



Oxygen Barrier PEX Piping System Oxygen-free flow

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About Edoburg

Edoburg, an ISO 9001 certifies company, specialises in supplying high-quality piping systems that consistently meet stringent international standards, ensuring unparalleled performance of the piping systems. Our experienced team, equipped with extensive technical knowledge, coupled with our efficient operations and fast turnaround time, enables us to provide top-tier supply of piping products tailored to your needs.

Our Mission

Edoburg's mission is to supply high-quality piping systems worldwide, offering a complete solution that meets international standards to ensure superior performance in every project.

Product Range

Our stellar lineup of pipes, ready for every project:

- PEX Pipe: PEX-A, PEX-B, PEX-A EVOH, PEX-B EVOH
- PPR Pipe
- PERT Pipe
- HDPE Pipe
- MDPE Pipe
- PVC-C Pipe: Portable water, Reclaim water, Industrial
- PVC-U Pipe: Drainage, Portable water, Reclaim water, Industrial
- PVC-O
- Composite Pipe: PEX-AL-PEX, HDPE-AL-HDPE
- PVC Electrical Conduit
- PVC Hose

Complete Solution Concept

Our wide range of products represent our complete solution concept.

With our products intended for diverse sectors, we offer individual and comprehensive system solutions. Focusing on the needs of projects and entire system.

We provide high standards of products in the market at all times. We always stand by our piping systems and reliable service network.

As a global pipe supplying company that stands out with successful operations ever since our incorporation, we act as a solution point to meet all your needs based on our technical knowledge, specialization and reliability.

Quality Assurance

We are committed to excellence in every aspect of our operations. The products we supply comply with the international standards and certifications, ensuring reliability, durability, and safety in every application. With Edoburg, you can trust that you're receiving top-notch piping solutions that meet your specifications and exceed your expectations.

Our Presence in the World

Our warehousing are strategically located in various places in **India**, **Vietnam** and **China**, to ensures efficient distribution of the products. We ensure fast deliveries with our modern logistics partners deployed at our local distribution hubs which are strategically located near the ports to ease the export of products. Edoburg Piping Systems exports its products all over the world.

Our Market Segments

Based on our experience and high-quality standard of products in the sector, Edoburg Piping Systems supports its clients with a complete piping solutions for every project requirement.

- Chemical and Petrochemical
- Water and Wastewater
- Mining and Mineral Processing
- Power Generation
- Marine and Offshore
- Building and Construction
- Manufacturing Industries
- Agriculture
- Pharmaceuticals
- Infrastructure



About Plastics

Plastics are polymers created by the chemical conversion of natural products or synthesized from organic materials. The primary components that make up the building blocks of plastics are long chains of carbon (C) and hydrogen (H) known as monomers.

The raw materials used for the production of plastics are natural compounds such as cellulose, coal, oil and natural gas. In the plastics industry, around 6 % of the petroleum products that come out from refineries is used.

Plastics fall into three main categories on the basis of their internal structure and the resulting mechanical characteristics: thermoplastics, thermosetting plastics and elastomers.

Advantages of Plastics

Thermoplastics obviously demonstrate different characteristics than those of the metals. traditionally used for piping.

Metal	Plastic
 High density Crane is needed for transport Requires wide spacing for fixings. High anchoring forces, fixing required. 	 Low density Can be carried by hand up to di10. Requires minimal spacing for fixings. Simple and economical.
 Thermal conductivity Insulation is needed to limit heat loss. Formation may result in corrosion. 	 Low thermal conductivity Limited heat loss. Low levels of condensation and resistance to corrosion.
Corrosion Behaviors • Galvanic corrosion can occur. • Corrosion reduces internal diameter. • Reduced diameter causes pressure losses.	High Corrosion Resistance • Galvanic Corrosion Free. • Prevents corrosion and diameter reduction. • No pressure losses.
	High chemical resistance

Chemical resistance

- Low Resistance to Acids.
- Damage from Incrustation.

High chemical resistance

- A minimum of 25-years of life with correct jointing methods.
- Incrustation free.

