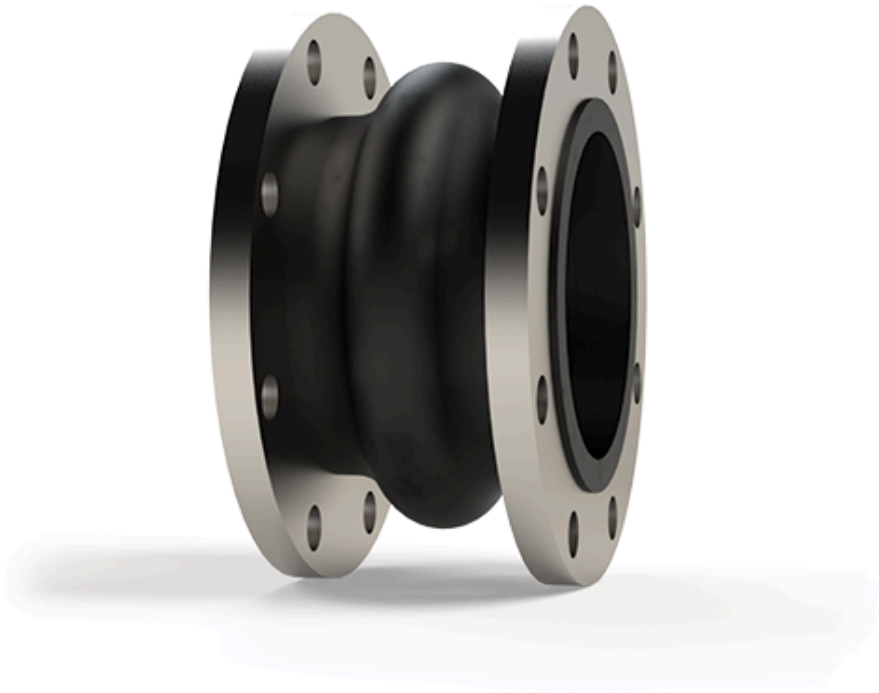


Edoburg[®]



Rubber Expansion Joints

ENGINEERED TO ABSORB, ADAPT, AND PROTECT.



Edoburg[®]
PIPING SYSTEMS

About Edoburg

Edoburg, an ISO 9001 certified 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 ensure 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 <ul style="list-style-type: none"> Crane is needed for transport. Requires wide spacing for fixings. High anchoring forces, fixing required. 	Low density <ul style="list-style-type: none"> Can be carried by hand up to d110. Requires minimal spacing for fixings. Simple and economical.
Thermal conductivity <ul style="list-style-type: none"> Insulation is needed to limit heat loss. Formation may result in corrosion. 	Low thermal conductivity <ul style="list-style-type: none"> Limited heat loss. Low levels of condensation and resistance to corrosion.
Corrosion Behaviors <ul style="list-style-type: none"> Galvanic corrosion can occur. Corrosion reduces internal diameter. Reduced diameter causes pressure losses. 	High Corrosion Resistance <ul style="list-style-type: none"> Galvanic Corrosion Free. Prevents corrosion and diameter reduction. No pressure losses.
Chemical resistance <ul style="list-style-type: none"> Low Resistance to Acids. Damage from Incrustation. 	High chemical resistance <ul style="list-style-type: none"> A minimum of 25-years of life with correct jointing methods. Incrustation free.

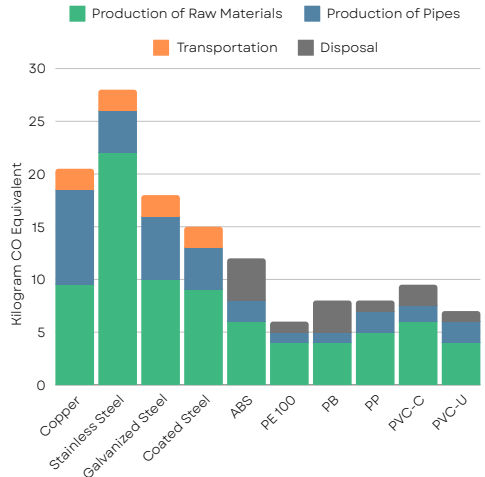
Thermoplastics in turn can be split into two main categories as partially-regulated (semi-crystalline) and irregular (amorphous) molecular structures.

- 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.





Rubber Expansion Joints

Edoburg proudly offers a premium selection of Rubber Expansion Joints, expertly engineered to accommodate thermal expansion and contraction in piping systems. Our rubber expansion joints provide exceptional flexibility and reliability, making them ideal for various industrial and commercial applications.

