BS 6675:1986

Lockable Valve

ISO 4144 : 2003

Stainless Steel
304 Fitting

BS EN 12288 : 2010

Brass Gate Valve

Resilient Seat
Gate Valve

Chrome
Stop Cock

MS 1396:1996

Under Pressure
Vertical Ferrule

BS EN 1213 : 2000

Brass Stop Cock

BS EN 1245-3 : 1998

P.A Pipe Fitting

Tapping tool

Catalog

Price List

Sirim Certificate

Span Approved Letter

SIRIM

SPAN

KAIZEN MARKETING SDN. BHD (945718-V)
31A, Jalan Pinggir, Off Jalan Ipoh, 51200 Kuala Lumpur, Malaysia.
Tel: +603-6731 7090 Fax: +603-4041 7090 H/P: 012-225 7733
Email: nkaizen@hotmail.com
Website: www.kaizenmarketing.com.my

UNDER PRESSURE VERTICAL FERRULE

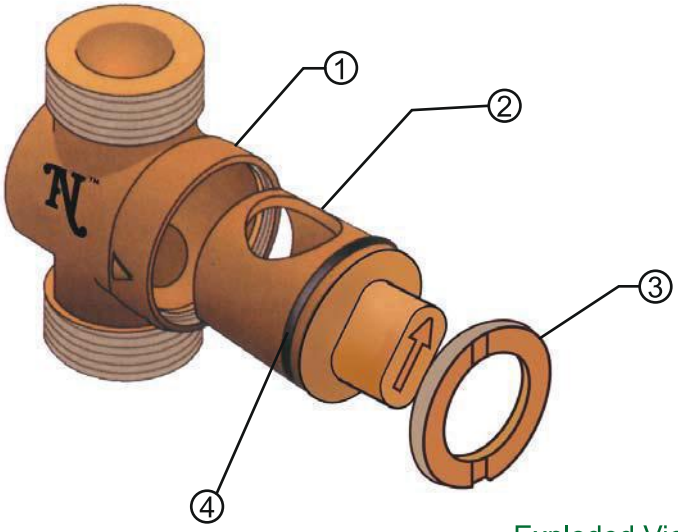
KEGUNAAN

- Under Pressure Vertical Ferrule direkabentuk untuk menyambung paip utama ke rumah individu tanpa menghentikan bekalan.
- Under Pressure Vertical Ferrule direka sesuai untuk sambungan kepada semua jenis paip seperti Ductile Iron, Mild Steel Cement Lined, UPVC, HDPE dan A.C.

APPLICATION

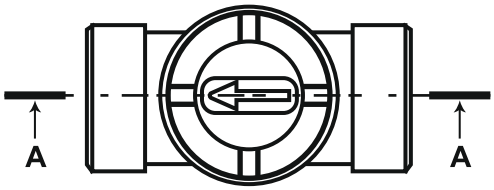
- Under Pressure Vertical Ferrule is designed to connect the water main with household communication pipe without shutting off the supply.
- Under Pressure Vertical Ferrule is designed to suit all type of pipes i.e: Ductile Iron, Mild Steel Cement Lined, UPVC, HDPE & AC pipes.

SPECFICATIONS

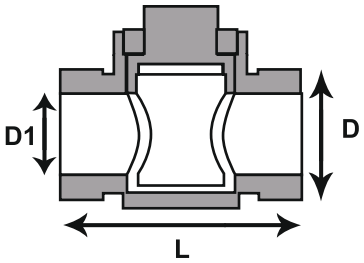


Exploded View

No	Parts	Material
1.	Housing	Standard Brass
2.	Valve	Standard Brass
3.	Cover	Standard Brass
4.	O-Ring	Nitrile Rubber



SECTION A-A



No	Parts	Dimensions
1.	Length, L	79mm
2.	Internal Diameter, D1	21mm
3.	External Diameter, D	32mm

WATERMARK

SPAN No:

SPAN/BPI/300-10/580/A/W-11

Corrosion Free
无锈蚀

Maintenance Free
免维修

full brass headwork
全铜芯

Safe for consumption
安全饮用

No harmful substances
无有害物质

BRASS STOP COCK

MAINTENANCE FREE !!!

full brass headwork
全铜芯

full brass headwork that maintainace free, unlike headwork that use rubber which will harden and cause of leakeage.

WATERMARK **SPAN** No:
SPAN/BPI/300-10/580/A/W-12

31A, Jalan Pinggir, Off Jalan Ipoh, 51200 Kuala Lumpur, Malaysia.
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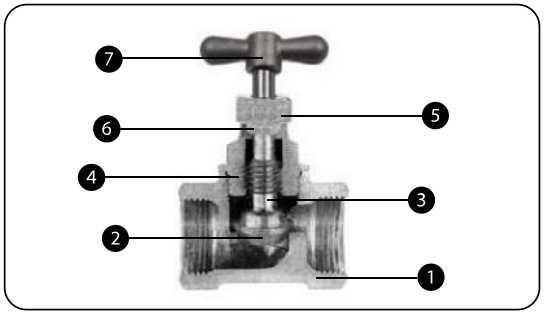
Email: nkaizen@hotmail.com
Website: http://www.kaizenmarketing.com.my

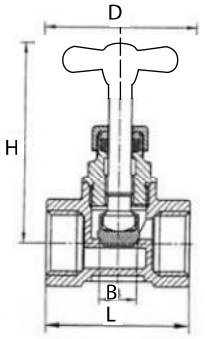
BRASS STOP COCK

CHARACTERISTICS IN CONSTRUCTION AND APPLICATION

- The stem is connected with flashboard through left-hand trapezoidal thread.
- The PTFE packing has contact sealing with the valve stems in order to prevent damages to the valve stems.
- Sealing style: metal, metal-palistic.
- To be used in commercial and residential general service applications.
- Hard seal is unsuitable to be mounted at the terminal.



No	Parts	Material
1.	Body	Standard Brass
2.	Flap	Standard Brass
3.	Stem	Standard Brass
4.	Bonnet	Standard Brass
5.	Packing nut	Standard Brass
6.	Packing	Standard Brass
7.	Handle	Standard Brass



Nominal Size	Dimension(mm)			
	L	H	D	B
1/2"	52	68	47	16
3/4"	60	81	47	22
1"	72	98	60	26

WATERMARK **SPAN** No:
SPAN/BPI/300-10/580/A/W-12

CHROME STOCK COCK

CHROME STOCK COCK

CONCEAL STOP COCK EXTENTION

COMPATIBLE
With Most
Conceal Stop Cock
In The Market

1 □→✸ SR

2 ✸→✸ RR

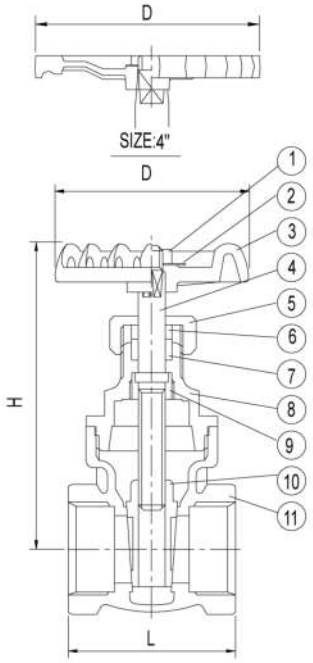
BRASS GATE VALVE

SPAN No: SPAN/BPI/300-10/580/A/W-9

N® BRASS GATE VALVE

CHARACTERISTICS IN CONSTRUCTION AND APPLICATION

- The stem is connected with flashboard through left-hand trapezoidal thread.
- The PTFE packing has contact sealing with the valve stems in order to prevent damages to the valve stems.
- Sealing style: metal, metal-palistic.
- To be used in commercial and residential general service applications.
- Hard seal is unsuitable to be mounted at the terminal.