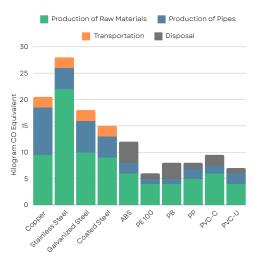
Thermoplastics in turn can be split into two main categories as partially-regulated (semicrystalline) and iregular (amorphous) molecular structures.

- Semicrystalline thermoplastics, which have a partially ordered molecular structure: this category includes the polyolefins (polypropylene, polyethylene, polybutylene) and fluoropolymers (PP, PE, etc.)
- Amorphous thermoplastics, which have no crystalline regions and no packed molecular structure: this category includes the vinyl chlorides (PVC-U, PVC-C, etc.) and styrenes (ABS, polystyrene, etc.]

Semicrystalline materials are more suitable for hot welding, while amorphous thermoplastics are ideal for cementing or cold welding (solvent cementing).

Carbon Footprint of Plastics Vs Metal

It is the total of all greenhouse gases emitted to the atmosphere during the entire lifetime including the processes for extracting a product having carbon footprint from under the ground, refining, producing, using and disposing of that product.







Oxygen Barrier PEX Piping System

Discover unparalleled reliability and flexibility with our advanced Oxygen Barrier PEX Piping System, engineered to meet the diverse needs of modern plumbing applications. Crafted from high-quality cross-linked polyethylene, our Oxygen Barrier PEX pipes offer exceptional durability, ensuring longevity and peace of mind for residential, commercial, and industrial projects alike.

- Versatile Application: Suitable for hot and cold water, adapts to varying temperatures and pressures.
- Durable Construction: Strong, corrosionresistant material minimizes maintenance needs.
- Flexible Design: Easily installs around obstacles, reduces fittings and potential leaks.

Fields of Application

- Residential plumbing systems
- Commercial buildings
- Hydronic heating systems
- Radiant floor heating
- Potable water distribution

Certifications



Only those products bearing the above marks are certified.

- Safety Assured: Non-toxic, BPA-free, meets ASTM and NSF standards for drinking water.
- Cost-Effective: Excellent thermal efficiency lowers energy costs over time.
- Easy Installation: Multiple connection options streamline setup, saving on labor and expenses.

Technical data

Working Temperature

- 73.4°F at 160 psi
- 180°F at 100psi

(Suitable for a wide range of diverse climatic conditions.)

Pipe Standard

PEX-a

- UNI EN ISO 15875-2
- AS/NZS 2492
- ASTM F876 / ASTM F877

PEX-b

- UNI EN ISO 15875-2
- AS/NZS 2492
- ASTM F876 / ASTM F877
- CSA B137.5

Only those products bearing the above marks are certified.



Oxygen Barrier PEX-a Pipe Range

Oxygen Barrier PEX-a pipe is produced using the Engel method, where polyethylene is crosslinked under high temperature and pressure.

Certificates:



Standards:

- UNI EN ISO 15875-2
- AS/NZS 2492
- ASTM F876 / ASTM F877

EVOH PEX-a Pipes (European Standard)



Spec.	Length (m)		Color	
spec.	Roll	Straight	Color	
16x1.8	200/500	4m	Red & Black	
16x2.0	200/500	4m	Red & Black	
20x1.9	100/200	4m	Red & Black	
20x2.0	100/200	4m	Red & Black	
25x2.3	50/100	4m	Red & Black	
25x2.5	50/100	4m	Red & Black	
32x2.9	50/100	4m	Red & Black	
32×3.0	50/100	4m	Red & Black	

EVOH PEX-a Pipes (Australian Standard)



Snoo	Length (m)		Color
Spec.	Roll	Straight	Color
16x2.2	200/500	4m	Red & Black
20x2.8	100/200	4m	Red & Black
25x3.5	50/100	4m	Red & Black
32x4.4	50/100	4m	Red & Black

EVOH PEX-a Pipes (American Standard)



Spec.	Lengt	h (feet)	Color
spec.	Roll	Straight	Color
3/8"	300/500	20	Red & Black
5/8"	100/300	20	Red & Black
2"	100/300	20	Red & Black
3/4"	100/300	20	Red & Black
1"	100	20	Red & Black



