



ASTM
PIPES & FITTINGS
PRODUCT CATALOGUE



PLUMBING PIPES & FITTINGS

ASTM PIPES & FITTINGS

ULP ASTM Pipes are manufactured using the latest technology and high-grade raw material. These pipes are ideal for transportation and distribution of water in households including potable water, industrial process lines, saltwater lines, swimming pools, pipes used for hand pumps, and in down-take lines in plumbing systems.

Manufactured with added strength and crafting precision, ULP PVC-U pipes have a prolonged life advantage over conventional pipes surpassing most or all traditional metal and other plastic pipes. This lightweight product's abrasion resistance, mechanical strength, toughness, and durability are the key reasons why we are a leader in housing and potable water applications in the plumbing industry.

These pipes are manufactured using a lead-free compound and are environment and health friendly. Our stringent quality assurance approach across all stages of manufacturing gives this product a high degree of reliability, making ULP ASTM plumbing pipes a preferred choice of leading MEP consultants, architects, builders, plumbing contractors, plumbers, and quality conscious people across the country.

Manufactured in accordance with ASTM D 1785 standards, these pipes are available in Schedule 40 & 80 series, in standard lengths of 3 and 6 meters, with options of plain or threaded ends.

PIPE DERATING FACTOR

PVC-U ASTM plumbing pipes can be used at higher pressure ratings at a water temperature of 23°C. As the temperature of water increases, the working pressure reduces (e.g. if the working pressure is 100% at 23°C, it will be 50% at 45°C and only 22% at 60°C). These pipes may be used for water temperatures up to 45°C.

Service Temperature (°C)	23	30	35	40	45	50	55	60
% of working pressure	100	90	75	62	50	40	30	22

DIMENSIONS OF ASTM PIPES

As per ASTM D 1785

Nominal Size (inch)	Size (mm)	Ref. size (mm)	Outside Diameter (mm)	SCHEDULE 40		SCHEDULE 80		Std. Length (meter)
				Wall Thickness (t) (mm)	Working Pressure kgf/cm ²	Wall Thickness (t) (mm)	Working Pressure kgf/cm ²	
½"	15	21.34	21.34(±0.10)	2.77(+0.51)	41.4	3.73(+0.51)	58.6	3,6
¾"	20	26.67	26.67(±0.10)	2.87(+0.51)	33.1	3.91(+0.51)	47.6	3,6
1"	25	33.40	33.40(±0.13)	3.38(+0.51)	31.0	4.55(+0.53)	43.4	3,6
1¼"	32	42.16	42.16(±0.13)	3.56(+0.51)	25.5	4.85(+0.58)	35.9	3,6
1½"	40	48.26	48.26(±0.15)	3.68(+0.51)	22.8	5.08(+0.61)	32.4	3,6
2"	50	60.32	60.32(±0.15)	3.91(+0.51)	19.3	5.54(+0.66)	27.6	3,6
2½"	65	73.02	73.02(±0.18)	5.16(+0.61)	20.7	7.01(+0.84)	29.0	3,6
3"	80	88.90	88.90(±0.20)	5.49(+0.66)	17.9	7.62(+0.91)	25.5	3,6
4"	100	114.30	114.30(±0.23)	6.02(+0.71)	15.2	8.56(+1.02)	22.1	3,6
6"	150	168.28	168.28(±0.28)	7.11(+0.86)	12.4	10.97(+1.32)	19.3	3,6
8"	200	219.08	219.08(±0.38)	8.18(+0.99)	11.0	12.70(+1.52)	17.2	3,6



DIMENSIONS OF ASTM PIPES - THREADED AS PER IS 554

Nominal Size (inch)	Size (mm)	Ref. size (mm)	Outside Diameter (mm)	SCHEDULE 40	SCHEDULE 80	Std. Length (meter)
				Wall Thickness (t) (mm)	Wall Thickness (t) (mm)	
½"	15	21.34	21.34(±0.10)	2.77(+0.51)	3.73(+0.51)	3,6
¾"	20	26.67	26.67(±0.10)	2.87(+0.51)	3.91(+0.51)	3,6
1"	25	33.40	33.40(±0.13)	3.38(+0.51)	4.55(+0.53)	3,6
1¼"	32	42.16	42.16(±0.13)	3.56(+0.51)	4.85(+0.58)	3,6
1½"	40	48.26	48.26(±0.15)	3.68(+0.51)	5.08(+0.61)	3,6
2"	50	60.32	60.32(±0.15)	3.91(+0.51)	5.54(+0.66)	3,6
2½"	65	75.20	75.20(±0.18)	5.16(+0.61)	7.01(+0.84)	3,6
3"	80	88.90	88.90(±0.20)	5.49(+0.66)	7.62(+0.91)	3,6
4"	100	114.30	114.30(±0.23)	6.02(+0.71)	8.56(+1.02)	3,6

