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INTERNATIONAL MATERIAL SOLUTIONS LTD.



Approvals



For

AS4176.2-2010 Multilayer Pipes for pressure applications Part 2: Multilayer piping systems for hot and cold water plumbing applications - Pipes (ISO21003-2:2008,MOD)

AS4176.3-2010 Multilayer Pipes for pressure applications Part 3: Multilayer piping systems for hot and cold water plumbing applications - Fittings (ISO21003-3:2008,MOD)

AS4176.8-2010 Multilayer Pipes for pressure application. Part 8: Multilayer pipe systems for consumer gas installations with maximum operating pressure up to and including 5 bar(500kPa) specifications for systems (ISO17484-1:2006,MOD)

AS/NZS 2492:2007 - Cross-linked polyethylene (PE-X) pipes for pressure applications

AS/NZS 2537.2: 2011 - Mechanical jointing fittings for use with crosslinked polyethylene (PE-X) for pressure applications - Plastics piping systems for hot and cold water installations - Crosslinked polyethylene (PE-X) - Fittings (ISO 15875-3:2003, MOD)

This brochure contains information of the ranges of piping systems including

PEX-AL-PEX with Crimp fittings for PLUMBING & GAS supply

PEX PN16 with Crimp fittings for PLUMBING

PEX PN20 with Sliding fittings for PLUMBING

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COMPANY PROFILE

INTERNATION MATERIAL SOLUTION LTD. a private-held company for copper ,copper alloy plastic products including tubing, rods, fittings etc .continued to focus on copper processing and integrated global resources to build itself into one of the most competitive multinationals in the worlds copper processing industry. Two main product groups for **INTERNATION MATERIAL SOLUTION LTD.** are copper tube and bar. Copper tubes include refrigeration tube, construction tube, copper alloy tube, copper & copper alloy fittings and tube for other applications. These tubes are generally used in field of air-conditioning refrigeration, construction piping, equip manufacturing, auto industry, electronic and communication, traffic and transportation, hardware and mechanism, electric power, seawater desalting etc.

With the capacity of over 150000 tons per year so far, and the operation of Quality control system ISO 9001 and also the certifications approved for different products in different markets such as NSF,UPC,WHI and Kitemark, Sai, SGS, SABS, C-TPAT etc.,

INTERNATION MATERIAL SOLUTION LTD. has great confidence to satisfy various customers with different requirements.

INTERNATION MATERIAL SOLUTION LTD. will follow its direction of making strong, making large endeavoring to be the most competitive copper-processing multi-international enterprises in the world.



Pursuit of excellence Cooperation and win-win Creating value



Products performance

PEX/AL/PEX pipes

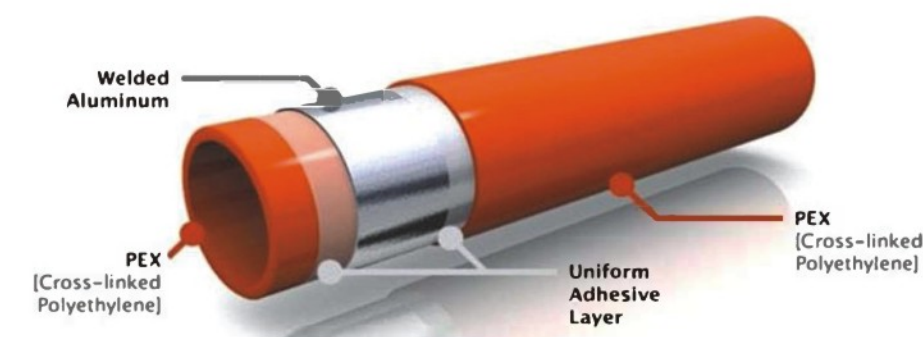
PE(X)/AL/PE(X) MULTILAYER pipe consists of a continuous butt welded aluminium core with an inner and outer layer made of HDPE (polyethylene) that has been cross-linked using silane and can be high temperature-resistant. The three layers are permanently bonded together by intermediate adhesive layers.

Combines the benefits of both metal and plastic pipes, the inline welded aluminium tube is absolutely safe against oxygen penetration. It compensates for the snap-back forces and the linear expansion caused by temperature changes.


The basis of the system is simple, safe and fast installation: simply bend, cut to length, ream and bevel, join together, press, done.

