

Disclaimer :
For documents and information in this catalogue, the Timur P.A Pipe Industry Sdn. Bhd. does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any information, product, or process disclosed.
The manufacturer reserves the right to amend this catalogue as and when it deems fit.



TIMUR P.A. PIPE INDUSTRY SDN BHD (269692-X)
東方鋁塑管工業有限公司



159, G1 Wisma Lam Hong (Ground Floor)
Jalan Sungai Pinang,
10150 Penang, Malaysia

Tel 604-281 3000 - 262 1025
Fax 604-282 2228 - 263 0791
Email sales@timurpapipe.com

www.timurpapipe.com



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



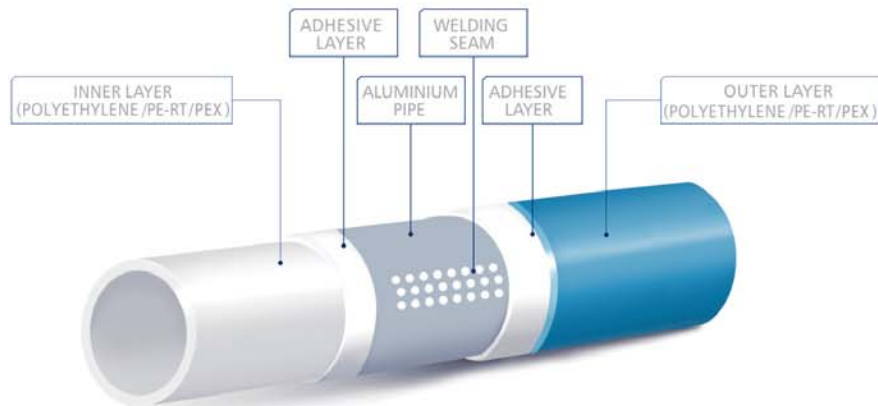
Made in Malaysia



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.

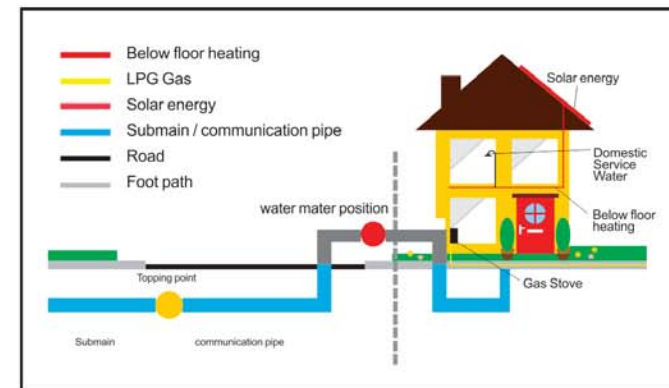
Timur P.A. Pipes' diverse properties make them the ideal choice in household and industrial distribution pipe systems for cold and hot water, gas, compressed air, solar energy and Cooling system, heating, medical, foodstuff and chemicals.

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 it 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 installation 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: 70°C						Maximum bending radius 5 X da (mm)	Maximum bending radius with inside bending spring & 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

C-AM Antimicrobial Cold Water Pipe/ Submain & Communication Water Pipe

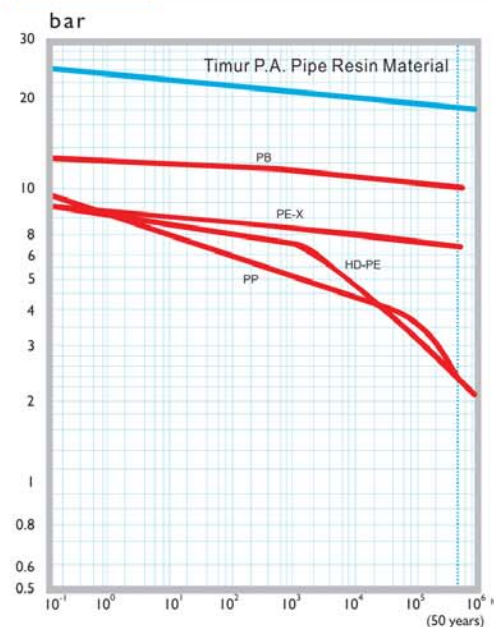
H Hot Water Pipe (PERT-AL-PERT)