ASTM FITTINGS AT A GLANCE

SCH-40&SCH-80(As Per ASTM D-2467)

Type of Fittings	Size in inch
COUPLER	½" to 8"
ELBOW 90°	½" to 8"
ELBOW 90° - THREADED	½" to 2"
ELBOW 90° - BRASS INSERT	½" to 1"
ELBOW 45°	½" to 8"
TEE	½" to 8"
CROSS TEE	½" to 1"
TEE THREADED	½" to 2"
TEE-BRASS INSERT	½" to 1"
END CAP	½" to 8"
MALE THREADED ADAPTER (M.T.A.)	½" to 4"
MALE THREADED ADAPTER (M.T.A.) - BRASS INSERT	½" to 3"
FEMALE THREADED ADAPTER (F.T.A.)	½" to 4"
FEMALE THREADED ADAPTER (F.T.A.) - BRASS INSERT	½" to 3"
UNION	½" to 4"
STEP OVER BEND	½" to 2"
TANK NIPPLE	½" to 4"
TANK NIPPLE SOCKET END	½" to 2"
PIPE CLIP	½" to 4"

ACCESSORIES

Type of Fittings	Size in inch
THREADED END PLUG	½" to ¾"
POWDER COATED METAL CLAMP FOR ASTM PIPE	½" to 2"

SCH-40&SCH-80(As Per ASTM D-2467)

Type of Fittings	Size in inch
COMPACT BALL VALVE	½" to 4"
UPVC BALL VALVE	½" to 2"
BALL VALVE ACCESSORIES - BLUE HANDLE	½" to 2"
REDUCER	¾" to 4"
REDUCING BUSH	¾" to 6"
REDUCING ELBOW 90°	¾" to 1"
REDUCING TEE	¾" to 4"
REDUCING ELBOW 90° - BRASS INSERT	¾" to 1"
REDUCING TEE - BRASS INSERT	¾" to 1¼"
REDUCING MALE THREADED ADAPTER (M.T.A.)	¾" x ½"
REDUCING MALE THREADED ADAPTER (M.T.A.) - BRASS INSERT	¾" to 1"
REDUCING FEMALE THREADED ADAPTER (F.T.A.) - BRASS INSERT	¾" to 1"
HEX NIPPLE	½" to 2"
NON RETURN VALVE	¾" to 1"
CONVERTER COUPLER UPVC - AGRI	½" to 1"
CONVERTER COUPLER UPVC - CPVC	½" to 1½"
SWEEP BEND	½" to 1¼"
Y STRAINER	1"

As per ISO-4422

Type of Fittings	Size in inch
FAUCET VALVE	½"

ASTM FITTINGS

As per ASTM D2467 in Schedule 40&80

Fittings for ASTM Plain ended pipes are available in Schedule 40 & 80 series.



COUPLER

To join two lengths of pipes

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100	150	200	
inch	2½"	3"	4"	6"	8"	



ELBOW 90°

To give a 90° turn to a pipeline

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100	150	200	
inch	2½"	3"	4"	6"	8"	



ELBOW 90° - THREADED

To give a 90° turn to a pipeline and connect male threaded pipes and fittings

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"



ELBOW 90° - BRASS INSERT

To connect male threaded CP/Metal fittings like taps, showers etc to a pipeline

mm	15	20	25			
inch	½"	¾"	1"			



ELBOW 45°

To give a 45° turn to a pipeline

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100	150	200	
inch	2½"	3"	4"	6"	8"	



TEE

To take a bypass or a service line from a main line

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100	150	200	
inch	2½"	3"	4"	6"	8"	



CROSS TEE

To take a double bypass or a service line from a main line

mm	15	20	25			
inch	½"	¾"	1"			



TEE - THREADED

To take a bypass or a service line from a main line

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"



TEE - BRASS INSERT

To connect a male threaded CP/Metal fitting like taps, showers, etc to a pipeline

mm	15	20	25			
inch	½"	¾"	1"			



END CAP

To plug the end of a pipeline

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100	150	200	
inch	2½"	3"	4"	6"	8"	



THREADED END PLUG

Threaded end plug for pressure testing

mm	15	20				
inch	½"	¾"				



MALE THREADED ADAPTER (M.T.A.)