This system has been independently tested to meet AS4176, ISO21003 and has the WATERMARK approved.

Designed for the gas & hot/cold water supplying, etc. Sizes ranging from 16mm to 63mm.



Packing information

PE(X)/AL/PE(X) pipe	Sizes	Meters/unit	Colors
	16x2.0	200/100/50/25/5	Yellow/red/blue/white /black/lilac/green
	20x2.0	200/100/50/25/5	
	25x2.5	50/25/5	
	32x3.0	50/25/5	
	40x4.0	5	
	50x4.5	5	
	63x6.0	5	

Technical profile

Sizes(mm)	1216	1620	2025	2632	3240	4150	5163
OD(mm)	16	20	25	32	40	50	63
ID(mm)	12	16	20	26	32	41	51
T _{max} (°C)	95						
P _{max} (bar)	10						
Coefficient of thermal(W/mk)	0.43						
Coefficient of linear expansion(mm/m/k)	0.025						
Surface roughness of inner pipe(μ)	7						
Oxygen diffusion(mg/l)	0						

Pex pipes

PEX pipes, made of HDPE (polyethylene) that has been cross-linked using silane and can be high temperature-resistant, consists two layers. Inner layer is clean and outer can be in black/ red/ blue/green/lilac. The clean layer can be contacted with drinking water safely and do no harm to the environment.

 black UV resistant for outside using


 red for hot water

 blue for cold water

 green for rain water

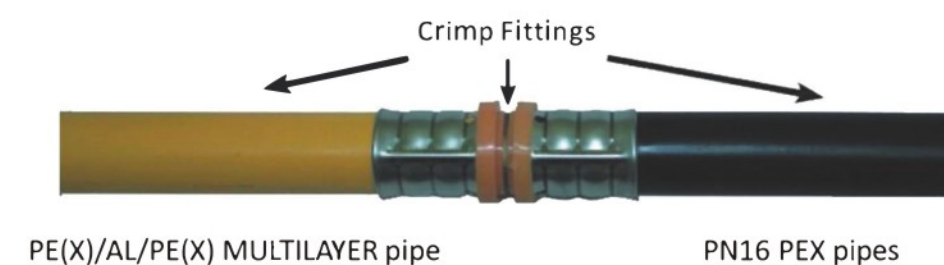
 lilac for recycle water

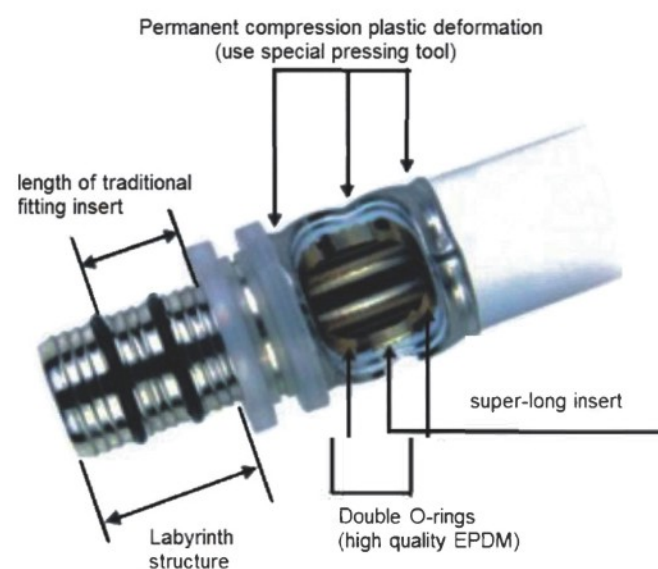
Packings information

PEX pipe	Sizes	Meters/unit	Colors
PN 16	16x2.0	100/50/25/5	 black/red/blue/green/lilac
	20x2.0	100/50/25/5	
	25x2.5	50/25/5	
	32x3.0	50/25/5	
PN 20	16x2.2	100/50/25/5	
	20x2.8	100/50/25/5	
	25x3.5	50/25/5	
	32x4.4	50/25/5	

Crimp fittings

DR brass crimp fittings with crimp tools are designed to use with both the PE(X)/AL/PE(X) MULTILAYER pipe and the PN16 PEX pipes. An innovative fitting made of copper alloy, U-profile, low material cost and fast installation. Sizes range from 16mm to 63mm.





