

elson
BUSH PEX

**THE BRAND
PLUMBERS TRUST**



elson **BUSH** PEX
PUSH-ON
PLUMBING SYSTEM

Product information
and installation manual



Quality
ISO 9001
SAI GLOBAL
Certificate No. QEC27227



Elson Australasia Pty Ltd proudly presents the elson BUSHPEX range of PEX Plumbing Systems including, Pull-On, Crimp-On and Push-On for water and elson BUSHPEX Crimp Gas.

This brochure provides specification and installation information specific to the elson BUSHPEX Push-On PEX Plumbing System for water reticulation, 16mm, 20mm and 25mm, O.D.

The elson BUSHPEX Push-On PEX Plumbing System comprises two main components, a flexible cross-linked high density polyethylene pipe and solid DR Brass fittings.

elson BUSHPEX Push-On Plumbing Systems are a cost effective alternative to other plumbing systems. The elson BUSHPEX Push-On PEX system is fast and easy to install, usually with fewer fittings. The flexible pipe is light weight and resists corrosion and scale affect. Water flow noise is low in PE-X pipe and water hammer is significantly reduced.

elson BUSHPEX Pipe is a high strength PN20 PE-Xa pipe manufactured by Elson under strict quality controls at our ISO9001 accredited manufacturing facility to **Australian and New Zealand Standards AS/NZS 2492 with WaterMark certificate WMKA 21274.**

elson BUSHPEX pipe is suitable for use in hot and cold water services for both domestic and commercial applications, available in black for either hot or cold water, red for hot water, green for rainwater harvesting and lilac for recycled water.

elson BUSHPEX Push-On fittings are a solid DR brass fitting. The fittings are manufactured by Elson under strict quality controls at our ISO9001 accredited manufacturing facility to **Australian and New Zealand Standards AS/NZS 2537 with watermark certificate WMKA 21276.**

The elson BUSHPEX Push-On jointing system is fast and efficient, requiring minimum tooling. Installation must be followed strictly in accordance with the manufacturers instructions.

All elson BUSHPEX products are fully warranted for a period of 25 years against manufacturing defects when installed in accordance with AS/NZS 3500 and the elson BUSHPEX Push-On PEX Plumbing System Manual by a licenced Plumber.

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Features and Benefits

elson BUSHPEX Push-On PEX Plumbing System:

- Manufactured, distributed and supported by Elson.
- 25 year product warranty against manufacturing defect when installed according to detailed requirements.
- Cost effective alternative to other systems.
- Fast and easy to install providing a safe + secure piping system.
- Minimal tooling required.
- elson BUSHPEX pipe properties:
 - Low water flow noise.
 - High impact resistance.
 - Corrosion and incrustation resistant.
 - Light weight and easy to install.
 - Significantly reduces water hammer.
 - High pressure rating 2000kPa @ 20°C.
 - Smooth inner core to reduce pressure loss.
 - Low levels of thermal conductivity and expansion.
 - Coils provide fast installation, less joints, cost saving.
 - Available in Black for hot and cold water, Red for hot water, Green for rainwater harvesting and Lilac for recycled water in size 16,20 & 25mm.
 - Same pipe is compatible with three elson BUSHPEX jointing systems - Crimp-On, Pull-On, Push-On.

- elson BUSHPEX Push-On fitting properties:
 - All fittings are tested DR Brass.
 - Hi-tensile stainless steel grab ring.
 - Minimal tool requirements.
 - Disconnection of fitting from pipe using disassembly tong. NOTE: Pipe must be re-cut behind grab ring indent.
- Elson manufacturing ISO 9001 accredited by SAI Global, certificate number QEC27227.
- elson BUSHPEX Pipe manufactured to AS/NZS 2492 with watermark certificate WMKA 21274.
- elson BUSHPEX Push-On fittings manufactured to AS/NZS 2537 with watermark certificate WMKA 21276.
- National support network for training and technical information.

Technical Information

elso BUSHPEX Pipe

elso BUSHPEX pipe is manufactured from PE-Xa virgin material to exceed the performance requirements of AS/NZS2492. elso BUSHPEX pipe is the preferred choice for hot and cold potable water and recycled water applications.

PE-Xa crosslinked polyethylene is manufactured by changing the polymer which chemically links the molecular structure to form a three dimensional, cross-linked structure. This process increases the durability, temperature and pressure capacity. PE-Xa pipe provides flexibility with improved mechanical, thermal and chemical properties. elso BUSHPEX PE-Xa pipe tests between 80% to 85% crosslinking.

elso BUSHPEX pipe benefits:

- PE-Xa pipe has "memory" allowing it to return to its original shape when pressure is released.
- Temperature and pressure ratings up to 1330KPa at 70°C.
- Resistant to freezing and high impact strength.
- Higher resistance to surge pressures compared to copper.
- Reduced water hammer compared to metal pipes.
- High burst strength and long-term pressure ratings.
- Smooth internal wall for excellent flow characteristics.