No	Parts	Material
1.	Wheel Nut	Steel
2.	Name Plate	Aluminum
3.	Hand Wheel	Cast Iron
4.	Stem	Brass
5.	Packing Nut	Brass / Cast Brass
6.	Gland	Brass
7.	Gland Packing	Graphite
8.	Bonnet	Cast Brass
9.	Lock Nut	Brass
10.	Disc	Cast Brass
11.	Body	Cast Brass

Nominal	Dimension(mm)		
Size	L	H	D
3/4"	47	85.5	55
1"	50	96	65
1¼"	66	118	71
1½"	65	128	71
2"	71.5	152	91
2½"	89	186	105
3"	101	222/220	130/112
4"	116	249/258	172/132

WATERMARK

SPAN No: SPAN/BPI/300-10/580/A/W-9

Polyethylene Aluminium Composite Pipe Brass Fitting

WATERMARK

SPAN No: SPAN/BPI/300-10/580/A/W-7

Male Socket

Socket

Reducing Socket

Female Socket

Male Elbow

Elbow

Tee

Female Elbow

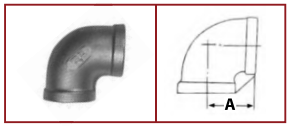
Stainless Steel 304 Pipe Fitting

Features

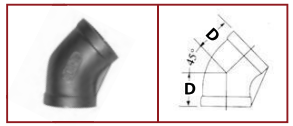
- Self healing properties of stainless steel fittings help reduce the penetration of rust/corrosion and eliminate damage to the fitting.
- Stainless steel fittings retain their strength in extreme heat and extreme cold conditions.
- Fitting surface is easy to maintain and keep clean.
- Easy cleaning capabilities make these fittings perfect for food processing and other hygienic areas where wash downs are common.
- Superior strength and durability greatly reduce replacement of fittings - this will lower your total cost of ownership and increase your return on investment.
- Stainless steel fittings do not require harsh environment-damaging cleaners to keep them looking like new.

Trade Sizes	1/2" to 4"
Fittings Material	304 stainless steel
Nominal Pressure	150lb / 2.0 MPa

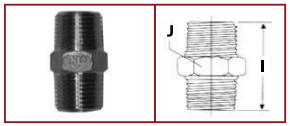
NO. 1 90 ELBOW



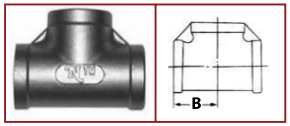
NO. 4 45 ELBOW



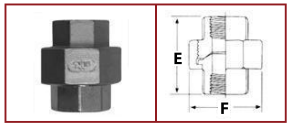
NO. 7 HEXAGON NIPPLE



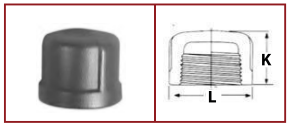
NO. 2 TEE



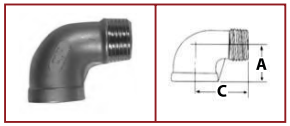
NO. 5 CONICAL UNION



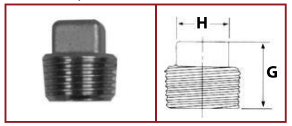
NO. 8 ROUND CAP



NO. 3 STREET ELBOW



NO. 6 SQUARE PLUG



NO. 9 EQUAL SOCKET

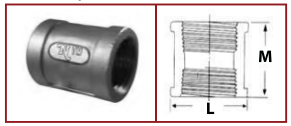


FIG NO	1,3	2	3	4	5	5	6	6	7	7	8	8,9	9
PIPE SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M
1/2	27	27.2	37	21	41	39	18	11	42	23	21.4	27.5	34.5
3/4	31.5	32	43	25	46	48	20	17	45	29	22	32.7	38.9
1	36.5	38	52	29	52	54	23	19	49	36	26	40.5	43.6
1¼	42.5	45	59	33	57	66	29	22	54	45	28	49.5	50
1½	47.5	48.1	64	37	60	72	30	22	56	51	32	56	53.5
2	56	57	74	42	69	88	36	27	65	63	33.5	67.5	62.5
2½	68	69	87	49	79	107	39	32	76	78	39	82.8	71.4
3	77.5	78	98	54	86	121	44	36	80	92	42	97	76.5
4	93	96	118	65	104	146.5	58	41	86	118	45	123	86.5

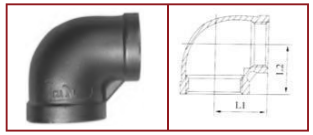
* All dimensions are in "mm" unless otherwise stated

WATERMARK

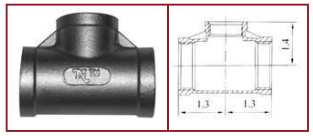
SPAN No:
SPAN/BPI/300-10/580/A/W-10

Stainless Steel 304 Pipe Fitting

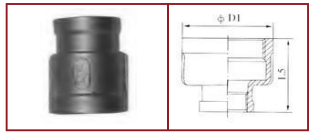
NO. 10 RED . ELBOW



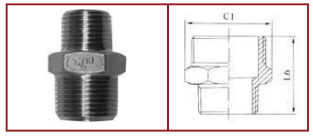
NO. 11 RED . TEE



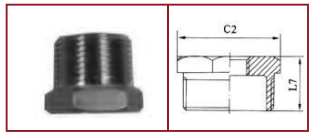
NO. 12 RED . SOCKET



NO. 13 RED . HEX . NIPPLE



NO. 14 HEX . BUSHING



NO. 15 SOCKET M&F

SIZE1	SIZE2	L1	L2	L3	L4	L5	D1	L6	C1	L7	C2
1/2	1/8					34	28	38	23	21	24
	1/4			24	24	34	28	38	23	21	24
	3/8			24	26	34	28	39	23	21	24
3/4	1/4					38	33	40.5	30	24	30
	3/8			28	28	38	33	42	30	24	30
	1/2	29	30	29	30	38	33	45	30	24	30
1	1/4					42	41	43.5	36	27	35
	3/8					42	41	44	36	27	35
	1/2	32	33	32	33	42	41	48	36	27	35
	3/4	34	35	34	35	42	41	50	36	27	33.5
1¼	3/8					48	51			30	45
	1/2			38	39.5	48	51	49	46	30	45
	3/4	38	40	38	40	48	51	52	46	30	45
	1	40	42	40	42	48	51	54	46	30	45
1½	1/2	35	41	35	41	51	57	51	50	32	50
	3/4					51	57	53	50	32	50
	1	42	45	42	45	51	57	57	50	32	50
	1¼			45	48	51	57	59	50	32	50
2	1/2	35	47	42	47	58	70			36	62
	3/4			42		58	70	55.5	63	36	62
	1	42	51	42	51	58	70	61	63	36	62
	1¼	42		48	54	58	70	63	63	36	62
	1½	49	55	49	55	58	70	64	63	36	62
2½	1					65	88	64	78	39	78.5
	1¼							65.5	78	39	78.5
	1½					65	88	67.5	78	39	78.5
	2					65	88	70.5	78	39	78.5
3	1¼							69	92	44	89.5
	1½							70	92	44	92
	2							73	92	44	92
	2½							80	92	44	92.5
4	1¼									51	117.5
	1½							73	117	51	117.5
	2							76	117	51	117.5
	2½							83	117	51	117.5
	3							84	117	51	117.5