H-PEX Hot Water Pipe (PEX-AL-PEX)

A Compressed Air Pipe

G LPG Gas Distribution

Diagram 1 Long-term Hydrostatic Curve Graph



50-Year Working Life

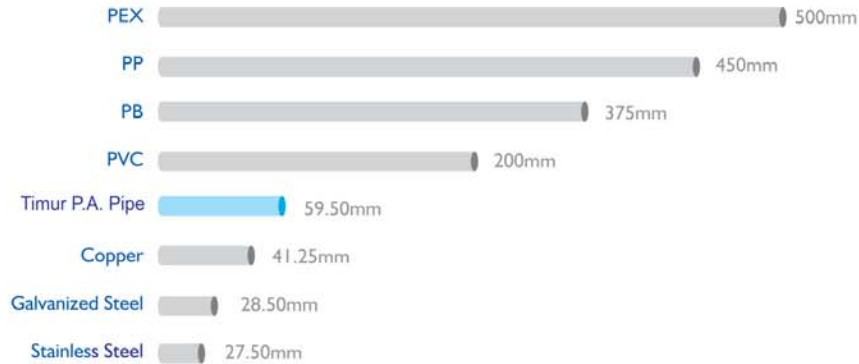
It can be concluded from this graph that if utilized under the stipulated conditions and pressures, the resin material that Timur P.A. Pipe used has a working life of more than 50 year as per ISO 9080

(Source: Germany)

SPECIFICATION (continued)

Diagram 2 Coefficient Of Heat Expansion

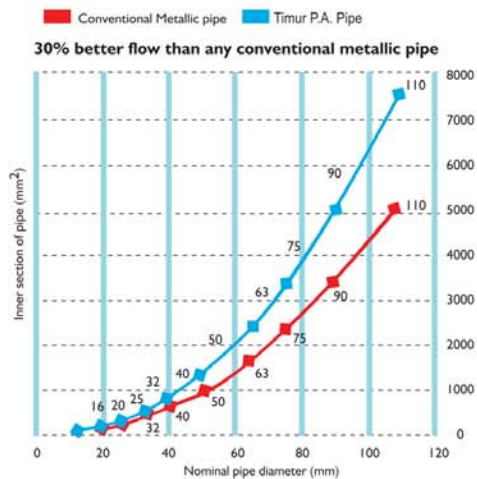
$25 \times 10^{-6} \text{m/m.k.}$ (only 1/8 of polyethylene pipe)



In lengths of 50 meters, expansion is at 50°C temperature difference
Minimum expansion, almost the same as metal pipe

(Source: Germany)

Diagram 3 Water Flow



Hazen-Williams Formula:

$$P = \frac{6.05 \times 10^{-3}}{C^{1.85} \times d^{4.87}} \times L \times Q^{1.85}$$

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 length of pipe and any fittings, m

(Source: Germany)