- Chemical resistance to glycols, latex paints, silicone and most acids and bases.
- Reduced heat loss and condensation through pipes compared to copper.
- Corrosion Resistance from soil or water.
- Ease of installation no flame, solder or glue.
- Lightweight and flexible for ease of handling and transport.
- Proven long life and durability.
- elson BUSHPEX Pipe is available in four colours to identify the specific application.

Black – Suitable for potable hot and cold water in domestic and commercial applications.

Red – Specifically for hot water lines.

Lilac – Specifically for recycled, non-potable water.

Green – Specifically for Rainwater.

NOTE: PE-X pipe exposed to sunlight must be protected.

elson BUSHPEX PE-Xa PN20 pipe is specifically designed for the elson BUSHPEX Push-On jointing system in conformance with AS/NZS 2492 with watermark certificate WMKA 21274. elson BUSHPEX PE-Xa PN20 is compatible with all three elson BUSHPEX jointing systems for water including:

- elson BUSHPEX Pull-On
- elson BUSHPEX Crimp-On
- elson BUSHPEX Push-On



elson BUSHPEX Push-On fittings

elson BUSHPEX Push-On fittings are manufactured to high standard manufacturing processes. elson BUSHPEX Pull-On fittings use only DR BRASS (Dezincification Resistant) which is batch tested and conforms to AS 2345 . Fitting design includes a high tensile stainless steel grab ring and "O"-ring seal which seats on the outside of the elson BUSHPEX pipe.* All fittings have stamped detail clearly showing Brand, Size, Pressure Rating, Standard and watermark certificate Number. elson BUSHPEX Push-On fittings have been tested and approved in accordance with the Australian and New Zealand Standard AS/NZS 2537 with watermark certificate WMKA 21276.

elson BUSHPEX Push-On fittings are available in DN16, DN20 & DN25. Refer to the full product listing in this manual.

*** To ensure a leak proof installation the external surface of the elson BUSHPEX pipe must be completely free of scratches, indentations and any other surface damage or deformation.**

Pipe Specification Chart			
elso BUSHPEX Pipe Outside Diameter (O.D.)	16mm Nom O.D.	20mm Nom O.D.	25mm Nom O.D.
Wall thickness Min / Max mm AS/NZS 2492	2.2 - 2.6	2.8 - 3.2	3.5 - 4.0
PE-X Type / Nominal Pressure @ ambient temp'	PE-Xa / 2000kPa @ 20C	PE-Xa / 2000kPa @ 20C	PE-Xa / 2000kPa @ 20C
Standard Pipe/Fittings	AS/NZS 2492 / AS2537	AS/NZS 2492 / AS2537	AS/NZS 2492 / AS2537
Licence Number for Pipe/Fittings	21274 / 21276	21274 / 21276	21274 / 21276
Max Clip Distance Horiz/Vertical mm	600mm / 1200mm	700mm / 1400mm	750mm / 1500mm
Min Bend Radius mm - Use Spring / Bender	160mm	200mm	250mm
Colours available	Black, Red, Lilac, Green	Black, Red, Lilac, Green	Black, Red, Lilac, Green
Coil Sizes metres(Black, Red, Lilac, Green)	25m Black / 50m All / 100m Black	25m Black / 50m All / 100m Black	25m Black & Red / 50m All
Straight Lengths metres(Black, Red, Lilac, Green)	5m lengths available in all colours	5m lengths available in all colours	5m lengths available in all colours
Coefficient of Linear Expansion / Thermal Expansion	0.3mm/metre/10C	0.3mm/metre/10C	0.3mm/metre/10C
Max Operating Temp/Press	70C @ 1330kPa	70C @ 1330kPa	70C @ 1330kPa
Hot Water Temp / Pressure	1500kPa @ 60C	1500kPa @ 60C	1500kPa @ 60C
<p>Timber Frame Plates & Studs 75mm wide timber - maximum cut-out, notch, drill diameter of 19mm. 100mm wide timber - maximum cut-out, notch, drill diameter of 25mm.</p>			
<p>Timber Joists - Refer AS/NZS 3500</p>			

Pipe & Fitting Protection and Care during Handling and Installation

elso BUSHPEX pipe and Push-On fittings must be protected from damage through all stages of the process from transport to storage and installation in accordance with AS/NZS 3500. Provision for pipe and fitting protection therefore includes but is not limited to the following:

- Care must be taken to keep the pipe and fittings free of grit, dirt, dust, sand and any foreign matter.
- Pipe must be protected from physical damage including cuts, abrasions, dents, kinks, tears, holes, etc.
- Pipes, either black, red, green or lilac, must not be installed in direct sunlight.
- Pipe must be protected from long term or permanent U.V. exposure, by way of lagging, encasing in a conduit etc.
- Pipe and fittings must be protected from excessive heat or burning, chemical / solvent attack, animal or rodent attack, machinery damage, other external threats, etc.
- Pipe must never be installed where it could be exposed to a naked flame. PE-X Pipe has the potential to ignite and continue to burn after the source of the flame is extinguished. In accordance with AS/NZS 3500, all plastic pipe for water supply must be protected from excessive ambient heat.
- Chemical or corrosive environments.
 - Pipe must be protected.
 - Fittings must be wrapped, sealed, protected.
 Includes all underground installations for all fittings.