* All dimensions are in "mm" unless otherwise stated

WATERMARK

SPAN No:
SPAN/BPI/300-10/580/A/W-10

*All information in this brochure was correct to the best of our knowledge when originally printed. N ENTERPRISE AND TRADING reserves the right to make changes without notice to product specifications and manufacture processes given the company's policy of continual product improvement.

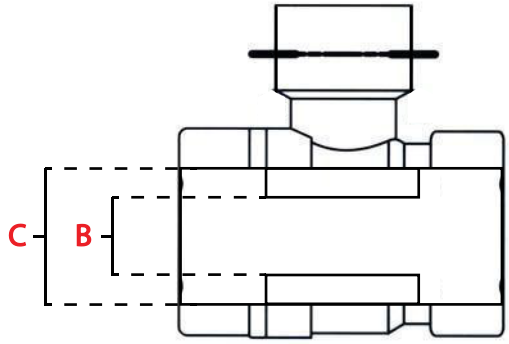
N® LOCKABLE VALVE

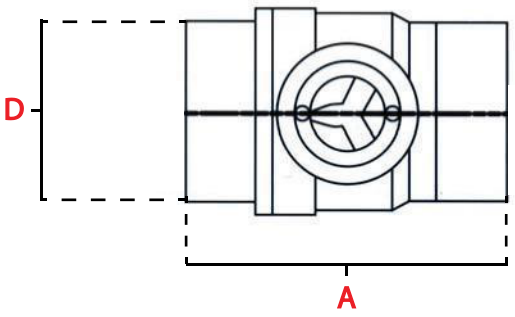
TECHNICAL SPECIFICATION:

SPECIFICATION	DN20 (¾ inch)
Nominal Pressure	**PN16**

DIMENSION

A	58 mm
B	18 mm
C	3/4 inch
D	32 mm





WATERMARK

SPAN No:

SPAN/BPI/300-10/580/A/W-13

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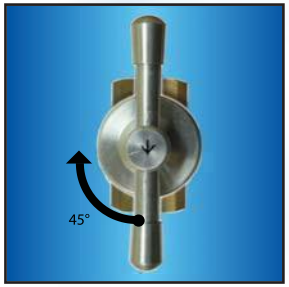
LOCKABLE VALVE

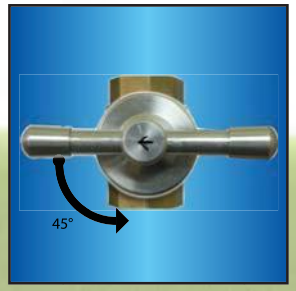
WATERMARK SPAN No:
SPAN/BPI/300-10/580/A/W-13

INSTRUCTIONS

1. Make sure the pattern of the handle and valve is match, when plug in the handle.



2. Arrow point down is open. To close please turn clock wise.



3. Arrow point left is shut. To open please turn anti-clockwise.

Description

Lockable Valve is a valve designed to be located at the water meter stand to shut off or control water sources from the water mains to consumer connection.

Lockable valve is a temper proof valve which has a unique cap to control the water flow through the meter stand to consumer connection.

Lockable valve has a high pressure capability, tested up to 16 bars.

Lockable Valve

Water Meter

Stop Cock

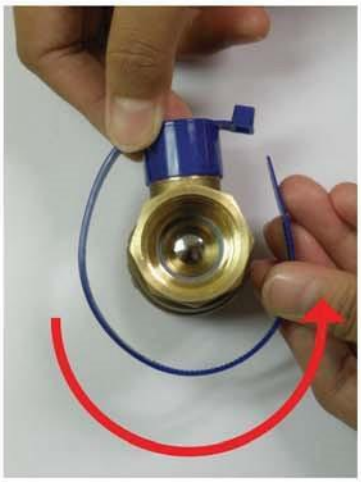
Steps to fasten a water cut-off signaling cap

1.

Attach the Belt cap on to the valve head.

Masukan penutup cable tie ke lockable valve

2.



Pull the cable tie around the valve.

Lilit cable tie di sekitar valve

3.

Insert the cable tie through the lock hole from bottom.

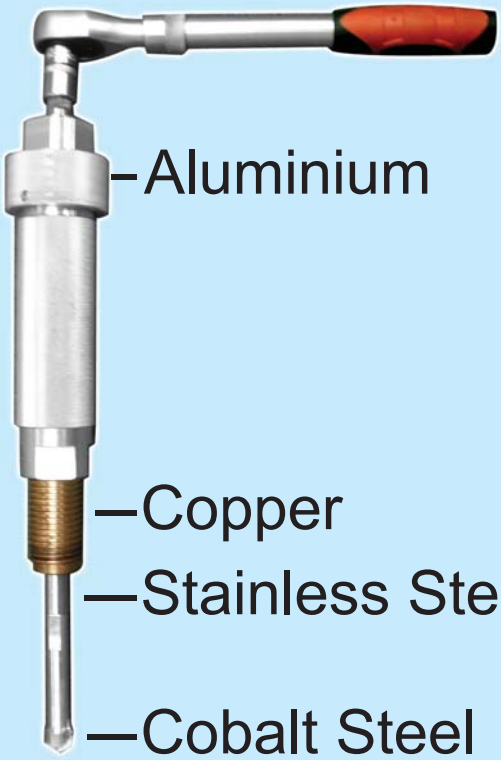
Masukan cable tie ke lubang penutup dari arah bawah

4.

Tighten belt till it fit the lockable valve.

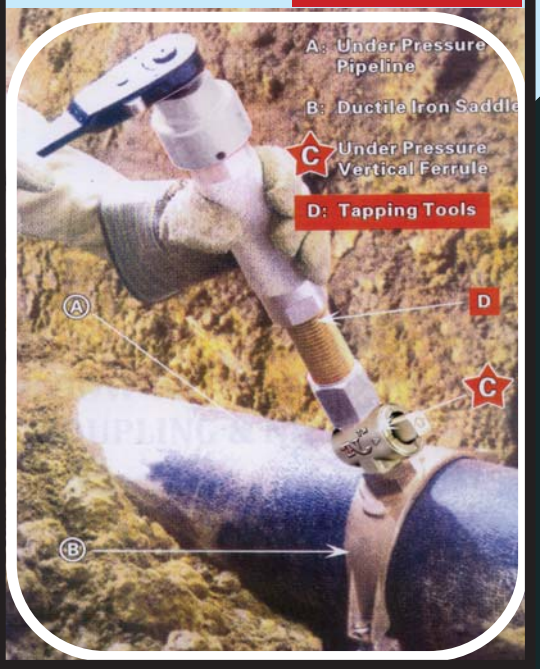
pastikan cable tie ditarik sehingga ketat.