Diagram 4 Oxygen-permeability Of Various kinds Of Plastic Pipes

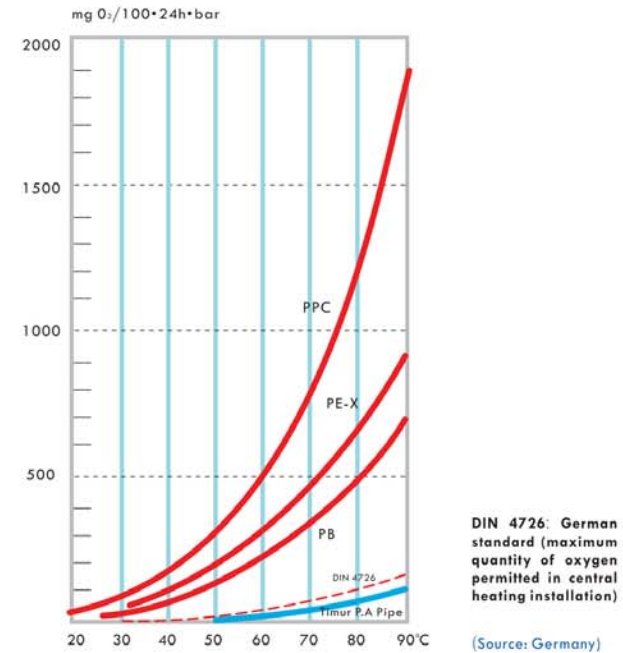


Diagram 5 Properties Comparison: Timur P.A. Pipe VS Others

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 RESISTANCE	High	Average	High
CORROSION RESISTANCE	Strong	Strong	Poor
BENDING	Easy: Very malleable	Can be bent but springs back	Cannot
PENETRATION	None	High	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

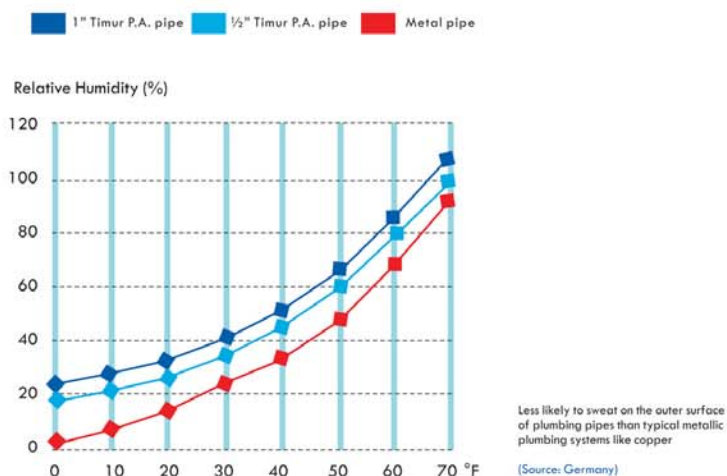


Diagram 7 Chemical Resistance

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	

Chemicals	*Multiplication Factor m	
	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

(Source: Germany)

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

P.A. BRASS COMPRESSION FITTING

FITTING	CODE
 Female Socket	BS16 x 1/2"F
	BS16 x 3/4"F
	BS16 x 1"F
	BS18 x 1/2"F
	BS18 x 3/4"F
	BS20 x 1/2"F
	BS20 x 3/4"F
	BS20 x 1"F
	BS25 x 1/2"F
	BS25 x 3/4"F
	BS25 x 1"F
	BS32 x 1/2"F
	BS32 x 3/4"F
	BS32 x 1"F
	BS32 x 1 1/4"F
 Equal Socket	BS14 x 14
	BS16 x 16
	BS18 x 18
	BS20 x 20
	BS25 x 25
	BS32 x 32
 Equal Elbow	BL16 x 16
	BL18 x 18
	BL20 x 20
	BL32 x 32
 Male Elbow	BL16 x 1/2"M
	BL16 x 3/4"M
	BL16 x 1"M
	BL18 x 1/2"M
	BL18 x 3/4"M
	BL20 x 1/2"M
	BL20 x 3/4"M
	BL20 x 1"M
	BL25 x 1/2"M
	BL25 x 3/4"M
	BL25 x 1"M
	BL32 x 1/2"M
	BL32 x 3/4"M
	BL32 x 1"M
	BL32 x 1 1/4"M

FITTING	CODE
 Male Socket	BS16 x 1/2"M
	BS16 x 3/4"M
	BS16 x 1"M
	BS18 x 1/2"M
	BS18 x 3/4"M
	BS18 x 1"M
	BS20 x 1/2"M
	BS20 x 3/4"M
	BS20 x 1"M
	BS25 x 1/2"M
	BS25 x 3/4"M
	BS25 x 1"M
	BS32 x 1/2"M
	BS32 x 3/4"M
	BS32 x 1"M
	BS32 x 1 1/4"M
 Reducing Socket	BS18 x 16
	BS20 x 16
	BS20 x 18
	BS25 x 16
	BS25 x 18
	BS25 x 20
	BS32 x 16
	BS32 x 18
	BS32 x 20
 Reducing Elbow	BL18 x 16
	BL20 x 16
	BL20 x 18
	BL25 x 16
	BL25 x 18
	BL25 x 20
	BL32 x 16
	BL32 x 18
 Equal Tee	BT16 x 16 x 16
	BT18 x 18 x 18
	BT20 x 20 x 20
	BT25 x 25 x 25
	BT32 x 32 x 32