Oxygen Barrier PEX-b Pipe Range

Oxygen Barrier PEX-b pipe is produced using the Silane method, where polyethylene is crosslinked using a chemical process

Certificates:



Standards:

- UNI EN ISO 15875-2
- AS/NZS 2492
- ASTM F876 / ASTM F877
- CSA B137.5

EVOH PEX-b Pipes (European Standard)



Snoo	Length (m)		Color
Spec.	Roll	Straight	Color
16x1.8	200/500	4m	Red & Black
16x2.0	200/500	4m	Red & Black
20x1.9	100/200	4m	Red & Black
20x2.0	100/200	4m	Red & Black
25x2.3	50/100	4m	Red & Black
25x2.5	50/100	4m	Red & Black
32x2.9	50/100	4m	Red & Black
32x3.0	50/100	4m	Red & Black

EVOH PEX-b Pipes (Australian Standard)



Spec.	Leng	th (m)	Color
spec.	Roll	Straight	Color
16x2.2	200/500	4m	Red & Black
20x2.8	100/200	4m	Red & Black
25x3.5	50/100	4m	Red & Black
32x4.4	50/100	4m	Red & Black

EVOH PEX-b Pipes (American Standard)



Spec.	Length (feet)		Color
spec.	Roll	Straight	Color
3/8"	300/500	20	Red & Black
5/8"	100/300	20	Red & Black
2"	100/300	20	Red & Black
3/4"	100/300	20	Red & Black
1"	100	20	Red & Black



PEX Fittings Range

PEX fittings facilitates the connection of PEX tubing to various fixtures, appliances, and other plumbing components. These fittings come in a variety of shapes and sizes.

Sleeve Fittings

Code

EKS01

EKS02

EKS03

EKSO4

Code

EKS21

EKS22

EKS23

EKS24

Size

16mm

20mm

25mm

32mm

Size

16X12mm

16X15mm

16X18mm

20X18mm



Equal Straight Union



Copper Adapter



Code	Size
EKS31	16X1/2M
EKS32	16X3/4M
EKS33	20X1/2M
EKS34	20X3/4M
EKS35	25X1/2M
EKS36	25X1M
EKS37	25X3/4M
EKS38	32X1M

Male Straight Union



Female Straight Union

Code	Size
EKS41	16X1/2F
EKS42	20X1/2F
EKS43	20X3/4F
EKS44	25X3/4F
EKS45	25X1F
EKS46	32X1F



Unequal Straight Union

Code	Size
EKS11	16X20mm
EKS12	16X25mm
EKS13	20X25mm
EKS14	25X32mm



Equal Elbow

Code	Size
EKL01	16mm
EKL02	20mm
EKL03	25mm
EKLO4	32mm



Female Elbow

Code	Size
EKL11	16X1/2F
EKL12	20X1/2F
EKL13	20X3/4F
EKL14	25X3/4F
EKL15	32X1F



Male Elbow





Code	Size
EKL21	16X1/2M
EKL22	20X1/2M
EKL23	25X3/4M
EKL24	32X1M

Code	Size
EKT01	16
EKT02	20
EKT03	25
EKT04	31



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Unequal Tee

Code	Size
EKT21	16X20X16
EKT22	20X16X16
EKT23	20X16X20
EKT24	20X20X16
EKT25	20X25X20
EKT26	25X16X16
EKT27	25X16X25
EKT28	25X32X25
EKT29	25X15X20
EKT30	25X20X16
EKT31	25X25X16
EKT32	25X25X20
EKT33	25X20X20
EKT34	25X20X25
EKT35	32X20X20
EKT36	32X25X25
EKT37	32X25X32
EKT38	32X32X25

Codo Sizo



Female Tee

Code	Size
EKT11	16X1/2F
EKT12	20X1/2F
EKT13	25X1/2F
EKT14	25X3/4F
EKT15	32X1F



Code	Size
EKL51	16X1/2F
EKL52	16X3/4F
EKL53	20X1/2F
EKL54	20X3/4F
EKL55	25X1F
EKL56	25X3/4F
EKL56	25X3/4F
EKL57	32X1F

Female Loose Elbow



Code	Size
EKL41	16X1/2F(A)
EKL42	20X1/2F(A)
EKL43	25X3/4F(A)