UNDER PRESSURE MECHANICAL TAPPING TOOL



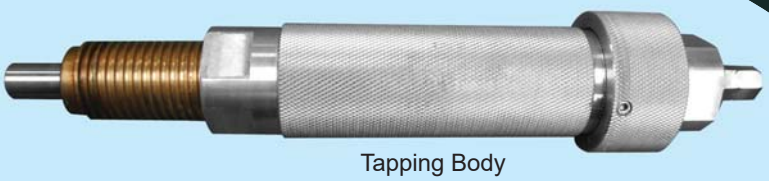
- Aluminium
- Copper
- Stainless Steel
- Cobalt Steel

America Standard



FULLSET

Reducer



Tapping Body

Spanner

Ratchet

FOC

High Speed Steel Drill
For M.S / D.I Pipe

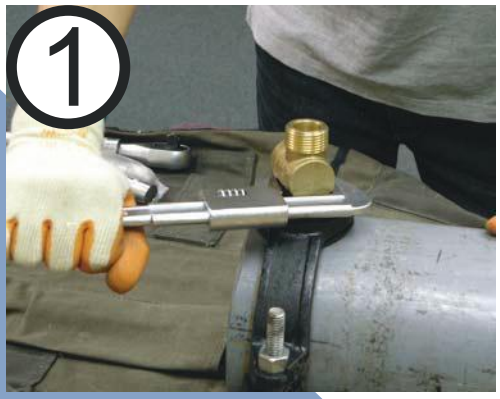
SS316 Drill Bit For
UPVC / AC / HDPE

KAIZEN MARKETING SDN. BHD. (945718-V)
Email: nkaizen@hotmail.com
Website: http://www.kaizenmarketing.com.my
https://shopee.com.my/terryart
https://www.lazada.com.my/shop/kaizen-marketing-sdn-bhd-1591076487

Shopee

Lazada

INSTRUCTION



Mounting the saddle

Fasten the saddle with bolts and nuts. Fit the ‘N’ Ferrule onto the saddle.

Install the tapping tool

Install the tapping tool and connect to the reducer.

Opening The 'N' Ferrule

Make sure the ‘N’ ferrule is correctly open, after setting the drill.

Drilling

Turn the drill handle until the drillsaw reach the pipe surface. Start using ratchet to drill in clock wise direction. After drilling, reverse the handle to raise. [Electric drill can also be used to do the drilling.]

Completion

After raising the drill, close the ‘N’ ferrule before disconnect from the reducer.

WATERMARK

SPAN No: SPAN/BPI/300-10/580/A/W-11

1” N Under Pressure Ferrule Cock

PERINGATAN
PRECAUTION

TAPPING TOOL

Sila guna dua jari sahaja bila memusing badan tapping tool semasa penggerudian. Bit gerudi mungkin akan pecah akibat tekanan tinggi

Please use only two finger to turn the tapping tool body when drilling. Drill bit might broken cause of high pressure

Memusing dengan berhati-hati, ikut arah Jam

Turn gently in clock wise

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The manufacturer reserves the right to amend this catalogue as and when it deems fit.

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S T O C K I S T

TIMUR P.A. Pipe®

(POLYETHYLENE ALUMINIUM COMPOSITE PIPE)
Towards A More Efficient Water Reticulation System

Built To Last 50-Year Working Life*

* Based on a special resin in accordance with ISO 9080 extrapolated for projected 50 years usage.

Pipe manufactured according to ASTM F1282 AS4176

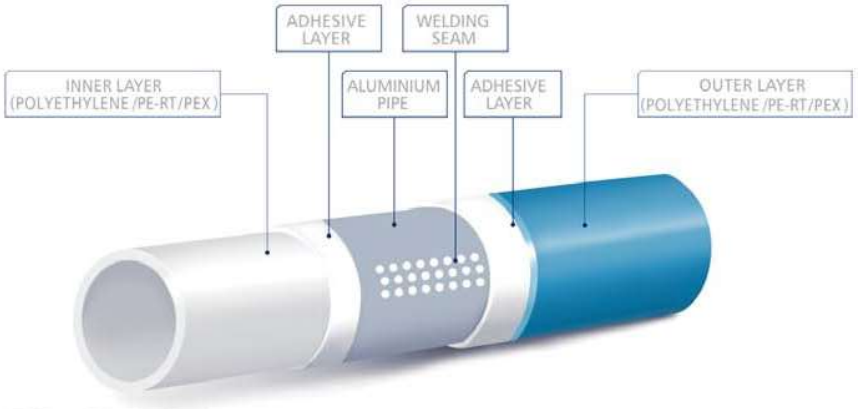
- less fitting & pipe wastage
- cost effective
- easy installation
- safe & hygienic
- long lasting
- no leakage
- environmentally friendly
- resistant to white ants attack
- immediate hydrostatic pressure testing after installation
- adopted German technology
- Timur P.A. Pipes fitting can easily join with other types of water pipe

Made in Malaysia

A revolutionary composite water pipe imported and installed in the Petronas Twin Towers, now manufactured in Malaysia and made available by Timur P.A. Pipe locally at competitive prices.

Polyethylene Aluminium Composite Pipe

Cross section of Timur P.A. Pipe®



Timur P.A. Pipe Products

Timur P.A. Pipe Industry Sdn Bhd specializes in Manufacturing and Marketing polyethylene aluminium [PE(RT)-AL-PE(RT)] / PE(X)-AL-PE(X) composite pipes, a multi-purpose, durable and cost effective pipe which combines the attributes of metal and plastic to meet with current safety measures and environmental conservation assessments.

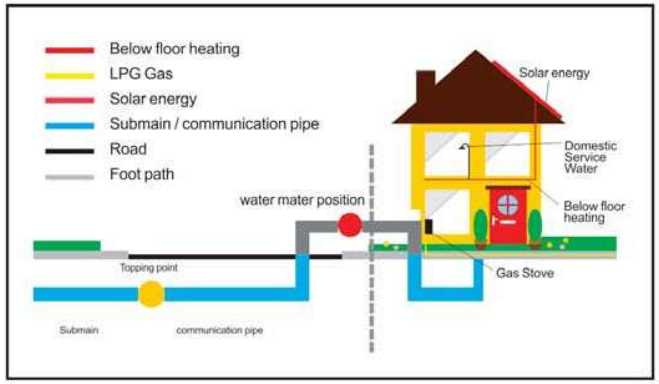
Based on German technology, we have further improved the manufacturing process through our R&D.

Timur P.A. Pipes' diverse properties make them the ideal choice in household and industrial distribution pipe systems for cold and hot water, gas, compressed air, solar energy and Cooling system, heating, medical, foodstuff and chemicals.