- Pipe support and clipping, both vertically and horizontally is required to ensure conformance for vibration, excessive tension, torsion or compressive stresses on fittings and pipe. Refer to Pipe Specification Chart for spacing.
- Pipe penetrations through timber and steel frames and concrete sections must conform and may require protection using grommets, fire collars, sleeving or wrapping. Holes, notches and cut-outs must be accurately drilled “in-line” to allow movement for expansion and contraction of the pipe and fittings so joints are not exposed to excessive stress. Refer to Pipe Specification Chart for timber frame cut-out limitations.
- Pipe expansion and contraction needs to be accommodated during installation to allow for movement due to thermal Linear Expansion. Failure to do so may exceed the torsional pull-out allowances on fittings resulting in leakage. Refer to the Pipe Specification Chart for the Thermal Expansion Co-efficient.
- elson BUSHPEX pipe is flexible but requires care when bending to avoid kinks or other permanent deformation that may restrict flow or put undue pressure on joints. If the pipe is kinked or damaged in any way it must be cut-out and replaced. elson BUSHPEX Push-On elbows are recommended for tight bends.
Refer to the Pipe Specification Chart for minimum bending radius and tools for bending.

- In accordance with AS/NZS 3500 regions with extreme hot or cold temperatures require appropriate product selection and/or insulation for protection and compliance. Consideration should also be given to insulating the pipe for energy efficiency as well as the prevention of condensation which can occur in hot and cold lines. Hot water lines require insulation / lagging - see AS/NZS 3500.

Underground Installation

NOTE: It is a requirement to pressure test the pipe and fittings in accordance with AS/NZS 3500 prior to burying or concealing the elson BUSHPEX Plumbing System.

Elsion recommends caution with all underground installations including wrapping, sealing and protection of all fittings.

Underground installation of elson BUSHPEX Push-On pipe and fittings must be in accordance with AS/NZS 3500 including but not limited to the following :

- Minimum buried depth required by Standards.
- Minimum pipe separation distance.
- Wrapping, sealing and protection.
- Conduit sleeving through slab penetration.
- Underground Piping installation recommended with no joints.
- Concrete slab piping must be continuous with no joints.

WHAT YOU NEED TO KNOW...

The design of the BUSHPEX Push-On fitting requires a positive "O-Ring" seal on the external diameter pipe surface. The installation requirements must therefore include the following key points:

- The external pipe seating surface **MUST** be completely free of any scratches, cuts, indentations, defect or deformity.
- The pipe and fitting **MUST** be free of dirt, grit, sand or other foreign material.
- The fitting must be complete with no damage to the "O-Ring" and grab ring. Never attempt to dismantle a fitting as they are factory sealed and tested.
- The fitting must be pushed on completely in one continuous action - check the "Safe Bury" marks!
- **DO NOT** pull back the fitting unless the fitting has been pushed on completely - check the "Safe Bury" marks. Pull-back prior to complete insertion causes grab-ring bite indentations on the pipe. If this occurs you **MUST** cut the pipe and start again.

Elson BUSHPEX PE-Xa Fire Collar Certification

Elson BUSHPEX PE-Xa water pipe has been tested / approved in accordance with AS 1530: Part 4: 2005 using Promat PROMASEAL(R) Passive Fire Protection Collars for wall and floor penetrations using various wall materials and thicknesses and both cast-in to concrete slabs and retrofitted to the underside of the concrete slab – refer to the charts.

FRL refers to the "Fire Resistance Level" as a period in minutes for three key points:

- structural adequacy
- integrity
- insulation

BUSHPEX PE-Xa PN20 Water Pipe for BUSHPEX Push-On Fittings

Retrofitted Collar	Wall Material	Nom O.D.	FRL	Approval No
PROMASEAL ^(R) CFC 32	Lightweight partition clad with Fire Rated	16	-/180/180	WFRA 41195
PROMASEAL ^(R) CFC 32	Plasterboard (128mm thick system)	20	-/180/180	WFRA 2257300.1
PROMASEAL ^(R) CFC 32	with collars retrofitted to either side of the wall	25	-/180/180	WFRA 21138-01.1
PROMASEAL ^(R) CFC 32	Speed panel wall (77mm thick) collars retrofit on a layer of	20	-/120/30	A-12-777
PROMASEAL ^(R) CFC 32	25mm thick PROMATECT ^(R) 100 on each face.	25	-/120/120	A-12-777
Central Collars	Wall Material	Nom O.D.	FRL	Approval No
PROMASEAL ^(R) CFC 32	Hebel wall (75mm thick) with two collars screwed together	20	-/180/120	A-13-816
PROMASEAL ^(R) CFC 32	and inserted centrally within the wall.	25	-/180/90	A-13-816

