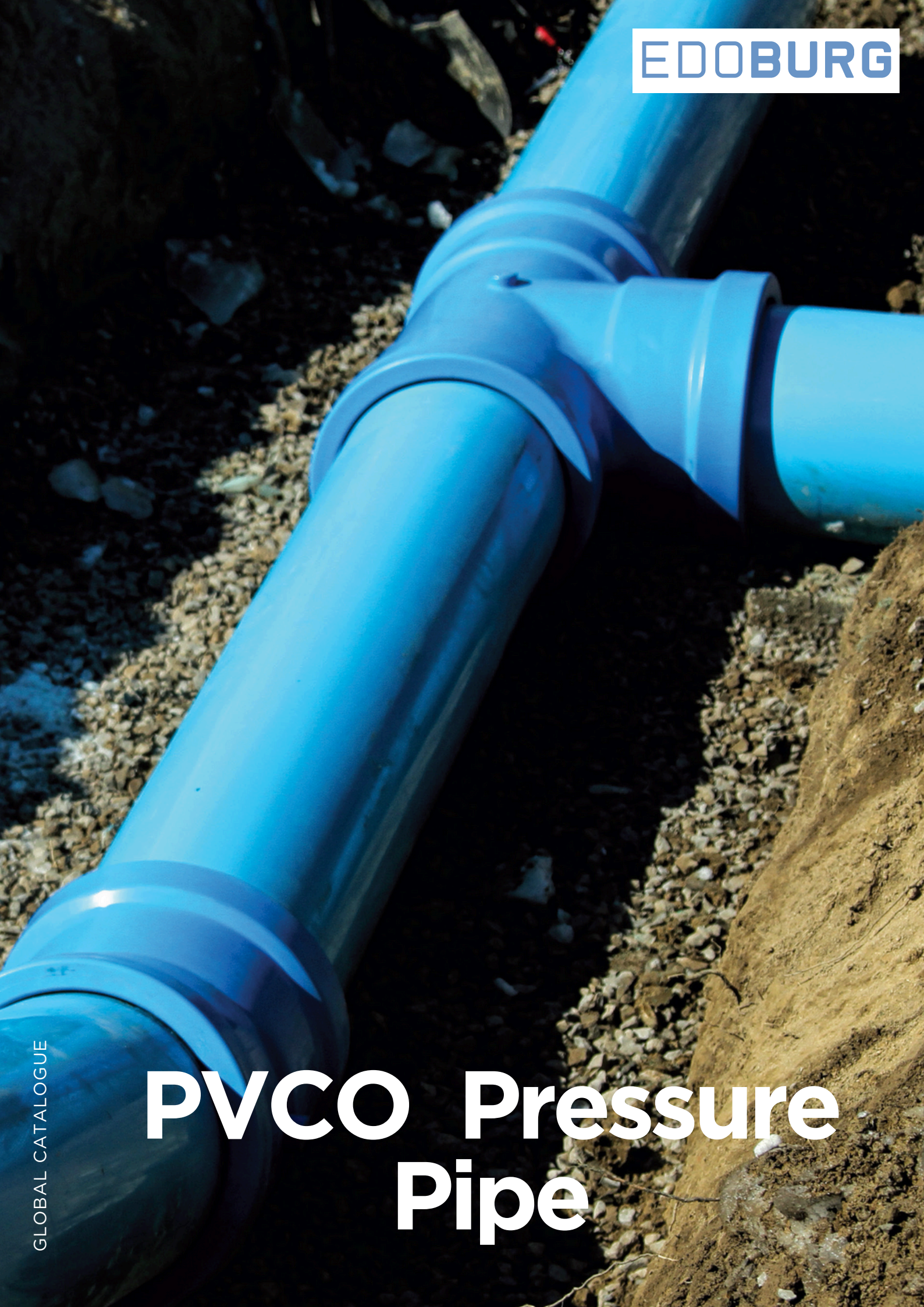
EDOBURG

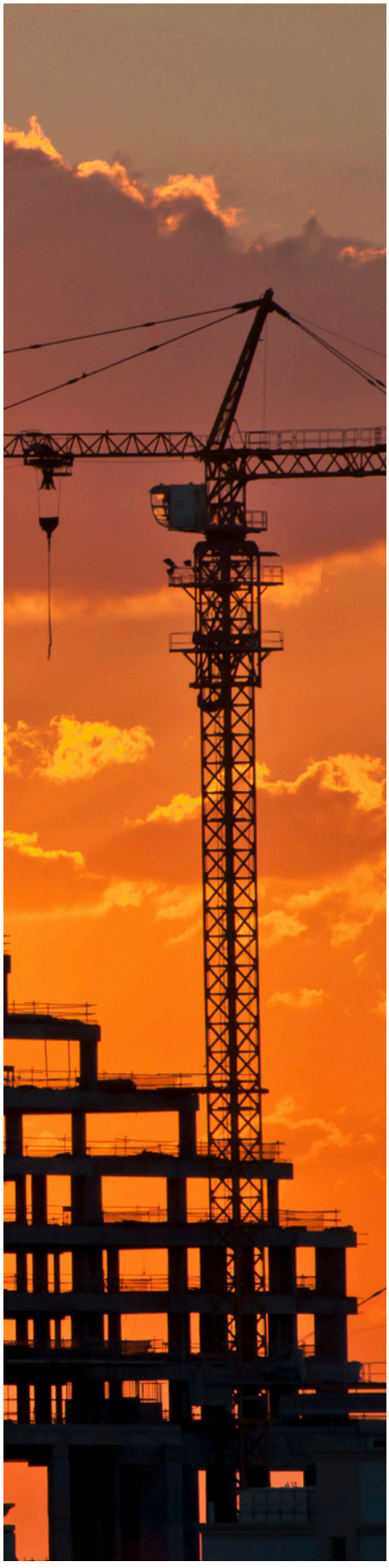


PVCO Pressure Pipe

GLOBAL CATALOGUE

About Edoburg

Edoburg is a structured, multi-category global supplier of certified infrastructure materials, serving contractors, distributors, and institutional buyers across regulated global markets. A division of ***Edoburg Downes Pvt. Ltd.***, the company operates with a clear focus on tested quality, export compliance, and long-term delivery consistency.



Our product portfolio spans over 10,000 SKUs across a wide range of categories including plastic piping systems, thermoplastic and composite pipelines, metal pipes and sections, drainage and utility systems, industrial components, and specialized engineered solutions for global projects.

All Edoburg-supplied products are manufactured in audited facilities and conform to international standards such as ASTM, CSA, ISO, IS, AS/NZS, and EN, depending on the target market. Each order is backed by full documentation support — including batch test reports, packing lists, Certificates of Origin, and private labelling when required.

We operate with export-ready processes, offering mixed container loads, low or no minimum order quantity, and market-specific packaging and compliance labelling. Our systems are designed to meet the expectations of professional buyers who require traceability, repeatability, and standardization across multiple geographies.

With clients across North America, Europe, the Middle East, Africa, and Asia-Pacific, Edoburg is positioned as a dependable global supplier — combining technical competence with structured commercial execution.