P.A. BRASS COMPRESSION FITTING

FITTING	CODE
 Female Elbow	BL16 x 1/2"F
	BL16 x 3/4"F
	BL16 x 1"F
	BL18 x 1/2"F
	BL18 x 3/4"F
	BL20 x 1/2"F
	BL20 x 3/4"F
	BL20 x 1"F
	BL25 x 1/2"F
	BL25 x 3/4"F
	BL25 x 1"F
	BL32 x 1/2"F
	BL32 x 3/4"F
	BL32 x 1"F
 Reducing Tee	BT16 x 18 x 16
	BT16 x 20 x 16
	BT16 x 25 x 16
	BT18 x 16 x 16
	BT18 x 16 x 18
	BT18 x 18 x 16
	BT18 x 18 x 20
	BT18 x 20 x 18
	BT18 x 25 x 18
	BT20 x 16 x 16
	BT20 x 16 x 20
	BT20 x 18 x 18
	BT20 x 18 x 20
	BT20 x 20 x 16
	BT20 x 20 x 18
	BT20 x 25 x 20
	BT25 x 16 x 25
	BT25 x 18 x 18
	BT25 x 18 x 25
	BT25 x 20 x 20
	BT25 x 20 x 25
	BT25 x 25 x 16
	BT25 x 25 x 18
	BT25 x 25 x 20
	BT25 x 32 x 25
	BT32 x 16 x 25
	BT32 x 16 x 32
	BT32 x 18 x 32
	BT32 x 20 x 20
	BT32 x 20 x 32
	BT32 x 25 x 25
	BT32 x 25 x 32
	BT32 x 32 x 25

FITTING	CODE
 Male Tee	BT16 x 1/2"M x 16
	BT18 x 1/2"M x 18
	BT18 x 3/4"M x 18
	BT20 x 1/2"M x 20
	BT20 x 1/2"M x 25
	BT20 x 3/4"M x 20
	BT20 x 1"M x 20
	BT25 x 1/2"M x 25
	BT25 x 3/4"M x 25
	BT25 x 1"M x 25
	BT32 x 1/2"M x 32
	BT32 x 3/4"M x 32
	BT32 x 1"M x 32
 Female Tee	BT16 x 1/2"F x 16
	BT16 x 3/4"F x 16
	BT16 x 1/2"F x 20
	BT16 x 1/2"F x 25
	BT18 x 1/2"F x 18
	BT18 x 3/4"F x 18
	BT20 x 1/2"F x 18
	BT20 x 1/2"F x 20
	BT20 x 3/4"F x 20
	BT20 x 1/2"F x 25
 Cross Tee	BT25 x 1/2"F x 25
	BT25 x 3/4"F x 25
	BT25 x 1"F x 25
	BT32 x 1/2"F x 32
	BT32 x 3/4"F x 32
 End Cap	BT16 x 16 x 16 x 16
	BT20 x 20 x 20 x 20
	BT25 x 25 x 25 x 25
 BEC 16 BEC 18 BEC 20 BEC 25 BEC 32	
 Wall Plate Elbow/ Elbow With Stand	BZ16 x 1/2"F
	BZ18 x 1/2"F
	BZ20 x 1/2"F
	BZ20 x 3/4"F
 Long Elbow	BL16 x 1/2"F
	BL20 x 1/2"F

P.A. BRASS COMPRESSION FITTING

P.A. BRASS PRESS FITTING

P.A. BRASS PRESS 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

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 1/2" M
	CL 20 x 1/2" M
	CL 25 x 1/2" M
	CL 32 x 1/2" M
	CL 40 x 1-1/4" M
	CL 40 x 1-1/2" M
	CL 50 x 2" M
	CL 63 x 2" 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