BUSHPEX PE-Xa PN20 Water Pipe for BUSHPEX Push-On Fittings

Retrofitted Collar	Concrete Slab	Nom O.D.	FRL	Approval No
PROMASEAL(R) CFC 32	Concrete Slab	16	-/180/90	BWA2253500.1
PROMASEAL(R) CFC 32	Concrete Slab	20	-/180/120	WFRA 2257301.1
Cast-In Collar	Concrete Slab	Nom O.D.	FRL	Approval No
PROMASEAL(R) CFC 32	Concrete Slab	16	-/240/120	A-11-737
PROMASEAL(R) Green40	Concrete Slab	16	-/240/120	A-11-737
PROMASEAL(R) CFC 32	Concrete Slab	20	-/240/180	A-11-737
PROMASEAL(R) Green40	Concrete Slab	20	-/240/180	A-11-737
PROMASEAL(R) CFC 32	Concrete Slab	25	-/240/180	A-11-737
PROMASEAL(R) Green40	Concrete Slab	25	-/240/120	A-11-737

For Passive Fire Protection instructions or further information please contact Promat Australia Pty Ltd

elson BUSHPEX Push-On Tools

elson BUSHPEX Push-On tools are specifically designed to be used with the BUSHPEX Push-On PE-X pipe and fitting system and must not be used on other systems.

Key benefits of the elson BUSHPEX Push-On system are the minimal tooling requirements. Jointing tools include:

- Pipe cutter
- Deburring Tool / depth gauge
- Disassembly Tong

Always keep these tools clean, dry and functional and replace when worn.

IMPORTANT: It is a requirement for all installers to recognise and follow the jointing procedures and recommendations included in this handbook.

ELECTROCUTION WARNING!

The potential threat of electrocution and death must be recognised if an earth line is disconnected by cutting metal pipes. ALWAYS check with a licenced electrician prior to proceeding.

System Testing

Pipe and joint system testing must be carried out in accordance with AS/NZS 3500 and any other applicable local authority requirements prior to burying or concealing the elson BUSHPEX Push-On Plumbing System.

It is the responsibility of the Licenced Installer to ensure that all joints and fittings are inspected, tested and checked for leaks to ensure safety and compliance.

It is recommended to incorporate a checking procedure to ensure that each joint has been correctly and completely jointed.

Warranty

The elson BUSHPEX Push-On Plumbing System carries a 25 year product warranty which covers product manufacturing faults and defects only. This warranty does not cover faults arising from either incorrect installation or the installation environment. See Warranty conditions. In addition the warranty applies under the following requirements:

- System must be installed by a Licenced Plumber.
- Proof of installation by a Licenced Plumber.
- Proof of purchase - official receipt , invoice.
- Installation in accordance with AS/NZS 3500.
- Installation in accordance with other relevant and applicable local authority codes which may take precedence
- Installation in accordance with other established installation practices.
- Installation in accordance with the Jointing Procedure included in this manual.
- Installation with both BUSHPEX Pipe WMKA 21274 and BUSHPEX Push-On Fittings WMKA 21276 and BUSHPEX Push-On approved tooling.

Warranty Conditions

To make a claim under warranty you must abide by the warranty conditions. Elson Australasia Pty Ltd undertakes to repair or replace product which is found to be faulty or defective in workmanship or manufacture according to the warranty conditions. The benefits provided to the consumer by this warranty are in addition to other rights and remedies available to the consumer under the law.

To make a warranty claim you must contact Elson Australasia Pty Ltd immediately after a product issue has been identified. Elson requires an on-site inspection to assess the problem and determine the extent of the issue. Failure to provide notification, access and/or inspection when the problem was first identified will void this warranty. The product, complete with connections, must be supplied to Elson in order to obtain proper identification and carry out inspection, analysis and testing. Photographic proof and evidence must be provided to make a claim. In addition, you must also provide your contact details, proof of purchase, the licenced installer's details and the job address.

If the product has not been installed please contact the place of purchase and return. If there is a problem returning the product please contact Elson.

Elson Australasia Pty Ltd

ABN: 45 059 613 991

38 Eddie Road, Minchinbury, NSW, 2770.

Ph: 02 9625 7899 Fax: 02 9625 7855

Email: accounts@elson.net.au

To the extent of the Law, Elson shall not be liable for any consequential loss or damage of any kind caused by any product fault or defect in workmanship or manufacture.

FAQ

Can elson BUSHPEX pipe be installed under a slab?

YES – with the following requirements.

- Installation in accordance with AS/NZS 3500.
- Installed within elson BUSHPEX corrugated sleeve conduit.
- Must be sleeved when penetrating through a slab.
- Installed in a single continuous length without fittings.

Can elson BUSHPEX pipe be used for underground cold water service applications?

YES – when installed in accordance with AS/NZS 3500.

Can elson BUSHPEX pipe and fittings be used to connect solar panels to the storage tank?

NO – Australian Standards do NOT allow PE-X Pipe to be used on the flow and return lines between solar panels and solar storage vessels.

BUSHPEX Push-On looks so easy to use. Surely all you do is cut and push it in?

YES – but you MUST follow the Jointing and Installation Procedure Instructions in this Handbook. Attention to detail and strict adherence to these instructions will ensure trouble free installations.