Female Elbow with Plate

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× 11	- 2
×	1
	- Y.
A. 100	10 C
× 1	1
S	- 2
	- x

Coupling
5/8" Coupling
3/8" Coupling
1/2" Coupling
3/4" Coupling
1" Coupling



Тее
3/8" Tee
1/2" Tee
3/4" Tee

1" Tee









Reducing Tee
1/2" X 3/8" X 3/8"
3/8" X 3/8" X 1/2"
1/2" X 3/8" X 1/2"
1/2" X 1/2" X 3/8"
1/2" X 3/8" X 3/8"
3/4" X 3/4" X 3/8"
1/2" X 1/2" X 3/4"
3/4" X 3/4" X 1"
1" X 3/4" X 1"
1" X 1" X 1/2"
3/4" X 1/2" X 1/2"
3/4" X 1/2" X 3/4"
3/4" X 3/4" X 1/2"
1" X 3/4" X 3/4"
1" X 1" X 3/4"
1" X 3/4" X 1/2"
1" X 1/2" X 3/4"
1" X 1/2" X 1"





Sweat Adapter
1/2" PEX 1/2"
3/8" PEX 1/2"
1/2" PEX 3/4"
5/8" PEX 3/4"
3/4" PEX 3/4"
1" PEX 1"
3/4" PEX 1/2"



Crimp Ring
3/8"
1/2"
3/4"
1"
5/8"





Plug
3/8" Plug
1/2" Plug
3/4" Plug
1" Plug

Reducing Coupling

3/8" X 1/2"

1/2" X 3/4"

3/4" X 1"







Technical Properties

NOMIN	IAL SIZE	OUTER DIAMETER	TOLERANCE FOR	MINIMUM WALL
(cm)	(mm)	(mm)	OD (mm)	THICKNESS (mm)
1.6	16	16	+0.3	1.8
2.0	20	20	+0.3	1.9
2.5	25	25	+0.3	2.3
3.2	32	32	+0.3	2.9

TECHNICAL CHARACTERISTICS

PROPERTIES	ABBREVIATION	VALUE	UNITS
Linear expansion	I	1.4x10 -4	K -1
Thermal conductivity	RI	0.38	W/mK
Maximum working temperature	Т	95	°C
Maximum temperature point	Т	110	°C
Maximum working pressure at 95°C	Р	6	Bar
Roughness	E	0,007	mm
Density	r	0.945	gm/cm ³

PRESSURE LOSSES

OD	VELOCITY	FLOW	PRESSURE LOSS				
(mm)	(mtr/sec)	(ltr/sec)	(bar)	(psi)			
16	0.4	0.05	0.0023	0.0339			
20	0.4	0.08	0.0017	0.0239			
25	0.4	0.13	0.0012	0.0177			
32	0.4	0.22	0.0009	0.0128			

Pressure or head loss

This table below shows pressure loss through PEX Pipe at various flow rates per metre of pipe.

In order to determine the pressure loss through the pipe, the given flow rate for a particular portion of tube must be established, along with the required pipe length used.

Flowrate (L/min) vs Head Loss (kPa) - Per Metre of Pipe

Pipe Size	4U/min	8L/min	12L/min	16L/min	20L/min	24L/min	28L/min	32L/min
16mm	0.59	1.75	3.71	6.33	9.57			
20mm	0.14	0.52	1.09	1.86	2.82	3.95	5.25	6.72

Example 1: At 8L/min flowrate, the head loss is 1.75kPa for every metre of 16mm pipe run.

Example 2:At 8L/min flowrate, the total head loss of a pipeline using two 16mm elbow, one 16mm coupling together with 20M of 16mm pipe is equivalent to (12.5 + 20) x 1.75 = 56.9kPa.

The pressure loss can then be read off from the table directly.

It is important to understand the information provided here is theoretical and based on new clean pipe. No allowance has been made for age or any abnormal conditions of the interior surface of the pipe.



Minimum Cold Bending Radii

Bending of the pipe for change of direction is preferable to elbows however fittings will be required where sharp bends are necessary. Tighter bends can be achieved using a bend support.