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

P.A. P.P.O PLASTIC FITTING

FITTING	CODE
 Female Socket	PS 16 x 1/2" F PS 20 x 1/2" F PS 20 x 3/4" F PS 25 x 1/2" F PS 25 x 3/4" F PS 25 x 1" F PS 32 x 3/4" F PS 32 x 1" F
 Equal Elbow	PL 16 x 16 PL 20 x 20 PL 25 x 25 PL 32 x 32
 Equal Tee	PT 16 x 16 x 16 PT 20 x 20 x 20 PT 25 x 25 x 25 PT 32 x 32 x 32
 Female Tee	PT 16 x 1/2" F x 16 PT 20 x 1/2" F x 20 PT 20 x 3/4" F x 20 PT 25 x 1/2" F x 25 PT 25 x 3/4" F x 25 PT 32 x 1/2" F x 32 PT 32 x 3/4" F x 32 PT 32 x 1" F x 32
 Reducing Hipple	PS 3/4" M x 1/2" M PS 1" M x 1/2" M PS 1" M x 3/4" M
 Reducing Socket	PS 20 x 16 PS 25 x 16 PS 25 x 20 PS 32 x 16 PS 32 x 20 PS 32 x 25
 Reducing Tee	PT 20 x 16 x 20 PT 25 x 16 x 25 PT 25 x 20 x 25 PT 32 x 16 x 32 PT 32 x 20 x 32 PT 32 x 25 x 32

FITTING	CODE
 Equal Socket	PS 16 x 16 PS 20 x 20 PS 25 x 25 PS 32 x 32
 Reducing Elbow	PL 20 x 16 PL 32 x 25
 Female Elbow	PL 16 x 1/2" F PL 20 x 1/2" F PL 20 x 3/4" F PL 25 x 1/2" F PL 25 x 3/4" F PL 32 x 1/2" F PL 32 x 1" F
 Nipple	PS 1/2" M x 1/2" M PS 3/4" M x 3/4" M PS 1" M x 1" M
 Male Socket	PS 16 x 1/2" M PS 16 x 3/4" M PS 20 x 1/2" M PS 20 x 3/4" M PS 25 x 1/2" M PS 25 x 3/4" M PS 32 x 3/4" M PS 32 x 1" M PS 32 x 1 1/4" M

BSPT & OTHER BRASS WATER FITTING

FITTING	CODE
 Brass Socket	BBS 1/2" F BBS 3/4" F BBS 1" F BBS 1 1/4" F BS 1 1/2" F BS 2" F
 Brass Elbow	BBL 1/2" F BBL 3/4" F BBL 1" F BBL 1 1/4" F BSL 1 1/2" F BBL 2" F
 Nipple	BN 1/4" F BN 3/8" F BN 1/2" F BN 3/4" F BN 1" F BN 1 1/4" F BN 1 1/2" F BN 2" F BN 3" F
 Plug	PLG 1/2" F PLG 3/4" F PLG 1" F PLG 1 1/4" F PLG 1 1/2" F PLG 2" F
 Brass R/ Tee	BBRT 3/4" x 1/2" F BBRT 1" x 1/2" F BBRT 1" x 3/4" F BBRT 1 1/2" x 1/2" F BBRT 2" x 3/4" F BBRT 2" x 1" F
 Brass Wall Plate Elbow	BBZ 3/8" M x 3/8" F BBZ 1/2" M x 1/2" F

FITTING	CODE
 M/F Nipple	BMFN 1/2" x 1 1/4" (L) BMFN 1/2" x 1" (L) BMFN 1/2" x 3" (L) BMFN 3/4" x 3" (L) BMFN 3/4" x 1 1/2" (L)
 Reducing Nipple	BRN 1/2" x 3/4" F BRN 1" x 1/2" F BRN 1" x 3/4" F
 Brass R/Long Elbow	BRLL 1/2" x 3/4" F
 Brass R/ Nipple	BRN 1/2" x 3/4" F BRN 1" x 1/2" F BRN 1" x 3/4" F
 Brass R/ Elbow	BBL 3/4" x 1/2" F BBL 1" x 3/4" F BBL 1" x 1 1/2" F
 Male Gas Socket	BGS 1/2" M x 8mm BGS 1/2" M x 10mm BGS 1/2" M x 12mm
 Female Gas Socket	BGS 1/2" F x 8mm BGS 1/2" F x 10mm BGS 1/2" F x 12mm
 Brass R/Socket	BBRS 3/4" x 1/2" F BBRS 1" x 3/4" F BBRS 1" x 1/2" F BBRS 2" x 3/4" F BBRS 2" x 1" F