To connect female threaded fittings to pipeline

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100			
inch	2½"	3"	4"			



MALE THREADED ADAPTER (M.T.A.)-BRASS INSERT

To connect female threaded CP/Metal fittings like taps, showers etc. to a pipeline

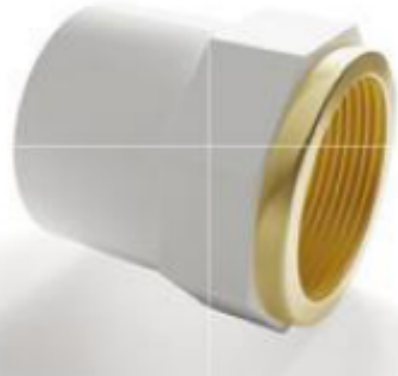
mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80				
inch	2½"	3"				



FEMALE THREADED ADAPTER (F.T.A.)

To connect male threaded fittings to a pipeline

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100			
inch	2½"	3"	4"			



FEMALE THREADED ADAPTER (F.T.A.)-BRASS INSERT

To connect male threaded CP/Metal fittings like taps, showers etc to a pipeline

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80				
inch	2½"	3"				



UNION

To allow quick and convenient disconnection of pipes for maintenance or fixture replacement

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100			
inch	2½"	3"	4"			



HEX NIPPLE

To connect two female threaded fittings on either side.

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"



TANK NIPPLE

To connect the pipeline to a tank

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100			
inch	2½"	3"	4"			



TANK NIPPLE - SOCKET END

To connect the pipeline to a tank. A socket is provided at one end of the tank nipple for connecting directly with the pipe

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"



PIPE CLIP

To fix and secure the pipeline to a wall or a flat surface.

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100			
inch	2½"	3"	4"			



POWDER COATED METAL CLAMP FOR ASTM PIPE

To fix and secure the pipeline to a wall or a flat surface

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"



COMPACT BALL VALVE

To allow quick and convenient disconnection of water supply

mm	15	20	25	32	40	50
inch	½"	¾"	1"	1¼"	1½"	2"
mm	65	80	100			
inch	2½"	3"	4"			



NON RETURN VALVE

To allow/control flow of water in only one direction

mm	20	25
inch	¾"	1"



REDUCER

To reduce the main line

mm	20X15	25x15	25x20	32X15	32x20	32x25
inch	¾"x½"	1"x½"	1"x¾"	1¼"x½"	1¼"x¾"	1¼"x1"
mm	40x15	40x20	40x25	40x32	50X15	50X20
inch	1½"x½"	1½"x¾"	1½"x1"	1½"x1¼"	2"x½"	2"x¾"
mm	50x25	50x32	50x40	65x15	65X20	65X25
inch	2"x1"	2"x1¼"	2"x1½"	2½"x½"	2½"x¾"	2½"x1"
mm	65X32	65X40	65X50	80X15	80X20	80X 25
inch	2½"x1¼"	2½"x1½"	2½"x2"	3"x½"	3"x¾"	3"x1"
mm	80X32	80X40	80X50	80X65	100X15	100X20
inch	3"x1¼"	3"x1½"	3"x2"	3"x2½"	4"x½"	4"x¾"
mm	100X25	100X32	100X 40	100X50	100X65	100X80
inch	4"x1"	4"x1¼"	4"x1½"	4"x2"	4"x2½"	4"x3"



REDUCING ELBOW 90° - BRASS INSERT

To connect male threaded CP/Metal fittings like taps, showers etc to a pipeline

mm	20X15	25x15	25x20
inch	¾"x½"	1"x½"	1"x¾"



REDUCING TEE - BRASS INSERT

To connect male threaded CP/Metal fittings like taps, showers etc to a pipeline

mm	20X15	25x15	25x20	32X15
inch	¾"x½"	1"x½"	1"x¾"	1¼"x½"



REDUCING BUSH

To reduce the internal diameter of fittings

mm	20X15	25x15	25x20	32X15	32x20	32x25
inch	¾"x½"	1"x½"	1"x¾"	1¼"x½"	1¼"x¾"	1¼"x1"
mm	40x15	40x20	40x25	40x32	50X15	50X20
inch	1½"x½"	1½"x¾"	1½"x1"	1½"x1¼"	2"x½"	2"x¾"
mm	50x25	50x32	50x40	65X50	80X40	80X50
inch	2"x1"	2"x1¼"	2"x1½"	2½"x2"	3"x1½"	3"x2"
mm	80X65	100X50	100X80	150x100		
inch	3"x2½"	4"x2"	4"x3"	6"x4"		



REDUCING MALE THREADED ADAPTER (M.T.A.)