Do not use pipes that have; kinks, cuts, deep scratches, squashed ends, imperfections or have been in contact with grease or tar substances. Any of the above should be cut out and replaced as these conditions may affect the integrity of the system.

UV Resistance

PEX pipe and fittings should not be installed in direct or reflected sunlight as the material may degrade with extended UV exposure. Where external installation is required, install the pre-conduited PEX product or provide other similar UV protection.

Thermal Properties

PEX pipe will not melt. This is due to the irreversible cross linking process which has changed the chemical structure of the base polyethylene.

Thermal Linear Expansion

The table below represents expansion and contraction of PEX pipe in millimeters, resulting from a given change in temperature.

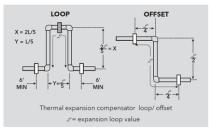
Value Property Ignition Temperature °C 380 Specific Heat (J/kg/K) 2300 0.94 Density (g/cm³) Thermal Expansion Coefficient (x10-6/K) 14.22

The table is calculated using the following equation: Change in pipe length = 0.1422 x Pipe length x Change in temperature.

	Change in temperature °C																
		10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
	1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.8	5.1	5.4	5.7
	2	2.8	3.4	4.0	4.6	5.1	5.7	6.3	6.8	7.4	8.0	8.5	9.1	9.7	10.2	10.8	11.4
	4	5.7	6.8	8.0	9.1	10.2	11.4	12.5	13.7	14.8	15.9	17.1	18.2	19.3	20.5	21.6	22.8
	6	8.5	10.2	11.9	13.7	15.4	17.1	18.8	20.5	22.2	23.9	25.6	27.3	29.0	30.7	32.4	34.1
S	8	11.4	13.7	15.9	18.2	20.5	22.8	25.0	27.3	29.6	31.9	34.1	36.4	38.7	41.0	43.2	45.5
e	10	14.2	17.1	19.9	22.8	25.6	28.4	31.3	34.1	37.0	39.8	42.7	45.5	48.3	51.2	54.0	56.9
metres	12	17.1	20.5	23.9	27.3	30.7	34.1	37.5	41.0	44.4	47.8	51.2	54.6	58.0	61.4	64.8	68.3
inn	14	19.9	23.9	27.9	31.9	35.8	39.8	43.8	47.8	51.8	55.7	59.7	63.7	67.7	71.7	75.7	79.6
e i	16	22.8	27.3	31.9	36.4	41.0	45.5	50.1	54.6	59.2	63.7	68.3	72.8	77.4	81.9	86.5	91.0
pipe	18	25.6	30.7	35.8	41.0	46.1	51.2	56.3	61.4	66.5	71.7	76.8	81.9	87.0	92.1	97.3	102.4
of	20	28.4	34.1	39.8	45.5	51.2	56.9	62.6	68.3	73.9	79.6	85.3	91.0	96.7	102.4	108.1	113.8
t	22	31.3	37.5	43.8	50.1	56.3	62.6	68.8	75.1	81.3	87.6	93.9	100.1	106.4	112.6	118.9	125.1
Length	24	34.1	41.0	47.8	54.6	61.4	68.3	75.1	81.9	88.7	95.6	102.4	109.2	116.0	122.9	129.7	136.5
Le	26	37.0	44.4	51.8	59.2	66.5	73.9	81.3	88.7	96.1	103.5	110.9	118.3	12 5.7	133.1	140.5	147.9
	28	39.8	47.8	55.7	63.7	71.7	79.6	87.6	95.6	103.5	111.5	119.4	127.4	135.4	143.3	151.3	159.3
	30	42.7	51.2	59.7	68.3	76.8	85.3	93.9	10 2.4	110.9	119.4	128.0	136.5	145.0	153.6	162.1	170.6
	32	45.5	54.6	63.7	72.8	81.9	91.0	100.1	109.2	118.3	127.4	136.5	145.6	154.7	163.8	172.9	182.0
	34	48.3	58.0	67.7	77.4	87.0	96.7	106.4	116.0	125.7	135.4	145.0	154.7	164.4	174.1	183.7	193.4
	36	51.2	61.4	71.7	81.9	92.1	102.4	112.6	122.9	133.1	143.3	153.6	163.8	174.1	184.3	194.5	204.8
	38	54.0	64.8	75.7	86.5	97.3	108.1	118.9	129.7	140.5	151.3	162.1	172.9	183.7	194.5	205.3	216.1
	40	56.9	68.3	79.6	91.0	102.4	113.8	125.1	136.5	147.9	159.3	170.6	182.0	193.4	204.8	216.1	227.5