BSPT & OTHER BRASS WATER FITTING

FITTING	CODE
	BB3/8" x 1/4"
	BB1/2" x 1/4"
	BB1/2" x 3/8"
	BB3/4" x 1/2"
	BB1" x 1/2"
	BB1" x 3/4"
	BB1 1/4" x 1/2"
	BB1 1/4" x 3/4"
	BB1 1/2" x 1/2"
	BB1 1/2" x 3/4"
	BB1 1/2" x 1"
	BB1/2" x 1 1/4"
	BB2" x 1/2"
	BB2" x 3/4"
	BB2" x 1"
	BB2" x 1 1/4"
	BB2" x 1 1/2"
	BB2 1/2" x 2"
	BB3" x 2 1/2"
	BB3" x 2"
	BJN 1/2"
	BJN 3/4"
	BJN 1"
	BJN 1 1/4"
	BJN 1 1/2"
	BJN 2"
	BM/F 5/3/4" x 1/2"
	BM/F 5/1" x 1/2"
	BM/F 5/1" x 3/4"
	BM/F 5/1 1/4" x 1/2"
	BM/F 5/1 1/4" x 3/4"
	BBT 1/2"
	BBT 3/4"
	BBT 1"
	BBT 1 1/4"
	BBT 1 1/2"
	BBT 2"
	BBSL 1/2"
	BBSL 3/4"
	BBSL 1"
	BBSL 1 1/4"
	BBSL 1 1/2"
	BBSL 2"
	BBLL 1/2"
	BSC 16
	BSC 20
	BSC 25
	BECS 32
	BECS 40
	BECS 50
	BECS 63
	BECS 75
	BECS 90
	BV (CP) 1/4"
	BV (CP) 3/8"
	BV (CP) 1/2"
	BV (CP) 3/4"
	BV (CP) 1"
	BV (CP) 1 1/4"
	BV (CP) 1 1/2"
	BV (CP) 2"
	BV (CP) 2 1/2"
	BV (CP) 3"
	BV (CP) 4"
	SSLS- 3/4" x 8"