- **High-Quality Material:** Crafted from durable rubber compounds, our expansion joints offer excellent resistance to aging, ozone, and weathering, ensuring long-lasting performance.
- **Vibration Absorption:** Designed to effectively dampen vibrations and noise, enhancing the overall performance and longevity of your piping systems.
- **Leak-Proof Design:** Engineered with precision to provide a secure and tight seal, preventing leaks and maintaining the integrity of your fluid transport.
- **Easy Installation:** Featuring a user-friendly design that allows for quick and hassle-free installation, minimizing downtime and labor costs.
- **Wide Range of Applications:** Suitable for various applications including HVAC systems, water treatment, chemical processing, and more.
- **Versatile Configurations:** Available in multiple sizes and configurations to meet diverse project requirements, ensuring maximum adaptability and efficiency.
- **Customization:** Tailored solutions available to meet specific project demands, enhancing functionality and cost-effectiveness.

Fields of Application

- HVAC Systems
- Water Treatment Plants
- Chemical Processing
- Industrial Piping
- Fire Protection Systems

Certifications



Technical data

Working Temperature

- -20°C to +80°C (-4°F to +176°F)

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

Pipe Standard

- IS 15105

Product Range

Single Spool Wide Arch

Installed next to mechanical equipment or between the anchor points of a piping system. Due to improved lower, wide profile arch, more axial compression and axial extension coupled with lateral misalignment, angular and torsional movements can be obtained without increasing the face-to-face requirements. This model will negate the need for long and expensive multi arch products. Flanges can be integrated rubber or metal. Metal can be integrated or rotating type.

Movements for single spool wide arch (metal / rubber flange)

NB(mm)	Face-to-face (mm)	Axial Compression	Axial Elongation	Lateral Deflection
25-200	150	20	15	15
250-300	200	20	15	15
350-500	200	30	15	15
550-1000	254	30	15	15

Movements for single spool wide arch (integrated rubber flange)

NB(mm)	Face-to-face (mm)	Axial Compression*	Axial Elongation*	Lateral Deflection*
1050-1800	300	40	25	25
1900-3000	350	40	25	25
3500	450	40	25	25

NB (mm)	Design Pressure (bar)*	Test Vacuum (Hg)
25-600	20	730 mm
700-1200	16	730 mm
1300-1800	10	730 mm
1900-2200	5	730 mm
2300-3000	4	700 mm
3500	4	700 mm

* For higher pressure and movements please contact us.

Multi arch type / Double arch type

- Accommodates greater movement than single arch type.
- Minimum joint length depending on the number of arches
- Maximum 4 arches recommended to maintain lateral stability.

Movements for double arch (moulded)

NB(mm)	Face-to-face (mm)	Axial Compression	Axial Elongation	Lateral Deflection
50-200	250	25	20	20
250-400	300	25	20	20
450-600	350	25	20	20

Size NB	Design Pressure (bar)	Vacuum (Hg)
50-400	16	700mm
450-600	10	700mm

Sizes upto 1000mm with a Face to Face distance of 500mm for a maximum working pressure withstanding capacity of 15bar can be fabricated.



APPLICATIONS

HVAC

- Chilled water
- Pump inlet & outlet
- Chillers inlet & outlet

- Brine solution line
- Pump inlet & outlet
- Chillers inlet & outlet

Sewage Treatment

- Blowers
- Centrifugal pumps
- Sludge pumps
- Grit removal
- Aeration
- Activated sludge
- Odour controls

Wide arch type

- This model gives greater amount of movements in the shortest possible space.
- Arch design reduces turbulence and allow smooth quiet flow.
- Arch design prevents sediment build up.
- Floating flanges can be rotated to accommodate torsional misalignment.
- Lower spring rate for FRP Pipelines.



Movements for wide arch

NB (mm)	Face to Face (mm)	Axial Compression (mm)	Axial Elongation (mm)	Lateral Deflection (mm)	Angular
50-300	130, 150, 200	25	25	25	20 to 5°

NB (mm)	Design Pressure (bar)
50-300	16

CORIRUBBER SERIES 400

CORI 'Twin-Sphere' model with Union coupled end fittings (upto 65NB)

The twin-sphere provides excellent vibration absorption and stress relief in light, compact construction. This low cost expansion joint is available for smaller diameter piping system found in power plants, chemical plants, water works, sewage plants etc.



FACILITIES

- In house Hydro, vacuum test and movement test facility
- Laboratory with Advanced testing facilities like "Rheometer"
- Autoclaves / Presses for curing
- Manufacturing facilities for both fabricated & moulded bellows

PTFE Bellows

- Chemical resistant with the exception of fluorine compounds, halogens and liquid alkali metals.
- Useable from -70 to +240 °C.
- Insensitive to many movements, material does not so quickly fatigue.
- Designed as standard with tie rods.



Dog bone expansion joints

The Belt Type (Dog Bone) Condenser Expansion Joint is used as flexible connection between low pressure turbines and condensers. It is the most widely used turbine to condenser expansion joint in use. It is designed for full vacuum service and can accommodate movement up to 1" of compression and 1/2" lateral deflection. The solid bulb construction is highly flexible when smashed down by the clamps.