1. Unique structure

- Two o-rings placed on the fitting Insert part.
- Three annular grooves on the three- Step-labyrinth structure insert.
- perfect sealing performance



2. High quality sealing material



The material of the sealing ring is EPDM, which has excellent specialty of anti-aging, well-rebound and long lifetime performance.

3. Secure connecting way

The safe and stable connecting lies on the permanent compression plastic deformation of the stainless steel sleeve by using the special pressing tool to complete the connecting correctly.

Products information (DR, CW617N, 57-3)

Desc.	spec. (mm)	Desc.	spec. (mm)
	S1216		L16*1/2"F(A)
	S1620		L16*3/4"F(A)
	S2025		L20*1/2"F(A)
	S2632		L20*3/4"F(A)
straight			L25*3/4"F(A)

Product Name	spec. (mm)
	S20*16
	S25*16
	S25*20
	S32*16
	S32*20
	S32*25
Desc.	spec. (mm)
	S16*1/2"M
	S16*3/4"M
	S20*1/2"M
	S20*3/4"M
	S20*1"M
	S25*1/2"M
	S25*3/4"M
	S25*1"M
	S32*1/2"M
	S32*3/4"M
	S32*1"M
	S32*1 1/4"M
male straight	

Desc.	spec. (mm)
	S16*1/2"F
	S16*3/4"F
	S20*1/2"F
	S20*3/4"F
	S20*1"F
	S25*1/2"F
	S25*3/4"F
	S25*1"F
	S32*1/2"F
	S32*3/4"F
	S32*1"F
	S32*1.1/4"F
female straight	
Desc.	spec. (mm)
	L1216
	L1620
	L2025
	L2632
elbow	
Desc.	spec. (mm)
	L20*16
	L25*16
	L25*20
	L32*16
	L32*20
reducing elbow	
	L32*25

Desc.	spec. (mm)
	16 x 1/2" x 65mm
	16 x 1/2" x 90mm
	16 x 1/2" x 150mm
	16 x 1/2" x 180mm
	20 x 1/2" x 90mm
	20 x 1/2" x 180mm
	20 x 3/4" x 90mm
	20 x 3/4" x 180mm
Wallplate Elbow Extended	
Desc.	spec. (mm)
	T1216
	T1620
	T2025
	T2632
tee	
Desc.	spec. (mm)

Desc.	spec. (mm)
	T16*20*16
	T16*25*16
	T20*16*20
	T20*25*20
	T25*16*25
	T25*20*25
	T25*32*25
	T32*16*32
	T32*20*32
	T32*25*32
	T20*16*16
	T20*20*16
	T25*20*20
	T25*20*16
	T25*25*16
	T25*25*20
	T32*20*25
	T25*16*16
	T25*16*20
	T32*25*25
reducing tee	

Desc.	spec. (mm)
	L16*1/2"M
	L16*3/4"M
	L20*1/2"M
	L20*3/4"M
	L20*1"M
	L25*1/2"M
	L25*3/4"M
	L25*1"M
	L32*1"M
	L16*1/2"F
	L16*3/4"F
	L20*1/2"F
	L20*3/4"F
	L25*1/2"F
	L25*3/4"F
	L25*1"F
	L32*1/2"F
	L32*3/4"F
	L32*1"F

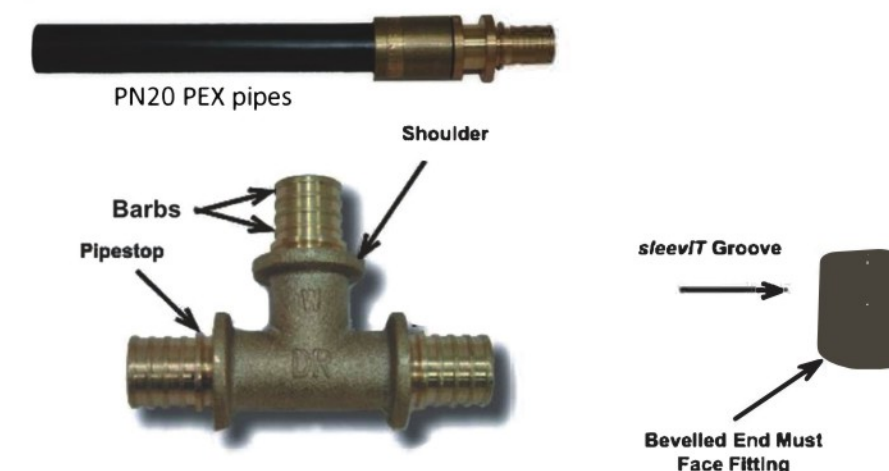
Desc.	spec. (mm)
	D1216
	D1620
	D2025
	D2632
Desc.	spec. (mm)
	16mm
	20mm
	25mm
Desc.	spec. (mm)
	L16*5/8F(A)-300mm
	L16*5/8F(A)-150mm