Timur P.A. Pipe & Fitting

Colour Classifications

- Cold Water (Antimicrobial)
- Cold water / drinking water - BLUE COLOUR
- Hot water - ORANGE COLOUR
- Gas - YELLOW COLOUR
- Compressed air - WHITE COLOUR



Applications

- **COLD & HOT WATER DISTRIBUTION**
  Its smooth interior, rust-free and scale-free quality ensures 30% better flow than conventional metal pipe. Compliance with installing directive is a must for both cold and hot water systems.
- **GAS, AIR & OXYGEN DISTRIBUTION**
  Welded aluminium 100% prevents gas & oxygen permeation. Fitting's to comply to local authorities requirement.
- **SOLAR ENERGY AND COOLING SYSTEM**
  These pipes can help the expense of thermal-preservation, thus contributes to efficiency.
- **BELOW FLOOR HEATING**
  The pipes, quality and unique properties make them ideal wherever heating is needed in home or industrial applications.
- **MEDICAL, FOODSTUFF, PETRO-CHEMICAL INDUSTRIES PIPE SYSTEM**
  Timur P.A. Pipe has no adverse effects when used to distribute chemicals. It is also hygienic and safe, with minimum risk of leakages. As it is corrosion-resistant, contamination-resistant and static-free, it can be used for medical industry; foodstuff and industrial fluid supply.

Quality control

SPECIFICATIONS

Features

1. WIDE RANGE WORKING PRESSURE
The continually-welded middle layer of aluminium pipe makes the pipe able to withstand higher pressure.
Please refer to Table 1

2. 50-YEAR RESIN MATERIAL WORKING LIFE AS PER ISO 9080
The materials have a very high resistance to ageing, if utilised at the optimum pressures and temperatures as indicated in Table 1.
Please refer to Diagram 1

3. LOW EXPANSION AND CONTRACTION (COEFFICIENT OF HEAT EXPANSION)
The aluminium layer controls the expansion and contraction of the pipe. The expansion /contraction rate is relatively similar to copper pipes. Please refer to Diagram 2

4. 30% MORE FLOW THAN OTHER CONVENTIONAL METAL PIPE
The smooth surface of the inner PE layer is resistant-free to the transport water as ti ensures no scale, calcium and algae or other mineral build-up which will reduce the flow or performance. Please refer to Diagram 3

5. NON-OXYGEN PERMEABLE
The core layer of aluminium makes the pipe oxygen tight with negligible oxygen permeability and avoiding corrosion hazards due to oxygen penetration and damage as a result of exposure to UV-rays. Please refer to Diagram 4

6. EASY BENDING BUT NEVER SPRING BACK
Once the pipe has been bent, it remains in the desired position like a metal pipe. It is therefore possible to prepare lengths of pipe with the pre-assembled fittings in the warehouse, when a series of systems are required, and transfer them to the construction site later, ready to assemble the system. The malleable features of the pipe enable bends with a very narrow radius to be formed. A pipe bender is necessary if bends are required in larger diameter pipes or a very narrow radius of curvature is required. Use of an anti-crushing spring is recommended when bending manually, if the radius is narrow.

7. FEWER PIPE FITTINGS LEADING TO LESS CHANCE OF LEAKAGE
Fewer joints means less cost, less work and less problems, which are always associated with leakage problem.

8. LIGHT WEIGHT, EASY TO CARRY, STORE AND INSTALL
Light weight long coils make water services line installation simple and minimize the storage space. Pipe cuts easily with simple hand held pipe cutters.

9. NON-CORROSIVE
The inner layer of PE is corrosion-free and therefore particles of rust, limestone flakes or scales deriving from galvanic corrosion will not happen. PE is especially resistant to abrasion. This property is very important, particularly at bends where the abrasive action of the impurities contained in the water increases, especially when the water flow rate is particularly high.

10. LOW THERMAL CONDUCTIVITY
The thermal conductivity of Timur P.A. pipe has a value of 0.43 W/m.K. namely, very low.

11. LESS CONDENSATION
Timur P.A Pipe is less likely to 'sweat' or create moisture on the outer surface of plumbing pipes than typical metallic plumbing systems.
Please refer to Diagram 6

12. HYGIENIC & SAFE
Timur P.A Pipe's inner and outer layers of PE meets the requirement of USA Food and Drug Administration (FDA) regulation 21 CFR 177.1520.
(Source: Supplier)

13.PERFORMANCE WHEN EXPOSED TO FIRE
The Timur P.A Pipe has very high ignition temperature thanks to the internal metal layer. The density of smoke produced is very low and the emissions are not toxic.

14. SOUND ABSORPTION
The sound absorbing properties of the Timur P.A Pipe are very good. The pipe's inner and outer PE lining absorb the noises.

15. LESS PIPE WASTAGE
Long coil make water service line istallation simple and less wastage as compared to conventional fixed length pipe.

16. IMMEDIATE HYDROSTATIC PRESSURE TESTING AFTER INSTALLATION

17. TIMUR P.A. PIPES FITTING CAN EASILY UNION WITH OTHER BSP THREADED FITTINGS

18. RESISTANT TO TERMITE ATTACK

Table 1 Timur P.A. Pipe Pressure & Thermal Resistance

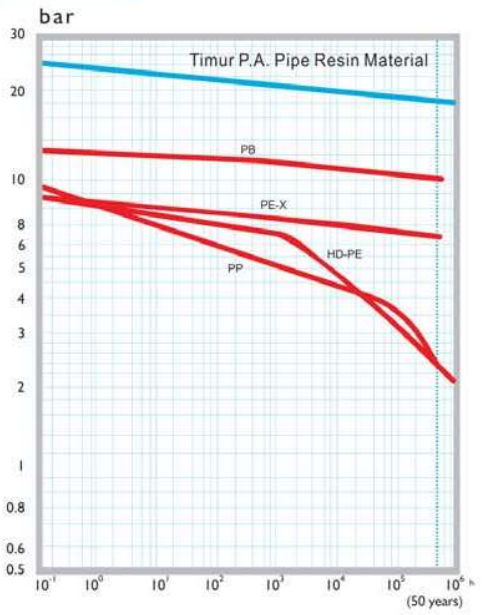
Code*, (C-AM, H, H-PEX, A, G)	I.D	O.D	Packing Length (m)	Burst Pressure Rating (bar)	Min Ring Strength (N)	Long Term Hydrostatic Strength (bar)	Maximum Temperature up to Tmax (C)					
							C	C-AM	H	H-PEX	A	G
14	10	14	100	70	2000	27	60	60	70	90	60	40
16	12	16	100	60	2000	27	60	60	70	90	60	40
18	14	18	100	50	2100	27	60	60	70	90	60	40
20	16	20	100	45	2400	27	60	60	70	90	60	40
25	20	25	100	40	2400	23	60	60	70	90	60	40
32	26	32	50	40	2650	21	60	60	70	90	60	40
40	32	40	5.8,50	40	3200	21	60	60	70	90	60	40
50	41	50	5.8,50	40	3500	20	60	60	70	90	60	40
63	51	63	5.8,50	35	5200	20	60	60	70	90	60	40
75	60	75	5.8,50	35	6000	20	60	60	70	90	60	40