How important is it to have the pipe clean with no scratches, scars, scrapes or indents?

It is absolutely essential and a requirement of the Jointing and Installation Procedure to ensure the pipe jointing section is completely free of scratches, scars, scrapes, indents and any dirt, mud, sand or any other foreign matter.

Can elson BUSHPEX Push-On fittings be re-used?

NO – It is not recommended to use previously installed BUSHPEX Push-On fittings as the integrity of the “O-Ring” seal and grab ring cannot be guaranteed. In the case of a new installation where a fitting has just been installed, you may be able to Re-Use the fitting under the following requirements:

- The fitting must be completely intact including all components.
- The “O-Ring” must have no damage.
- The Grab Ring must have no damage.
- The fitting and all parts must be completely clean and free of any dirt, sand, grit, foreign matter.
- The pipe **MUST** be Re-Cut above the Grab Ring indentations and at a point where there is no sign of any scratches, scars, scrapes or indents that will align with the depth of the BUSHPEX Push-On fitting.
- Installation in accordance with the instructions in the BUSHPEX Push-On handbook.

NOTE: If you are unsure about any of the above listed points then you must dispose of the fitting in a responsible manner to ensure it is never Re-Used.

How can I tell if I have pushed the fitting in properly?

Following the jointing procedure in this handbook allows for checks to confirm complete insertion. These include the following key points:

- Cut the pipe at one of the pipe graduation marks and the fitting must then Push-On to the next mark.
- The BUSHPEX Push-On Depth Gauge and Deburring Tool makes a feint mark on the tube as an indicator to where the fitting must be inserted.

Can I pull the fitting back out if I only partly inserted it?

NO – NEVER DO THIS! Attempting to pull out the fitting after it has only been partially inserted causes the Grab Ring to “Dig-In” to the pipe leaving a permanent scar which will destroy the integrity of the joint and leak.

IF THIS OCCURS you MUST use the Disassembly Tong to release the fitting, then Re-Cut the pipe above the Grab Ring indentations and at a point where there is no sign of any scratches, scars, scrapes or indents that will align with the depth of the BUSHPEX Push-In fitting. Always use the BUSHPEX Push-On Depth Gauge / Deburring Tool.

Can I use BUSHPEX Push-On fittings with an existing PEX Pipe installation?

With every installation you **MUST** always inspect the pipe first to ensure it is BUSHPEX PE-Xa PN20 pipe with Licence number WMKA21274. Other PEX pipe is not manufactured to the same stringent quality controls and fine tolerances as elson BUSHPEX pipe, making other brands incompatible with BUSHPEX Push-On fittings.

Do I really need to use the Depth Gauge / Deburring Tool?

YES – failure to use the Depth Gauge / Deburring Tool will void your warranty. Use of this tool is a requirement in accordance with the Installation Instructions and Jointing Procedures. The Depth Gauge / Deburring Tool has two main roles, 1. It marks the pipe with a faint line to confirm a “Safe Bury” insertion depth and 2. It deburs the pipe end to prevent damage to the “O-Ring” allowing easy insertion.

Do I need to check every joint has been completed?

YES – It is recommended to incorporate a check system to confirm that every joint has been pushed in and inserted completely up to the pipe graduation mark and/or the Pipe Depth Gauge / Deburring Tool mark.

BUSHPEX Push-On Joining Procedure

NOTE: It is recommended that all new users of the BUSHPEX Push-On system contact Elson through their BUSHPEX Stockist to arrange training for trouble free installation.



1. Inspect the pipe:

Confirm the pipe is elson BUSHPEX PE-Xa PN20 Licence number 21274. Ensure the pipe joint section has no sign of any scratches, scars, scrapes or indents. You must cut off and discard any joint section that has any deformity.



2. Cut the pipe:

Cut the pipe straight and square, in-line with the pipe graduation marks. If this is not possible then you **MUST** follow step 3 and use the Depth Gauge / Deburring Tool. **NOTE:** It is essential to cut the pipe to the right length, allowing for expansion and contraction and no excessive tension or compressive pressures on the joint.



3. Prepare the Pipe:

Use the BUSHPEX Push-On Depth Gauge / Deburring Tool to mark the "Safe Bury" depth of the fitting insertion and debur the pipe to avoid any damage to the "O-Ring". Insert the pipe completely into the Depth Gauge / Deburring Tool and rotate at least 2 complete turns. Remove all swarf and off-cuts from the pipe. Repeat this process if the pipe is not properly bevelled.

5



4. Final Inspection of the pipe:

Inspect the pipe once again to confirm it has no scratches, scars, scrapes or indents at the pipe joint end. If it does you **MUST** repeat the process from step 1.

5. Identify the “Safe Bury” mark:

Confirm that you can identify the position of the “Safe Bury” mark on the pipe as indicated by using the Depth Gauge / Deburring Tool. If you cut the pipe on the pipe graduation mark this will also be the first pipe graduation mark from the pipe end.