Desc.	spec. (mm)
	T16*1/2"M*16
	T16*3/4"M*16
	T20*1/2"M*20
	T20*3/4"M*20
	T25*3/4"M*25
Desc.	spec. (mm)
	T16*1/2"F*16
	T16*3/4"F*16
	T20*1/2"F*20
	T20*3/4"F*20
	T20*1"F*20
	T25*1/2"F*25
	T25*3/4"F*25
	T25*1"F*25
	T32*1/2"F*32
	T32*3/4"F*32
	T32*1"F*32
	T25*1/2"F*20





Desc.	spec. (mm)
	16mm to 1/2" copper
	20mm to 3/4" copper
	25mm to 1" copper
Desc.	spec. (mm)
	S16xH1/2"F
Desc.	spec. (mm)
	L16xH1/2"F



Sliding fittings (DR, CW617N, 57-3)






DR brass sliding fittings with the joining tools are designed to use with the PN20 PEX pipes as a slide compression sleeve system complying to AS/NZ 2537. Sizes range from 16mm to 32mm.




Products information



Product Name	spec. (mm)
	16
	20
	25
	32
Desc.	spec. (mm)
	S16
	S20
	S25
	S32
Desc.	spec. (mm)
	S20x16
	S25x16
	S25-20
	S32x25
Desc.	spec. (mm)
	S16-1/2"M
	S16-3/4"M
	S20-1/2"M
	S20-3/4"M
	S20-1"M
	S25-1/2"M
	S25-3/4"M
	S25-1"M
	S32-3/4"M
	S32-1"M




Desc.	spec. (mm)
	L16-1/2"F
	L20-1/2"F
	L20-3/4"F
Desc.	spec. (mm)
	L16-1/2"F
	L20-3/4"F

Desc.	spec. (mm)
	S16-1/2"F
	S20-1/2"F
	S20-3/4"F
Desc.	spec. (mm)
	S16-1/2"F
	S20-3/4"F
	S20-1/2"F
	S20-3/4"F
Desc.	spec. (mm)
	L16
	L20
	L25
	L32
Desc.	spec. (mm)
	L16-20
	L16-1/2"M
	L20-1/2"M
	L20-3/4"M
	L25-3/4"M

Desc.	spec. (mm)
	L16-1/2" F(A)
	L20-3/4" F(A)

Desc.	spec. (mm)
	16-1/2"-65mm
	16-1/2"-90mm
	16-1/2"-95mm
	20-1/2"-90mm
	20-1/2"-95mm
	20-3/4"-95mm
	16-1/2"-150mm
	16-1/2"-200mm
Female Elbow Lugged	20-1/2"-200mm
	20-3/4"-150mm
	20-3/4"-180mm
Desc.	spec. (mm)
	T16
	T20
	T25
	T32
Tee Equal	

Desc.	spec. (mm)
	16 to 1/2' copper
	20 to 3/4" copper
	25 to 1" copper
Desc.	spec. (mm)
	DN16
	DN20
	DN25
	DN32
Desc.	spec. (mm)
	16mm
	20mm
Desc.	spec. (mm)
	T20-20-16
	T20-16-20
	T20-16-16
	T16-16-20
	T25-16-16
	T25-20-16
	T25-16-20
	T25-20-20
	T25-16-25
	T25-20-25
	T25-25-16
	T25-25-20
	T32-25-25
	T32-32-20
	T32-32-25
Tee Reducing	

Desc.	spec. (mm)
	16x1/2"
	20x3/4"
Desc.	spec. (mm)
	300mm
	150mm
	200mm
	300mm
	150mm
	200mm
	150mm
	200mm
Desc.	spec. (mm)
	DN16
	DN20
	DN25
90 DEG SUPPORT BEND	