Code*, (C-AM, H, H-PEX, A, G)	Maximum Operating Pressure up to Pmax (bar) at Tmax: 70c						Maximum Manual bending radius 5 X da (mm)	Maximum bending radius with inside bending spring 4 X da (mm)	Maximum bending radius with bending tools (mm)	Maximum horizontal distance between fastener (mm)
	C	C-AM	H	H-PEX	A	G				
14	15	15	10	10	15	4	70	56	43	1.20
16	15	15	10	10	15	4	80	64	49	1.20
18	15	15	10	10	15	4	90	72	49	1.20
20	15	15	10	10	15	4	100	80	78	1.20
25	15	15	10	10	15	4	125	100	80	1.20
32	15	15	10	10	15	4	160	128	128	1.20
40	15	15	10	10	15	4	-	-	-	1.20
50	15	15	10	10	15	4	-	-	-	1.20
63	15	15	10	10	15	4	-	-	-	1.20
75	15	15	10	10	15	4	-	-	-	1.20

Code Classification

C	Cold Potable Water / Chilled Water Distribution	H-PEX	Hot Water Pipe (PEX-AL-PEX)
C-AM	Antimicrobial Cold Water Pipe/ Submain & Communication Water Pipe	A	Compressed Air Pipe
H	Hot Water Pipe (PERT-AL-PERT)	G	LPG Gas Distribution

Diagram 1 Long-term Hydrostatic Curve Graph



50-Year Working Life

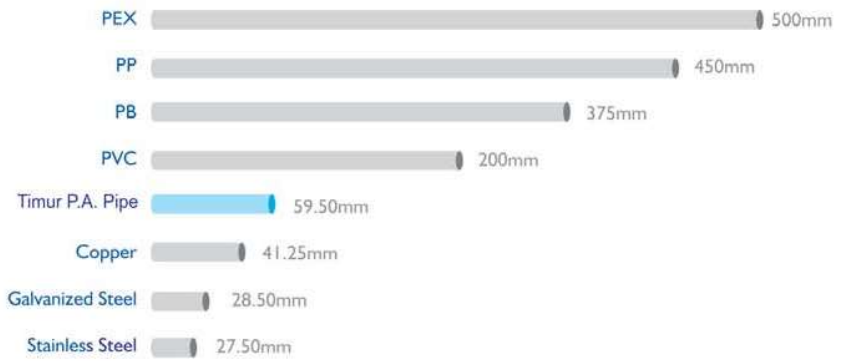
It can be concluded from this graph that if utilized under the stipulated conditions and pressures, the resin material that Timur P.A. Pipe used has a wooking life of more than 50 year as per ISO 9080

(Source: Germany)

SPECIFICATION (continued)

Diagram 2 Coefficient Of Heat Expansion

25 x 10^{-6}m/m.k. (only 1/8 of polyethylene pipe)

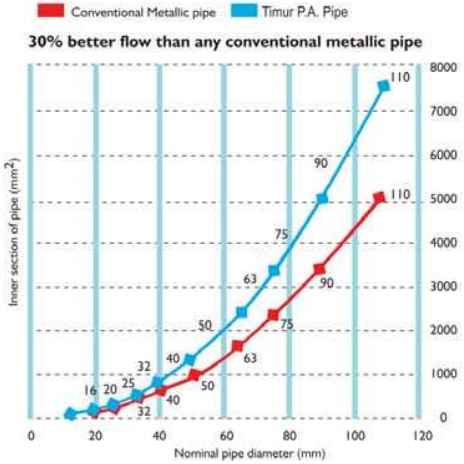


In lengths of 50 meters, expansion is at 50℃ temperature difference

Minimum expansion, almost the same as metal pipe

(Source: Germany)

Diagram 3 Water Flow



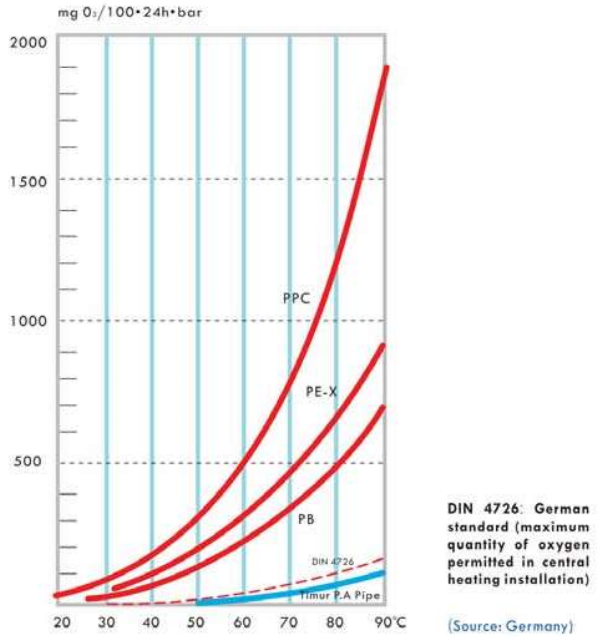
Hazen-Williams Formula:

$$P = \frac{6.05 \times 10^5}{C^{1.85} \times d^{4.87}} \times L \times Q^{1.85}$$

P Pressure loss in the pipe
Q Flow rate through the pipe
d Mean bore of the pipe
C Constant for plastic tube, 150
L Equivalent lenght of pipe and any fittings, m

(Source: Germany)

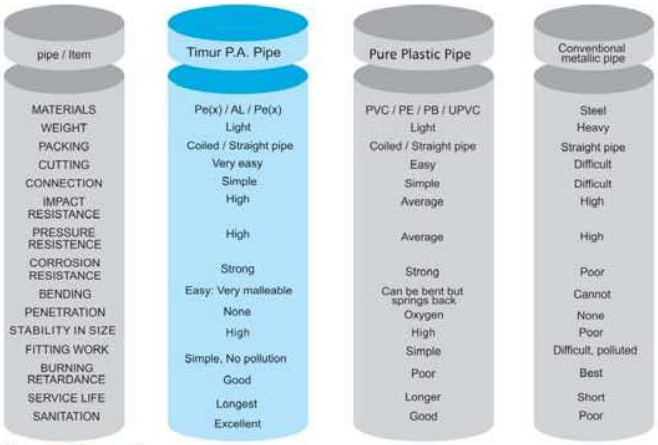
Diagram 4 Oxygen-permeability Of Various kinds Of Plastic Pipes



DIN 4726: German standard (maximum quantity of oxygen permitted in central heating installation)

(Source: Germany)