FITTING	CODE
	BMF 2"
	BMF 3"
	BMF 4"
	BFF 2"
	BFF 3"
	BFF 4"
	BYS 1/2"
	BYS 3/4"
	BYS 1"
	BYS 1 1/4"
	BYS 1 1/2"
	BYS 2"
	BYS 2 1/2"
	BYS 3"
	BYS 4"
	BLBV 3/4"
	BFV 1 1/4" + 8" CB
	BFV 1 1/2" + 8" CB
	BFV 2" + 10" CB
	BS1212BFV 1 1/4" + 8" CB
	BS1212BFV 1 1/2" + 8" CB
	BS1212BFV 2" + 10" CB
	BS1212BFV 2 1/2" + 12" CB
	BS1212BFV 3" + 14" CB
	BS1212BFV 4" + 15" CB
	BS1212BFV 6" + 16" CB
	BS1212 1/2" H.T. - 360G
	BS1212 3/4" - 850G
	BS1212 3/4" - 390G
	BS1212 1" - 1580G
	BFV 1/2"
	BFV 3/4"
	BFV 1"
	BGV(PN10)-1/2"
	BGV(PN10)-3/4"
	BGV(PN10)-1"
	BGV(PN10)-1 1/4"
	BGV(PN10)-1 1/2"
	BGV(PN10)-2"
	BGV(PN10)-2 1/2"
	BGV(PN10)-3"
	BGV(PN10)-4"
	BGV(PN10)-50mm
	BGV(PN10)-65mm
	BGV(PN10)-80mm
	BGV(PN10)-100mm
	BGV(PN10)-125mm
	BGV(PN10)-150mm
	BGV(PN10)-200mm
	BGV(PN10)-250mm
	BGV(PN10)-300mm
	BGV(PN10)-3"
	BGV(PN10)-4"
	BGV(PN10)-5"
	BGV(PN10)-6"
	BGV(PN10)-8"
	BGV(PN10)-10"
	BGV(PN10)-12"
	BGV(PN10)-15"
	BGV(PN10)-20"
	BGV(PN10)-25"
	BGV(PN10)-30"
	BGV(PN10)-35"
	BGV(PN10)-40"
	BGV(PN10)-45"
	BGV(PN10)-50"
	BGV(PN10)-55"
	BGV(PN10)-60"
	BGV(PN10)-65"
	BGV(PN10)-70"
	BGV(PN10)-75"
	BGV(PN10)-80"
	BGV(PN10)-85"
	BGV(PN10)-90"
	BGV(PN10)-95"
	BGV(PN10)-100"
	BGV(PN10)-105"
	BGV(PN10)-110"
	BGV(PN10)-115"
	BGV(PN10)-120"
	BGV(PN10)-125"
	BGV(PN10)-130"
	BGV(PN10)-135"
	BGV(PN10)-140"
	BGV(PN10)-145"
	BGV(PN10)-150"
	BGV(PN10)-155"
	BGV(PN10)-160"
	BGV(PN10)-165"
	BGV(PN10)-170"
	BGV(PN10)-175"
	BGV(PN10)-180"
	BGV(PN10)-185"
	BGV(PN10)-190"
	BGV(PN10)-195"
	BGV(PN10)-200"
	BGV(PN10)-205"
	BGV(PN10)-210"
	BGV(PN10)-215"
	BGV(PN10)-220"
	BGV(PN10)-225"
	BGV(PN10)-230"
	BGV(PN10)-235"
	BGV(PN10)-240"
	BGV(PN10)-245"
	BGV(PN10)-250"
	BGV(PN10)-255"
	BGV(PN10)-260"
	BGV(PN10)-265"
	BGV(PN10)-270"
	BGV(PN10)-275"
	BGV(PN10)-280"
	BGV(PN10)-285"
	BGV(PN10)-290"
	BGV(PN10)-295"
	BGV(PN10)-300"
	BGV(PN10)-305"
	BGV(PN10)-310"
	BGV(PN10)-315"
	BGV(PN10)-320"
	BGV(PN10)-325"
	BGV(PN10)-330"
	BGV(PN10)-335"
	BGV(PN10)-340"
	BGV(PN10)-345"
	BGV(PN10)-350"
	BGV(PN10)-355"
	BGV(PN10)-360"
	BGV(PN10)-365"
	BGV(PN10)-370"
	BGV(PN10)-375"
	BGV(PN10)-380"
	BGV(PN10)-385"
	BGV(PN10)-390"
	BGV(PN10)-395"
	BGV(PN10)-400"
	BGV(PN10)-405"
	BGV(PN10)-410"
	BGV(PN10)-415"
	BGV(PN10)-420"
	BGV(PN10)-425"
	BGV(PN10)-430"
	BGV(PN10)-435"
	BGV(PN10)-440"
	BGV(PN10)-445"
	BGV(PN10)-450"
	BGV(PN10)-455"
	BGV(PN10)-460"
	BGV(PN10)-465"
	BGV(PN10)-470"
	BGV(PN10)-475"
	BGV(PN10)-480"
	BGV(PN10)-485"
	BGV(PN10)-490"
	BGV(PN10)-495"
	BGV(PN10)-500"
	BGV(PN10)-505"
	BGV(PN10)-510"
	BGV(PN10)-515"
	BGV(PN10)-520"
	BGV(PN10)-525"
	BGV(PN10)-530"
	BGV(PN10)-535"
	BGV(PN10)-540"
	BGV(PN10)-545"