Tools & Accessories

Crimp system tools

<p>manual pressing clamp</p>    <ul style="list-style-type: none"> the moulds can be replaceable application range: $\phi 12 \sim \phi 32$ mm weight: 4(kg) 	<p>Reamer</p>  <p>Plastic reamer with metal blade, insert into the pipe, for rounding and beveling the inner and outer layers of the pipe before installed with the fittings.</p>
<p>Cutter for 16-32mm</p> 	<p>Cutter for 40-63mm</p> 
<p>The two cutters are designed for smooth, even cutting. When cutting the tool's jaw should fit firmly over the pipe to allow a square, burr-free cut.</p>	
<p>Internal spring</p> 	<p>External spring</p> 
<p>The springs allow to bend the pipes to a radius of 5 times of the pipe outside diameter(OD).</p>	

Joining system tools

Expander

- expander heads can be changeable
- application range: $\phi 12 \sim \phi 32$ mm
- weight : 0.8(kg)



Joining tools

- the moulds can be replaceable
- specifications : $\phi 16, 20, 25, \phi 32$ mm
- weight : 3.1(kg)



Pipe cutter



Installation Guide

Crimp system



Step 1: pipe preparation

Cut pipe to wanted length, the pipe should be cut vertically and precisely with a pipe cutter.



Step 2: Round and beveling

Round and bevel the pipe end holes with reamer correctly so as not to damage the o-rings on the fittings during the installation and also to let the fitting insert get into the pipe easily.



Step 3: Inserting

Choose the right size fitting for the pipe, then aim the pipe end at the ring shape hole of the fitting integrated with sleeve and check the inserting depth by looking through the inspection holes on the sleeve shoulder to ensure that the pipe is completely inserted.



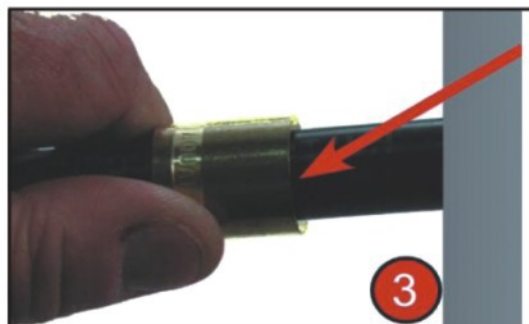
Step 4: Pressing

Selecting right size jaw
Installing jaw on to the tool
Adjusting the pressing tool
Open the pressing tool
and position the tool right onto the sleeve
Close the handles until the two touch points on the handles touch each other While the jaw is completely closed, the handles will be self-locked.
Open the handles and remove the pressing tool from the fitting and installation is accomplished.





Using pipe cutter to cut the pipe squarely and ensure it is clear of burrs.



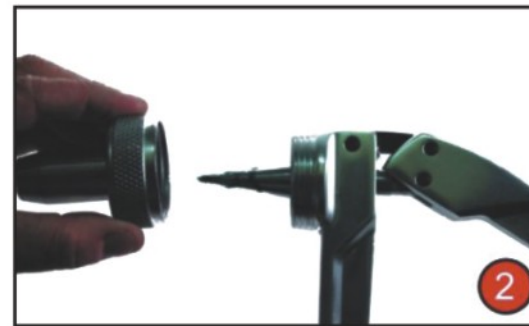
Sliding the sleeve over the pipe, beveled edge must face the fitting to be joined.



Expanding the pipe. Close levers of expanding tool, then release and rotate pipe slightly and repeat. This will ensure perfect roundness which will create a leak proof joint.



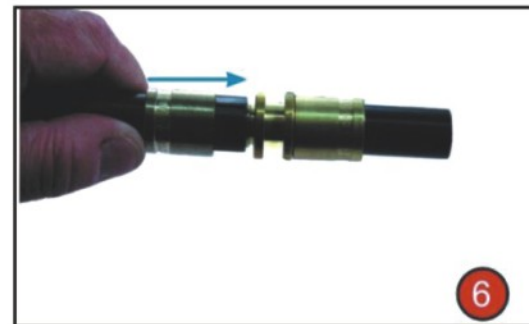
Fit Jaws of tool on joining sleeve and fitting. Close jaws.



Screwing the correct size head to the expander, while lever handles are open



Insert the expander into pipe, make sure head is square to pipe.



Insert fitting into expanded pipe to pipe stop, slide sleeve towards fitting.



Make sure sleeve is drawn over pipe to shoulder of fitting. Secure joint is complete