To connect female threaded fittings to a pipeline

mm	20X15
inch	¾"x½"



REDUCING MALE THREADED ADAPTER (M.T.A.) - BRASS INSERT

To connect female threaded CP/Metal fittings like taps, showers etc. to a pipeline

mm	20X15	25x15	25x20
inch	¾"x½"	1"x½"	1"x¾"



REDUCING ELBOW 90°

To give a 90° turn and connect with a reduced pipeline

mm	20X15	25x15	25x20
inch	¾"x½"	1"x½"	1"x¾"



REDUCING TEE

To take a reducing bypass or service line from main line

mm	20X15	25x15	25x20	32X15	32x20	32x25
inch	¾"x½"	1"x½"	1"x¾"	1¼"x½"	1¼"x¾"	1¼"x1"
mm	40x15	40x20	40x25	40x32	50X15	50X20
inch	1½"x½"	1½"x¾"	1½"x1"	1½"x1¼"	2"x½"	2"x¾"
mm	50x25	50x32	50x40	65x15	65X20	65X25
inch	2"x1"	2"x1¼"	2"x1½"	2½"x½"	2½"x¾"	2½"x1"
mm	65X32	65X40	65X50	80X15	80X20	80X 25
inch	2½"x1¼"	2½"x1½"	2½"x2"	3"x½"	3"x¾"	3"x1"
mm	80X32	80X40	80X50	80X65	100X15	100X20
inch	3"x1¼"	3"x1½"	3"x2"	3"x2½"	4"x½"	4"x¾"
mm	100X25	100X32	100X 40	100X50	100X65	100X80
inch	4"x1"	4"x1¼"	4"x1½"	4"x2"	4"x2½"	4"x3"



REDUCING FEMALE THREADED ADAPTER (F.T.A.) - BRASS INSERT

To connect male threaded CP/Metal fittings like taps, showers etc. to a pipeline

mm	20X15	25x15	25x20
inch	¾"x½"	1"x½"	1"x¾"



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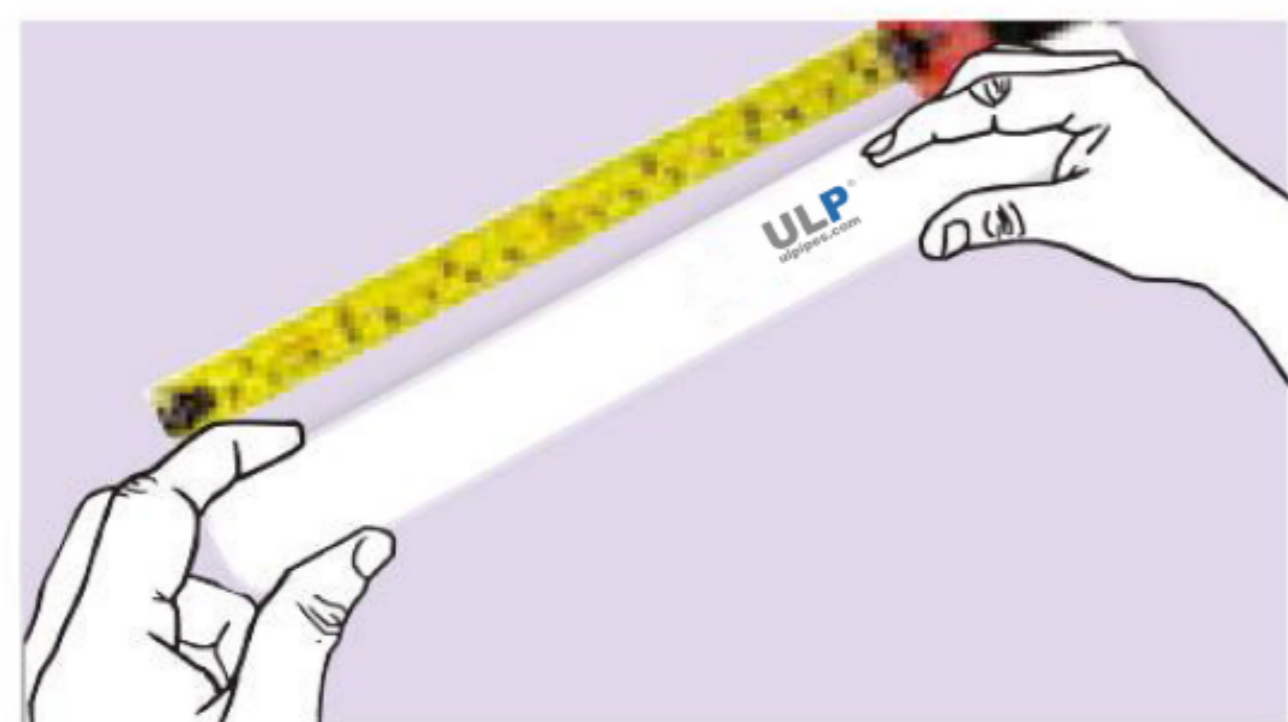
FAUCET VALVE