	BGV(PN10)-550"
	BGV(PN10)-555"
	BGV(PN10)-560"
	BGV(PN10)-565"
	BGV(PN10)-570"
	BGV(PN10)-575"
	BGV(PN10)-580"
	BGV(PN10)-585"
	BGV(PN10)-590"
	BGV(PN10)-595"
	BGV(PN10)-600"
	BGV(PN10)-605"
	BGV(PN10)-610"
	BGV(PN10)-615"
	BGV(PN10)-620"
	BGV(PN10)-625"
	BGV(PN10)-630"
	BGV(PN10)-635"
	BGV(PN10)-640"
	BGV(PN10)-645"
	BGV(PN10)-650"
	BGV(PN10)-655"
	BGV(PN10)-660"
	BGV(PN10)-665"
	BGV(PN10)-670"
	BGV(PN10)-675"
	BGV(PN10)-680"
	BGV(PN10)-685"
	BGV(PN10)-690"
	BGV(PN10)-695"
	BGV(PN10)-700"
	BGV(PN10)-705"
	BGV(PN10)-710"
	BGV(PN10)-715"
	BGV(PN10)-720"
	BGV(PN10)-725"
	BGV(PN10)-730"
	BGV(PN10)-735"
	BGV(PN10)-740"
	BGV(PN10)-745"
	BGV(PN10)-750"
	BGV(PN10)-755"
	BGV(PN10)-760"
	BGV(PN10)-765"
	BGV(PN10)-770"
	BGV(PN10)-775"
	BGV(PN10)-780"
	BGV(PN10)-785"
	BGV(PN10)-790"
	BGV(PN10)-795"
	BGV(PN10)-800"
	BGV(PN10)-805"
	BGV(PN10)-810"
	BGV(PN10)-815"
	BGV(PN10)-820"
	BGV(PN10)-825"
	BGV(PN10)-830"
	BGV(PN10)-835"
	BGV(PN10)-840"
	BGV(PN10)-845"
	BGV(PN10)-850"
	BGV(PN10)-855"
	BGV(PN10)-860"
	BGV(PN10)-865"
	BGV(PN10)-870"
	BGV(PN10)-875"
	BGV(PN10)-880"
	BGV(PN10)-885"
	BGV(PN10)-890"
	BGV(PN10)-895"
	BGV(PN10)-900"
	BGV(PN10)-905"
	BGV(PN10)-910"
	BGV(PN10)-915"
	BGV(PN10)-920"
	BGV(PN10)-925"
	BGV(PN10)-930"
	BGV(PN10)-935"
	BGV(PN10)-940"
	BGV(PN10)-945"
	BGV(PN10)-950"
	BGV(PN10)-955"
	BGV(PN10)-960"
	BGV(PN10)-965"
	BGV(PN10)-970"
	BGV(PN10)-975"
	BGV(PN10)-980"
	BGV(PN10)-985"
	BGV(PN10)-990"
	BGV(PN10)-995"
	BGV(PN10)-1000"
	BGV(PN10)-1005"

TOOLS & ACCESSORIES



Plastic Rounder
(TA-PR)



T-Reamer
(TA-TR)



Reamer
(TA-R)



T-Hand Metal Rounder
(TA-TH)



Cutter for size (63mm / 75mm)
(TA-C75)



Cutter
(TA-C)



Bender (16mm - 25mm)
(TA-B25)



Hydraulic Bender (40mm - 75mm)
(TA-HB)



Spanner (16mm - 32mm)
(TA-SP)



Expender Tool (16mm-32mm)
(TA-E32)



Expender Tool (16mm-25mm)
(TA-E25)

QUICK AND EASY INSTALLATION

Joining Procedure (Brass Compression Fitting)

- Cut the pipe according to size at a right angle
- Put the nut and fastener ring through the pipe and then screw tightly at the joint
- Round it
- 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 THREADING
- 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 distance from joint is less than 150mm, any bending operation should be completed before jointing.
Pipe Is Fully Inserted Inside Pipe Groove. 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.
Split Ring In Proper Position 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 chamfer.



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 pressure 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.