1"
D	21.7	28.5	35
d	15.9	22.2	28.6
H	48	53	71
L	13	18	23
G	1/2"	3/4"	1"

TRANSITION ADAPTER (SLIP X BRASS FIP)



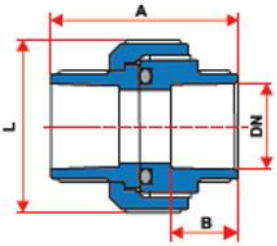
	DIMENSIONS		
	1/2"	3/4"	1"
D	21.7	28.5	35
d	15.9	22.2	28.6
H	42.5	50	65
L	13	18	23
G	1/2"	3/4"	1"

TRANSITION ELBOW (SLIP X BRASS FIP)



	DIMENSIONS
	3/4"x1/2"
D1	33
D	26.85
d	22.2
L	18
G	1/2"
H1	34.5
H2	28.35

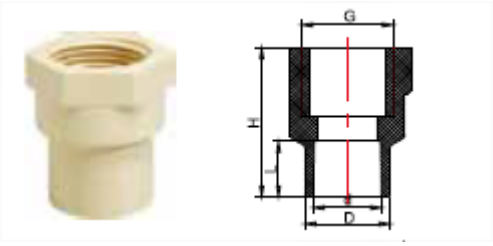
UNION



	DIMENSIONS	
	1/2"	3/4"
d	15.9	22.2
D	21.8	32.5
D1	39.5	53.5
l	13	22
L	36.5	53.5

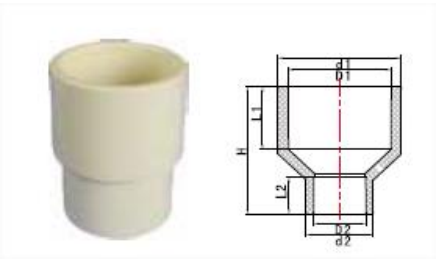
Data Sheet

FEMALE ADAPTOR



	DIMENSIONS
	1/2"
D	20
d	15,9
G	1/2"
H	35
L	13

REDUCING COUPLING

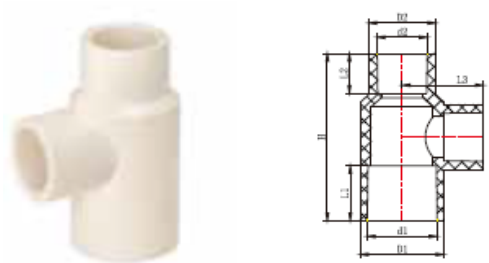


	DIMENSIONS	
	1"x3/4"	3/4"x1/2"
D1	34.43	26.85
d1	28.6	22.2
L1	23	18
d2	26.85	20.08
D2	22.2	15.9
L2	18	13
H	44	33.7

TUBING STRAPS

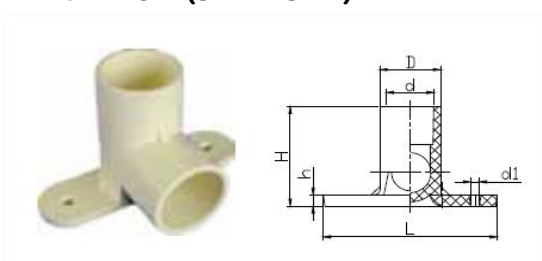
	DIMENSIONS	
	1/2"	3/4"
R1	7.8	11
R2	9.2	12.5
R3	10.6	14
H	12.6	15.2
L1	27.6	36.6
L2	39	47.6

REDUCING TEE



	DIMENSIONS	
	3/4"x1/2"x1/2"	3/4"x3/4"x1/2"
D1	26.85	26.85
d1	22.45	22.45
L1	18	18
d2	16.1	16.1
D2	21.5	21.5
L2	13	13
H	55	57.8
L3	26.08	31.43

WING ELBOW (SLIP X SLIP)



	DIMENSIONS
	1/2"
D	30
d	15.9
H	38.2
L	13
G	1/2"