To allow quick and convenient disconnection of water supply

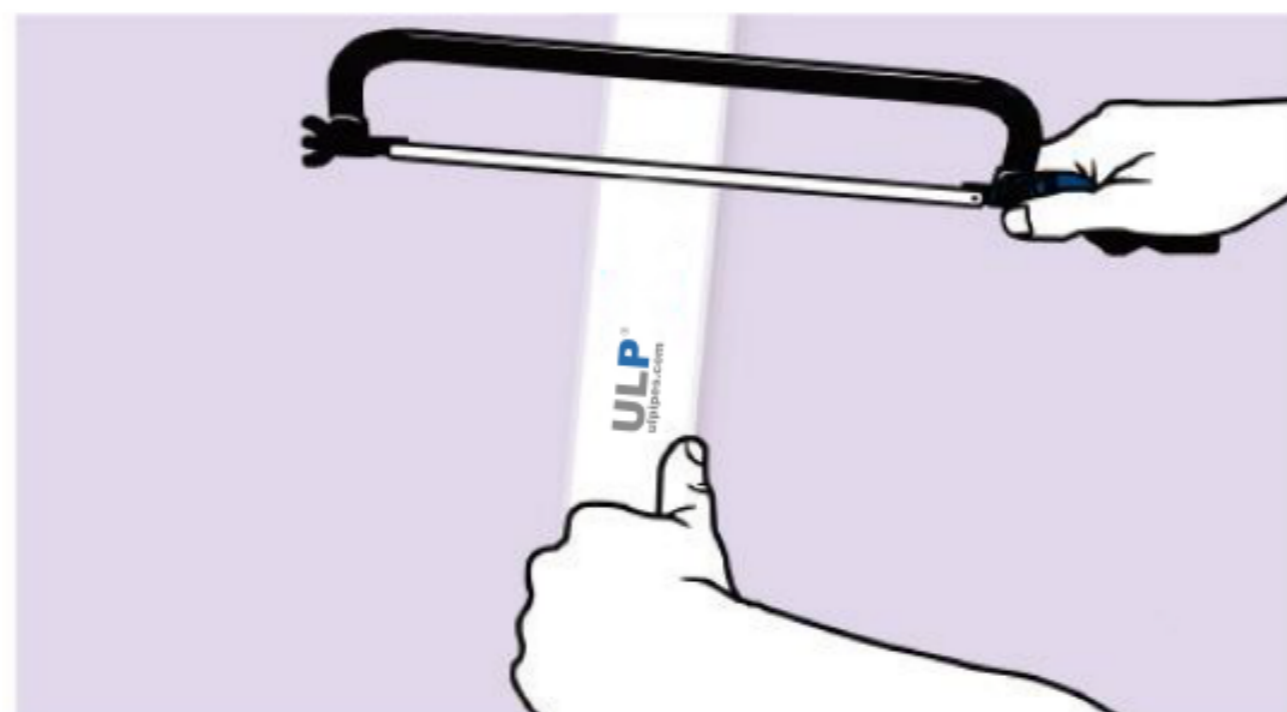
mm	15	15
inch	½"	½"

JOINTING OF ULP ASTM PIPES & FITTINGS:

1. Measuring



2. Cutting



3. Deburring and chamfering



4. Cleaning



5. Check dry-fit



6. Solvent cement application



7. Assembly



SET AND CURE SCHEDULE GUIDELINES

AVERAGE INITIAL SET SCHEDULE

Set schedule is the necessary time to be allowed before the joint can be carefully handled. (In damp or humid weather allow 50% more set time.)