Diagram 5 Properties Comparison: Timur P.A. Pipe VS Others

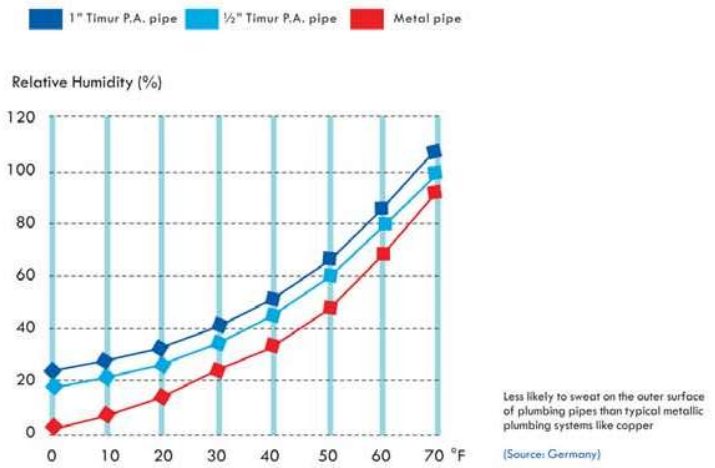


pipe / Item	Timur P.A. Pipe	Pure Plastic Pipe	Conventional metallic pipe
MATERIALS	Pe(x) / AL / Pe(x)	PVC / PE / PB / UPVC	Steel
WEIGHT	Light	Light	Heavy
PACKING	Coiled / Straight pipe	Coiled / Straight pipe	Straight pipe
CUTTING	Very easy	Easy	Difficult
CONNECTION	Simple	Simple	Difficult
IMPACT RESISTANCE	High	Average	High
PRESSURE RESISTENCE	High	Average	High
CORROSION RESISTANCE	Strong	Strong	Poor
BENDING	Easy: Very malleable	Can be bent but springs back	Cannot
PENETRATION	None	Oxygen	None
STABILITY IN SIZE	High	High	Poor
FITTING WORK	Simple, No pollution	Simple	Difficult, polluted
BURNING RETARDANCE	Good	Poor	Best
SERVICE LIFE	Longest	Longer	Short
SANITATION	Excellent	Good	Poor

(Source: Germany)

SPECIFICATION (continued)

Diagram 6 Condensation



Less likely to sweat on the outer surface of plumbing pipes than typical metallic plumbing systems like copper

(Source: Germany)

Diagram 7 Chemical Resistance

Application and selection procedure:

Application	Operating Temp. Degree C	Pressure (bar) Timur P.A. Pipe		
		Do's	Can be used	Don'ts
Other Chemicals*	Ambient	<=(11 x m)	>(11 x m) <13.8 x m	>13.8 x m
Other Chemicals*	>27<65	<=(11 x m)	>(11 x m) <13.8 x m	>13.8 x m

(Source: Germany)

*Multiplication Factor m

Chemicals	Ambient Temp	65 Deg. C
Acids	0.8	0.8
Aldehyde	0.8	0.4
Beverages	0.8	0.4
Corrosion Inhibitors	0.8	0.8
Foodstuffs	0.8	0.8
Ketones	0.8	0.4
Paints	0.8	0.4
Chlorinated Solvents	0.3	0.2
Alcohol	0.8	0.4
Ethylene Glycol	0.8	0.7
Bleach	0.8	0.8
Detergents	0.8	0.7
Insecticide	0.8	0.4
Oxidation Agents	0.8	0.4
Petro/Diesel/Fuel Oils	0.8	0.7
Veg./Mineral Oils	0.8	0.7

The pipe system is not suitable if chemical is corrosive for brass

Timur P.A.Pipe & Code Size (inches)

Timur P.A. Pipe	Code Sizes (inches)
Blue • Drinking water/General • C PE-AL-PE • C-AM PE-AL-PE (Antimicrobial)	C-AM / C16(½") C-AM / C18(5/8") C-AM / C20(3/4") C-AM / C25(1") C-AM / C32(1 1/4") C-AM / C40(1 ½") C-AM / C50(2") C-AM / C63(2 ½") C-AM / C75(3")
Orange • Hot water • H PERT-AL-PERT • H-PEX PEX-AL-PEX	H-PEX / H16(½") H-PEX / H18(5/8") H-PEX / H20(3/4") H-PEX / H25(1") H-PEX / H32(1 1/4") H-PEX / H40(1 ½") H-PEX / H50(2") H-PEX / H63(2 ½") H-PEX / H75(3")
Yellow • Gas • G PE-AL-PE • G-PEX PEX-AL-PEX	G-PEX / G16(½") G-PEX / G18(5/8") G-PEX / G20(3/4") G-PEX / G25(1") G-PEX / G32(1 1/4") G-PEX / G40(1 ½") G-PEX / G50(2") G-PEX / G63(2 ½") G-PEX / G75(3")
White • Compressed Air • A PE-AL-PE • A-PEX PEX-AL-PEX	A-PEX / A16(½") A-PEX / A18(5/8") A-PEX / A20(3/4") A-PEX / A25(1") A-PEX / A32(1 1/4") A-PEX / A40(1 ½") A-PEX / A50(2") A-PEX / A63(2 ½") A-PEX / A75(3")

QUICK AND EASY INSTALLATION

Jointing Procedure (Brass Compression Fitting)

- Cut the pipe according to size at a right angle
- Round it
- Put the nut and fastener ring through the pipe and then screw tightly at the joint
- Tighten the nut with a spanner

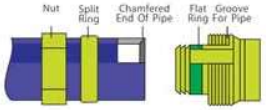
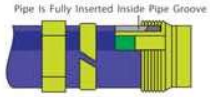
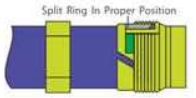
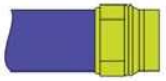
- A EASY SNIPPING
- B ROUNDING
- C BENDING PIPE WITH TIMUR P.A. PIPE BENDER
- D BENDING PIPE WITH ANTICRUSHING SPRING
- E MALLEABLE AND NEVER SPRINGS BACK (USE BENDING TOOL TO BEND)
- F NO NEED THEADING
- G TIGHTENING
- H SIMPLE INSTALLATION

FLEXIBLE CONFIGURATIONS

Timur P.A. pipe are more flexible than ordinary metal pipes and more durable than plastic pipes. These combined properties give you a much wider range of configurations when laying out your piping without the hassle of additional fittings.

Installation - Do's And Don'ts

- Avoid install pipe with water droplet in it during freezing temperatures.
- When bend radius is less than five times the outer diameter, elbow joint should be used for connection.

	Do's	Don'ts
	The cut of the pipe must be at a right angle. The end is essentially to be rounded and chamfered. Remove the nut and split ring from fitting. Inspect the flat rings. Place the nut and split ring over the pipe.	Do not try to put nut and split ring over the pipe before rounding Any bending operation should be completed before jointing. Minimum distance of 150 mm from joint should be maintained if pipe is to be bent after jointing. If the minimum distanct from joint is less than 150mm, any bending operation should be completed before jointing.
	Insert the pipe fully into the groove over the fitting insert.	Do not leave any gap when pipe is inserted into the groove. Don't apply any lubricating medium such as oil or grease to pipe or fitting. With proper beveling and chamfering, the pipe will go easily.
	Check that the pipe goes over smoothly without damaging the flat rings. Push the split ring until it sits inside the tapered portion provided in the fitting.	Don't keep the split ring away from the fitting.
	Tighten the nut fully using spanner of proper size over the fitting.	Don't leave the nut without spanner tightening. Hand tightening is not sufficient for proper joint. Tightening should not be excessive. If spanner starts slipping, stop tightening.

Assembling & Fixing

- Priorly ensure work site is reasonably clean. Cap pipe-end as necessary to keep out mud, sand and earth.
- All laying or installing to comply with work drawings.
- Straighten pipe where necessary on level ground. For small diameters, straightening best done manually. Preferably use a socket at intervals of 600 to 1000mm diligently.
- Bending the pipe: insert spring into pipe; bend slowly. Later, draw out the spring. Where done manually, the bend radius should not be less than five times the size of outer diameter.