6



6. Inspect the fitting:

Confirm the fitting is a BUSHPEX Push-On fitting sized to match the BUSHPEX pipe. Confirm that the fitting is complete with no damaged or worn components. Confirm that the fitting is free of any dirt, sand, grit and foreign matter.

7. Check access:

You need to ensure you have access to Push-On the pipe to the fitting completely with one smooth and continuous motion.

8



8. Push-On the fitting:

Align the pipe with the fitting. Push-On the pipe and fitting completely in one smooth and continuous motion. Confirm the pipe has reached the “Safe Bury” position as marked on the pipe with the Depth Gauge / Deburring Tool and/or the pipe graduation marks. The process feels like a two-step motion that must be completed with one continuous action to the “Safe-Bury” position.



NOTE: If the pipe has not yet reached the “Safe Bury” position you **MUST NOT** attempt to pull the pipe out. Attempts to do this will permanently mark the pipe and compromise the integrity of the joint. If this occurs you must cut off the pipe end and start from step 1 above. Use the Disassembly Tong to separate pipe from fitting.

9. Pressure Test in accordance with AS/NZS 3500.

BUSHPEX Push-On to Copper tube Joining Procedure

BUSHPEX Push-On to copper tube connections are available in Straight couplings and Tees. The copper connection end is colour coded with a copper coloured retaining ring. Black retaining rings for BUSHPEX pipe! Suitable for connection to AS1432 copper tube only.

NOTE: It is recommended that all new users of the BUSHPEX Push-On system contact Elson through their BUSHPEX Stockist to arrange training.

1



1. Inspect the Copper tube:

Confirm the copper tube is Australian Standard AS1432. Ensure the copper tube joint section has no sign of any scratches, scars, scrapes or indents. You must cut off and discard any joint section that has any deformity or distortion.

2. Cut the Copper tube:

Cut the copper tube straight and square. NOTE: It is essential to cut the tube to the correct length allowing for expansion and contraction and no excessive tension or compressive pressures on the joint. Trim the end and remove all swarf.

3



3. Prepare the Copper tube:

Use the BUSHPEX Copper tube Push-On Depth Gauge / Deburring Tool to mark the "Safe Bury" depth of the fitting insertion and debur the tube to avoid any damage to the "O-Ring". Insert the tube completely into the Depth Gauge / Deburring Tool and rotate 3-4 complete turns. Remove all swarf and file off any sharp edges from the copper tube.

5



4. Final Inspection of the Copper tube:

Inspect the tube again to confirm it has no scratches, scars, scrapes indents or deformities and the tube end has no sharp edges. If it does you MUST repeat the process from step 1.

5. Identify the "Safe Bury" mark:

Identify the position of the "Safe Bury" mark on the tube as indicated by using the Depth Gauge / Deburring Tool.

"Safe Bury" depths are 26mm for 15mm Copper tube and 29mm for 20mm Copper tube.

6



6. Inspect the fitting:

Confirm the fitting is a BUSHPEX Push-On to Copper tube fitting sized to the Copper tube with a copper coloured retaining ring. Confirm that the fitting is complete with no damaged or worn components. Confirm that the fitting is free of any dirt, sand, grit and foreign matter.

7. Check access:

Confirm you have access to Push-On the Copper tube to the fitting completely with one smooth and continuous motion.

8



8. Push-On the fitting:

Align the copper tube with the fitting. Push-On the copper tube and fitting completely in one smooth and continuous motion. Confirm the copper tube has reached the "Safe Bury" position as marked on the copper tube with the Depth Gauge / Deburring Tool. The process feels like a two-step motion that must be completed with one continuous action to the "Safe-Bury" position.



NOTE: If the copper tube has not yet reached the "Safe Bury" position you MUST NOT attempt to pull the copper tube out. Attempts to do this will permanently mark the copper tube and compromise the integrity of the joint. If this occurs you must cut the copper tube end and start from step 1 above. Use the Disassembly Tong to separate pipe from fitting.

9. Pressure Test in accordance with AS/NZS 3500.

Product Listing

NO.1 STRAIGHT COUPLING



Code	Description
24000	No.1 Straight Coupling 16mm
24002	No.1 Straight Coupling 20mm
24004	No.1 Straight Coupling 25mm

NO.1 STRAIGHT COUPLING COPPER CONVERSION



Code	Description
24010	No.1 Straight Coupling Copper Conversion 16mm x DN15 CU
24012	No.1 Straight Coupling Copper Conversion 20mm x DN20 CU

NO.1R REDUCING COUPLING



Code	Description
24020	No.1R Reducing Coupling 20 x 16mm
24024	No.1R Reducing Coupling 25 x 20mm

NO.2 STRAIGHT FEMALE CONNECTOR



Code	Description
24060	No.2 Straight Connector 16mm x 15mm FI
24061	No.2 Straight Connector 16mm x 20mm FI
24064	No.2 Straight Connector 20mm x 20mm FI
24070	No.2 Straight Connector 25mm x 25mm FI