Temperature Range	Pipe Sizes	Pipe Sizes	Pipe Sizes
Temperature range during assembly and setting period	½" to 1¼"	1½" to 2"	2½" to 8"
16°C to 38°C	2 minutes	5 minutes	30 minutes
5°C to 16°C	5 minutes	10 minutes	2 hours
-18°C to 5°C	10 minutes	15 minutes	12 hours

AVERAGE JOINT CURE SCHEDULE

Joint cure schedule is the necessary time to be allowed before pressurizing the system. (In damp or humid weather allow 50% more set time.)

Temperature Range	Pipe Sizes		Pipe Sizes		Pipe Sizes	
Temperature range during assembly and setting period	½" to 1¼"		1½" to 2"		2½" to 8"	
	Up to 11 Kg/cm ²	11 to 22 Kg/cm ²	Up to 11 Kg/cm ²	11 to 22 Kg/cm ²	Up to 11 Kg/cm ²	11 to 22 Kg/cm ²
16°C to 38°C	15 minutes	6 hours	30 minutes	12 hours	1½ hours	24 hours
5°C to 16°C	20 minutes	12 hours	45 minutes	24 hours	4 hours	48 hours
-18°C to 5°C	30 minutes	48 hours	1 hour	96 hours	72 hours	8 days

DO'S AND DON'TS

DO'S

- For best results use ULP pipes, fittings and solvent cement.
- Installation should be completed as per expert advice and recommended safe practices must be followed.
- Clean pipe and fittings with a clean dry cloth to remove any dirt.
- Keep pipe and fittings in the original packaging until needed.
- Cut the pipe as square or perpendicular as possible before making a joint.
- Ensure no sharp edges are in contact with the fittings surface while inserting the pipe.
- Ensure proper alignment of pipe and fittings to avoid stress on the joints.
- Ensure installation is done in such a way that there are no chances of air entrapment.
- Use only Teflon tape as a thread sealant.
- Always conduct hydraulic pressure test after installation to detect any leaks and faults.
- Wait for the appropriate cure time before pressure testing. Fill lines slowly and allow air to escape from the system prior to pressure testing.
- Paint pipes exposed to sunlight with a water-based paint.
- Provide additional support to the brass side of ASTM/brass transition to support the weight of the metal system.
- In case any cracks are found in the pipe, cut a minimum of 25mm length beyond the edge of the crack.

DON'TS

- Do not use metal hooks or nails to support/hold or put pressure on the pipes.
- Do not use straps and hangers with rough or sharp edges. Do not tighten the straps over the pipes.
- Never expose the pipe to an open flame while trying to bend it.
- Do not drop pipes from heights. Do not drop heavy objects on pipes or walk on pipes.
- Do not use any other petroleum or solvent-based sealant, adhesive, lubricant, or fire-stop material on ASTM pipes and fittings.
- Do not use the ASTM piping system to support any metallic components.
- Do not use ASTM solvent cement that has exceeded its shelf life, has become discoloured, or has gelled.

CERTIFICATIONS AND APPROVALS

- ASTM pipes and fittings are manufactured as per ASTM D 1785 and ASTM D 2467
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FEATURES AND BENEFITS



Lead-free



UV stabilised, ensuring protection from direct sunlight



Ideal for potable water transportation



Heavy pressure rating



Self-extinguishing and does not support combustion



Added mechanical strength makes it ideal for relevant applications and conditions



Low thermal conductivity, preventing external “sweating”



High tensile strength



Meets global standards for housing and industry applications



Tough, durable, and immune to termites, fungus, bacteria



Corrosion-free and chemical resistant



Jointing can be done without the laborious threading operation



Lightweight, easy to handle and transport



Stringent quality control



Low installation and maintenance cost



Smooth inner surfaces allow a greater flow of water

APPLICATIONS

ULP ASTM plumbing pipes are designed for potable water distribution as well as plumbing applications. They can be successfully used for:



Cold water plumbing applications in buildings



Piping systems for swimming pools



Pipes for hand pumps



Salt water lines



Water distribution mains



Vertical risers/ down-take lines/ring lines



Corrosive fluid transportation



Industrial process lines (based on chemical resistance chart)



Sugar, paper, and distillery lines

Note: Not suitable for compressed air and gases.