INSTALLATION INSTRUCTION FOR P.A. PRESS FITTINGS

1 Cutting

Cut the Timur P.A. Pipe with a pipe cutter.

2 Rounding and beveling

With a beveling tool, round and bevel the Timur P.A. pipe to produce a champer.

3 Installation of pressing fittings

Gradually push the pipe as far as it will go into the shaped element. The correct penetration depth can be checked by looking through the inspection hole to ensure that the pipe is properly inserted.

4 Pressing

Open the pressing clamps, and position them so that their ends are aligned with the end of the press sleeve. Shut the press clamps and begin the pressing procedure.

1. Cut the Timur P.A.pipe with pipe cutter.

2. Release the nut from fitting.

3. Insert the nut into the pipe.

4. Use expander* inserted into the pipe for pipe diameter enlargement

5. Insert the fitting into pipe.

6. Ensure the pipe is fully inserted

7. Tightening with spanner.

8. Finished.

SPECIAL CARE FOR HOT WATER PIPE

When using Timur P.A. Hot Water Pipe, apply multiple layers of seal tape onto the fitting as to protect the flat ring.

P.A. PIPE IN THE GLOBAL MARKET

PE-AL-PE composite prressure pipe gained considerable exposure in Germany in 1982. Since then, the pipe has been widely used in more than 80 countries worldwide and is recognized by customers and industry peers as a trusted quality pipe.

P.A. BRASS COMPRESSION FITTING

FITTING	CODE
 Ball Valve	BV16 x 16 BV18 x 18 BV20 x 20 BV25 x 25 BV32 x 32
 Gate Valve	BGV 16 BGV 20 BGV 18 BGV 25 BGV 32
 Stopcock	BSC 16 BSC 20 BSC 25 BSC 32
 Air Cond F/Socket	BACS14 x 1/4"F BACS14 x 1/2"F BACS14 x 3/8"F BACS16 x 1/2"F BACS16 x 5/8"F BACS18 x 1/2"F BACS18 x 5/8"F BACS20 x 3/4"F
 Air Cond M/Socket	BACS14 x 1/4"M BACS14 x 3/8"M BACS16 x 1/2"M BACS18 x 5/8"M

P.A. BRASS PRESS FITTING

FITTING	CODE
 Equal Tee	CT 16 x 16 x 16 CT 20 x 20 x 20 CT 25 x 25 x 25 CT 32 x 32 x 32 CT 40 x 40 x 40 CT 50 x 50 x 50 CT 63 x 63 x 63 CT 75 x 75 x 75
 Reducing Tee	CT 20 x 16 x 20 CT 25 x 20 x 25 CT 32 x 20 x 32 CT 40 x 16 x 40 CT 40 x 20 x 40 CT 40 x 25 x 40 CT 40 x 32 x 40 CT 50 x 20 x 50 CT 50 x 25 x 50 CT 50 x 32 x 50 CT 50 x 40 x 50 CT 63 x 20 x 63 CT 63 x 25 x 63 CT 63 x 32 x 63 CT 63 x 40 x 63 CT 63 x 50 x 63 CT 75 x 32 x 75 CT 75 x 40 x 75 CT 75 x 50 x 75 CT 75 x 63 x 75
 Male Tee	CT 75 x 2 1/2" M x 75
 Male Socket	CS 16 x 1/2"M CS 20 x 1/2"M CS 25 x 1/2"M CS 32 x 1/2"M CS 40 x 1-1/2"M CS 40 x 1-1/4"M CS 40 X 2"M CS 50 x 1-1/4" M CS 50 x 1-1/2" M CS 50 x 2" M CS 63 x 1" M CS 63 x 1-1/2" M CS 63 x 2" M CS 63 x 2-1/2" M CS 75 x 1-1/2" M CS 75 x 2" M CS 75 x 2-1/2" M CS 75 x 3" M
 Male Elbow	CL 16 x ½" M CL 20 x ½" M CL 25 x ½" M CL 32 x 1/2" M CL 40 x 1-1/4" M CL 40 x 1-1/2" M CL50 x 2"M CL 63 x 2" M CL75 x 3"M
 Equal Elbow	CL 16 x 16 CL 20 x 20 CL 25 x 25 CL 32 x 32 CL 40 x 40 CL 50 x 50 CL 63 x 63 CL 75 x 75

P.A. BRASS PRESS FITTING

FITTING	CODE
 Female Tee	CT 16 x 1/2" F x 16 CT 20 x 1/2" F x 20 CT 40 x 3/4" F x 32 CT 40 x 3/4" F x 40 CT 40 x 1" F x 40 CT 40 x 1-1/4" F x 40 CT 40 x 1-1/2" F x 40 CT 50 x 3/4" F x 40 CT 50 x 3/4" F x 50 CT 50 x 1" F x 50 CT 50 x 1-1/4" F x 50 CT 50 x 1-1/2" F x 50 CT 50 x 2" F x 50 CT 63 x 3/4" F x 63 CT 63 x 1F " x 63 CT 63 x 1-1/4" F x 63 CT 63 x 1-1/2" F x 63 CT 63 x 2" F x 63 CT 75 x 1-1/2" F x 75 CT 75 x 2" F x 75
 Equal Socket	CS16 x 16 CS20 x 20 CS25 x 25 CS32 x 32 CS40 x 40 CS50 x 50 CS63 x 63 CS75 x 75
 Reducing Socket	CS20 x 16 CS32 x 25 CS25 x 20 CS40 x 16 CS40 x 20 CS40 x 25 CS40 x 32 CS50 x 20 CS50 x 25 CS50 x 32 CS50 x 40 CS63 x 25 CS63 x 32 CS63 x 40 CS63 x 50 CS75 x 32 CS75 x 40 CS75 x 50 CS75 x 63
 Female Socket	CS 16 x 1/2"F CS 20 x ½" F CS 40 x 1" F CS 40 x 1-1/4" F CS 40 X 1-1/2" F CS 40 X 2" F CS 50 X 3/4" F CS 50 X 1" F CS 50 X 1-1/2" F CS 50 X 2" F CS 63 X 1" F CS 63 X 1-1/2" F CS 63 X 2" F CS 75 X 1" F CS 75 X 2" F

FITTING	CODE
 Reducing Elbow	CL 40 x 20 CL 40 x 25 CL 40 x 32 CL 50 x 25 CL 50 x 32 CL 50 x 40 CL 63 x 32 CL 63 x 40 CL 63 x 50 CL 75 x 40 CL 75 x 50 CL 75 x 63
 Female Elbow	CL 16 x ½" F CL 20 x ½" F CL 40 x 1-1/4" F CL 40 x 1-1/2" F CL 50 x 2"F CL 63 x 2" F CL 75 x 3"F
 Male Union Coupling	CH 40 x 1-1/2" M CH 50 x 1-1/2" M CH 50 x 2" M CH 63 x 2" M CH 63 x 2-1/2" M
 End Cap	CD 40 x 40 CD 50 x 50 CD 63 x 63
 Press Fitting Cap	CPFC 40 CPFC 50 CPFC 63 CPFC 75
 Union	CH 16 x 16 CH 20 x 20 CH 25 x 25 CH 32 x 32 CH 40 x 40 CH 50 x 50 CH 63 x 63 CH 75 x 75