NO.3 STRAIGHT MALE CONNECTOR


Code	Description
24040	No.3 Straight Connector 16mm x 15mm MI
24058	No.3 Straight Connector 16mm x 20mm MI
24042	No.3 Straight Connector 20mm x 15mm MI
24044	No.3 Straight Connector 20mm x 20mm MI
24046	No.3 Straight Connector 25mm x 20mm MI
24050	No.3 Straight Connector 25mm x 25mm MI

NO.12 ELBOW


Code	Description
24080	No.12 Elbow 16mm
24082	No.12 Elbow 20mm
24084	No.12 Elbow 25mm

NO.12R REDUCING ELBOW


Code	Description
24100	No.12R Reducing Elbow 20mm x 16mm

NO.13 MALE ELBOW


Code	Description
24400	No.13 Elbow 16mm x 15mm MI

NO.14 FEMALE ELBOW


Code	Description
24420	No.14 Elbow 16mm x 15mm FI

NO.15BP LUGGED FEMALE ELBOW


Code	Description
24120	No.15BP Elbow 16mm x 15mm FI
24122	No.15BP Elbow 20mm x 20mm FI

NO.19BP LUGGED MALE ELBOW


Code	Description
24141	No.19BP Elbow 16mm x 15mm MI 75mm long
24142	No.19BP Elbow 16mm x 15mm MI 90mm long
24143	No.19BP Elbow 16mm x 15mm MI 100mm long
24144	No.19BP Elbow 16mm x 15mm MI 200mm long
24145	No.19BP Elbow 16mm x 15mm MI 185mm long
24158	No.19BP Elbow 20mm x 20mm MI 200mm long

NO.24 TEE


Code	Description
24160	No.24 Tee 16mm
24162	No.24 Tee 20mm
26164	No.24 Tee 25mm

NO.24 TEE COPPER CONVERSION


Code	Description
24170	No.24 Tee Copper Conversion 16mm x 16mm x DN15 CU
24172	No.24 Tee Copper Conversion 20mm x 20mm x DN20 CU
24174	No.24 Tee Copper Conversion DN15 CU x DN15 CU x 16mm
24176	No.24 Tee Copper Conversion DN20 CU x DN20 CU x 20mm

NO.25 REDUCED CENTRE TEE


Code	Description
24180	No.25 Tee Reduced Centre 20 x 20 x 16mm
24182	No.25 Tee Reduced Centre 25 x 25 x 20mm

NO.26 REDUCED END TEE


Code	Description
24186	No.26 Tee Reduced End 20 x 16 x 20mm

NO.27 REDUCED CENTRE & END TEE


Code	Description
24184	No.27 Tee Reduced Centre+End 20 x 16 x 16mm

NO.61 STOPPER


Code	Description
24260	No.61 Stopper 16mm
24262	No.61 Stopper 20mm
26264	No.61 Stopper 25mm

NO.62 STRAIGHT TAP CONNECTOR


Code	Description
24240	No.62 Straight Tap Connector Cone 16mm x 15mm FI NUT
24242	No.62 Straight Tap Connector Cone 20mm x 20mm FI NUT

NO.63 BENT TAP CONNECTOR


Code	Description
24340	No.63 Bent Tap Connector 16mm x 15mm FI NUT
24342	No.63 Bent Tap Connector 20mm x 20mm FI NUT

ADAPTOR PEX / FLARED COMPRESSION


Code	Description
24220	Adaptor PEX / Flared Compression 16mm x 15mm FL
24222	Adaptor PEX / Flared Compression 20mm x 20mm FL

BATH / LAUNDRY ASSEMBLY


Code	Description
24280	Bath / Laundry Assembly Right Angled 200mm (Floor Entry)
24282	Bath / Laundry Assembly Right Angled 300mm (Floor Entry)
24284	Bath / Laundry Assembly Straight Angled 200mm (Side Entry)
24286	Bath / Laundry Assembly Straight Angled 300mm (Side Entry)

SHOWER ASSEMBLY


Code	Description
24300	Shower Assembly Right Angled 150mm (Floor Entry)
24302	Shower Assembly Right Angled 200mm (Floor Entry)
24304	Shower Assembly Right Angled Barbs Up 150mm (Top Entry)
24306	Shower Assembly Right Angled Barbs Up 200mm (Top Entry)

SHOWER / BATH ASSEMBLY


Code	Description
24350	Shower / Bath Assembly Right Angled 200mm
24352	Shower / Bath Assembly Right Angled 300mm

DISASSEMBLY TONG



Code	Description
24960	Disassembly Tong 16mm PEX
24961	Disassembly Tong 20mm PEX
24962	Disassembly Tong 25mm PEX
24965	Disassembly Tong DN 15 CU
24966	Disassembly Tong DN 20 CU

DEPTH GAUGE / DEBURRING TOOL FOR BUSHPEX PIPE



Code	Description
24975	Depth Gauge / Deburring Tool for BUSHPEX pipe 16mm, 20mm, 25mm PEX

DEPTH GAUGE / DEBURRING TOOL FOR COPPER TUBE



Code	Description
24970	Depth Gauge / Deburring Tool for Copper tube DN15, 20, 25mm CU

PE-X PIPE CUTTER



Code	Description
29930	PE-X Pipe Cutter for 16 - 25mm Pipe

Important: Below listed BUSHPEX PE-X pipes and Accessories can be used with all three BUSHPEX Plumbing Systems: Pull-On, Crimp-On and Push-On.