Calculation of Expansion

A single properly sized expansion loop suffices for each individual straight run, irrespective of its overall length. Alternatively, multiple smaller expansion loops, suitably sized, can be employed within a single pipe run for thermal movement accommodation. It's crucial to suspend the pipe using smooth straps that do not impede movement.

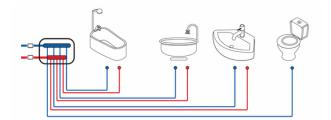




Installation

TYPES OF INSTALLATION

PEX flexible plumbing systems, offer versatility in design and installation, accommodating conventional T-fitting, serial, or manifold installation methods. The user has the discretion to select the preferred system and design. Regardless of the chosen installation method, Edoburg provides an extensive range of products and fittings to optimize installation efficiency and cost-effectiveness, ensuring the provision of optimal solutions.



Pex piping system features single piping connections with a manifold for both hot and cold water distribution, facilitating water flow exclusively through individual pipes to the draw-off points.

On the other hand, the PEX system offers double hot water terminals with dual pipe connections, designed to accommodate large water flow demands while minimizing pressure loss.

These systems offer several advantages including decreased circuit length, enhanced comfort through faster hot water availability, and the ease of intercepting draw-off points on the manifold.

Timber Frames

Drill holes through studs, plates etc. large enough so that the pipe can move freely through the holes to allow for expansion and contraction and pressure surges.

To avoid noises where pipes pass through studs, plates etc. that have large holes, gromment or sleeve hould be given in the annular space in the stud or plate. Ensure that pipe is protected when bending against frames etc.

Steel Frames

Ensure that where a pipe passes through a steel frame a suitable sleeve or gromment is used to protect the pipe against raw edges so it can still move through.

Precautions

Electrical

It is of the utmost importance that if a metallic pipe is being replaced or installed in part of its entirety by a plastic pipe or other non-metallic fittings or couplings, no work should be carried out until the earth requirements have been checked by an electrical contractor and modified if necessary.

Chemicals

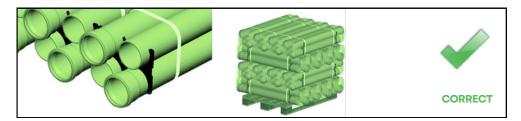
Drinking water provides life therefore any chemical exposure to pipes and fittings not only could contaminate the quality of our drinking water. So, during installation, any chemical based products such as primers, solvent cement, expansion foams, marking paints must not be used within a 1m proximity of drinking water pipes and fittings.



Packaging, Storage and Transportation

Packaging

Our pipes and fittings are packed as ready for transport in a customer-friendly way. Packing ensures safety, efficient storage and easy transport.



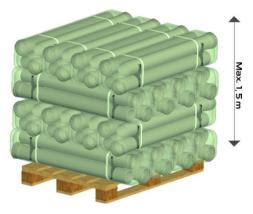


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Pipes are packed by plastic clamps to hold them together. Stretch film is applied to protect pipes from pipes dust and stains.

Short parts with the length of 150, 250 and 500 mm are packed in carton boxes like connection parts.

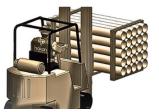




Method of storage should not cause any outflow and should not damage the pipes. As long as they are stored properly, no permanent deformations or damages will occur on the pipes and fittings. Pipes should not be stacked above 1,5 m. Pipes should be safe against sliding. Pipes and fittings packed in carton boxes should be protected against moisture. Carton boxes should be sealed and stored in a dry area.

Transportation





Pipes should be carefully transported to prevent any damages. Avoid sudden and hard pressures on pipes and fittings that might cause freezing in cold weather conditions. Ensure that pipes are not slided and dropped on the floor. Loading and unloading and packing of pipes in a block should be carried out by means of forklifts having flat threads and extensions.





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