Bus duct bellows / rectangular / square / circular bellows

- Used in electrical ducting system in power stations.
- Available in circular / rectangular and square shapes
- Available with flanged ends
- Available without flanged ends with SS clamping arrangement
- Available with multiple arch construction
- Available with or without arches
- Recommended for low pressure service only
- For connection between turbine and condensers
- Available in any size and length



Filled arch type

- Filled arches are built as an integral part of the carcass
- To reduce turbulence and prevent collection of sediment in the arch way
- Movement of the joint is reduced by approx. 50% of the normal movements with unfilled arch.

↓
Filled Arch

Concentric Reducer type

Serves as a reducing element for transition from one pipe to another. Concentric in design, each flange-end shares the same common centre line. This model is engineered to replace metallic or rubber lined reducers used to provide unequal diameter connections. Movements as per customer requirement.



Clamp type

- Same design as single arch type except that the sleeve ends have an ID equal to the pipe OD.
- Will slip over straight ends of open pipe.
- Ends secured by suitable clamps
- Recommended for low pressure service only



APPLICATIONS:

Industrial

Pulp & Paper mills

Oil Refineries

Cement production

Chemical processing

Food & Pharmaceutical

CORIRUBBER SERIES 850

"U" type / straight flanged connectors / flexible rubber pipe / no arch type

- Used primarily to suppress noise and vibration from pumps, chillers and other
- It also inhibits electrolysis, water hammer and corrosion.



APPLICATIONS:

Marine

Reduce electrolysis

Reduce maintenance

Unaffected by salt water environment

Power Generation

Scrubber system

Cooling water

Pumps

Ash slurry

Condenser-turbine connections

Preheaters

Precipitators

RUBBER EXPANSION JOINTS WITH COMPLETE UNIT

Pressure balanced type application

- Used where the pressure thrust is considered excessive
- It absorbs lateral and axial movement while restraining pressure thrust
- Also used where a change in direction of the piping occurs

Its function is to balance, or cancel out, internal working pressure in order to minimize the net end loads acting on adjacent piping or equipment. Pressure balanced type is used when the piping system cannot facilitate an anchor or when the loads on adjacent equipment, ex. turbines, condenser etc. must be kept to a minimum, while offering a means for accepting excellent movements.

EXPANSION JOINT SELECTION

To select the proper type of expansion joint, consider:

- Pipe size
- Flowing medium: type of liquid, gas or vapor in system
- Temperature range
- Pressure/vacuum range
- Movements needed
- Environment: degree of exposure to:
 - Weathering
 - Sunlight
 - Liquids
 - Gases
 - Vapors
 - Oil
 - Chemicals
 - Others
- Installed face-to-face dimensions
- Degree of pipe misalignment
- Drilling (specify standard)
 - Flange O.D.
 - Bolt circle
 - Number of bolt holes
 - Diameter of hole
- Need for retaining rings
- Need for control units
 - Recommended for use with most expansion joints
 - Must be used in cases of insufficient pipe support
- Need for special construction

CUSTOM MADE



RETAINER RINGS

- Provides metal surface to distribute bolting pressure equally and must be used for rubber flanged bellows.
- Install behind and against inner face of each flange.
- Standard material: Carbon steel (galvanized or corrosion resistant coated) and stainless steel.
- Retainer ring will be supplied in segments.
- SS and other alloy steel material supplied against special type for GRP/FRP service requirements.



CONTROL UNITS

The control units usually consist of two or more tie rods, triangular stretcher plates, nuts and locknuts. The failure of an anchor or some other piece of equipment in a pipeline can cause excessive motion. The control unit assemblies can be set at the maximum allowable expansion and/or contraction of the rubber expansion joint. Control units are an additional safety factor and can minimize possible damage to the adjacent equipment. The control unit assembly is a system of two or more control rod units placed across an expansion joint from flange to flange to minimize possible damage caused by excessive motion of a pipeline.

COMPANION FLANGES (Mating Flange)

Cori can also supply companion flanges / mating flange along with fasteners.

Drilling Standards

Flanges (Rubber or metal) are drilled to the following drilling standards to match the pipeline flange.

- ANSI B16.5 CL150
- ANSI B16.5 CL300
- AWWAC207 CLB & AWWAC207 CLD
- DIN 2642-PN10
- DIN 2633-PN16
- DIN 2576-PN10 & DIN 2501-PN10
- BS10 TABLE "F" & BS 10 TABLE "H"
- BS 10 TABLE "D" & BS 10 TABLE "E"
- BS 4504-PN10
- BS 4504-PN16
- BS 3293 CL150
- TAYLOR 125
- SIS 1538
- IS 6392 TABLE 11
- IS 6392 TABLE 17
- API 605
- MSS SP44
- Any other standards



Notes

A series of 25 horizontal dashed lines for writing notes.

Disclaimer: The information and technical data (altogether "Data") herein are not binding. The Data neither constitutes any expressed, implied or warranted characteristics, nor guaranteed properties or a guaranteed durability. All Data is subject to modification. The General Terms and Conditions of Sale of Edoburg Piping Systems apply.

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