HOT & COLD WATER PIPE (BLACK) STRAIGHT LENGTH



Code	Description
23700	Hot & Cold Water Pipe (Black) 5m Length 16mm
23702	Hot & Cold Water Pipe (Black) 5m Length 20mm
23704	Hot & Cold Water Pipe (Black) 5m Length 25mm

HOT & COLD WATER PIPE (BLACK) COIL



Code	Description
23707	Hot & Cold Water Pipe (Black) 25m Coil 16mm
23708	Hot & Cold Water Pipe (Black) 25m Coil 20mm
23709	Hot & Cold Water Pipe (Black) 25m Coil 25mm
23717	Hot & Cold Water Pipe (Black) 50m Coil 16mm
23718	Hot & Cold Water Pipe (Black) 50m Coil 20mm
23714	Hot & Cold Water Pipe (Black) 50m Coil 25mm
23710	Hot & Cold Water Pipe (Black) 100m Coil 16mm
23712	Hot & Cold Water Pipe (Black) 100m Coil 20mm

HOT WATER PIPE (RED) STRAIGHT LENGTH



Code	Description
23750	Hot Water Pipe (Red) 5m Length 16mm
23752	Hot Water Pipe (Red) 5m Length 20mm
23754	Hot Water Pipe (Red) 5m Length 25mm

HOT WATER PIPE (RED) COIL



Code	Description
23756	Hot Water Pipe (Red) 50m Coil 16mm
23758	Hot Water Pipe (Red) 50m Coil 20mm
23759	Hot Water Pipe (Red) 50m Coil 25mm

HOT & COLD WATER PIPE (BLACK) IN CONDUIT COIL



Code	Description
23720	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 16mm
23722	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 20mm

CONDUIT BLACK FOR BUSHPEX PE-X PIPE



Code	Description
23725	50 Coil for 20mm PE-X Pipe (Conduit only)
23726	50 Coil for 25mm PE-X Pipe (Conduit only)
23727	50 Coil for 16mm PE-X Pipe (Conduit only)

RECYCLED WATER PIPE (LILAC) STRAIGHT LENGTH



Code	Description
23737	Recycled Water Pipe (Lilac) 5m Length 16mm
23738	Recycled Water Pipe (Lilac) 5m Length 20mm
23739	Recycled Water Pipe (Lilac) 5m Length 25mm

RECYCLED WATER PIPE (LILAC) COIL



Code	Description
23730	Recycled Water Pipe (Lilac) 50m Coil 16mm
23732	Recycled Water Pipe (Lilac) 50m Coil 20mm
23734	Recycled Water Pipe (Lilac) 50m Coil 25mm

RAIN WATER PIPE (GREEN) STRAIGHT LENGTH



Code	Description
23747	Rain Water Pipe (Green) 5m Length 16mm
23748	Rain Water Pipe (Green) 5m Length 20mm
23749	Rain Water Pipe (Green) 5m Length 25mm

RAIN WATER PIPE (GREEN) COIL



Code	Description
23740	Rain Water Pipe (Green) 50m Coil 16mm
23742	Rain Water Pipe (Green) 50m Coil 20mm
23744	Rain Water Pipe (Green) 50m Coil 25mm

CLIP MASONRY NAIL



Code	Description
23810	Open Clip 16mm Masonry Nail
23812	Open Clip 20mm Masonry Nail
23814	Open Clip 25mm Masonry Nail

CLIP TIMBER NAIL



Code	Description
23816	Open Clip 16mm Timber Nail
23817	Open Clip 20mm Timber Nail
23818	Open Clip 25mm Timber Nail

CLIP METAL SCREW



Code	Description
23820	Open Clip 16mm Metal Screw
23822	Open Clip 20mm Metal Screw
23824	Open Clip 25mm Metal Screw

PROFILE BEND BRACKET



Code	Description
23830	Profile Bend Bracket 90 Deg x 5D 16mm
23832	Profile Bend Bracket 90 Deg x 5D 20mm
23834	Profile Bend Bracket 90 Deg x 5D 25mm

PROFILE BEND BRACKET W/ SPRING



Code	Description
23831	Profile Bend Bracket w/ Spring 90 Deg 16mm
23833	Profile Bend Bracket w/ Spring 90 Deg 20mm
23835	Profile Bend Bracket w/ Spring 90 Deg 25mm

Elson Australasia Pty Ltd

ABN 45 059 613 991

ACN 059 613 991

P.O. Box 3217

Mount Druitt Village NSW 2770

Tel: (02) 9625 7899

Fax: (02) 9625 7855

Web: www.bushpex.com

Email: admin@elson.net.au

National Distribution Centre

38 Eddie Road, Minchinbury

New South Wales 2770

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Sales and service all over Australia

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