We don't just deliver material. **We supply what builds**.

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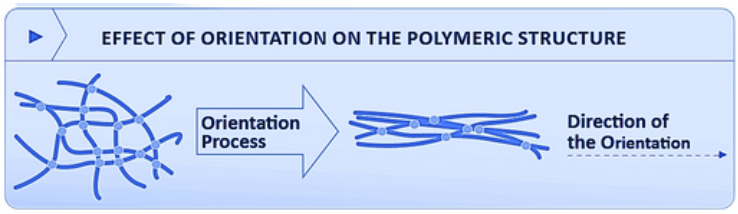
What is PVCO?

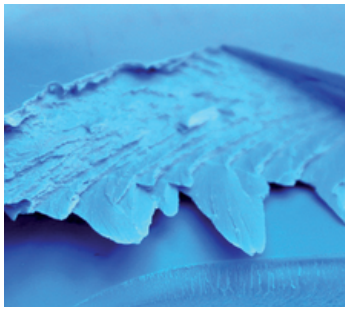
PVC is essentially an amorphous polymer in which the molecules are located randomly. However, under certain conditions of pressure, temperature and speed, by stretching the material, it is possible to orient the polymer molecules in the same direction as which the material has been stretched.

Depending on the process parameters used and mostly stretch ratio, a higher or lower orientation degree will be obtained. The result is a plastic with a layered structure which layers can be seen at a glance.



The orientation process modifies the PVC's structure by giving the polymer's molecules a linear orientation.

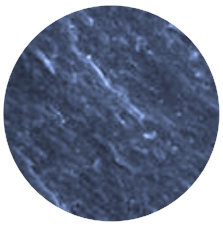
The process of orientation greatly enhances PVC's physical and mechanical properties and gives it a number of exceptional features, without altering the advantages and properties of the original polymer. Thereby it is obtained a plastic with unbeatable qualities in terms of resistance to traction and fatigue, flexibility and impact resistance.



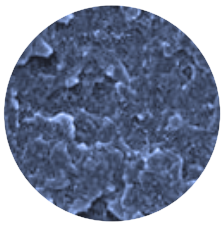
When PVC with its amorphous structure (lower section) is subjected to the orientation process, a laminate structure is obtained (upper section).

When used in high-pressure water pipelines this type of piping has a high resistance and an extremely long lifetime. Moreover, the pipe is highly energy-efficient and eco-friendly not only for the way it is made but also because of its subsequent use. Other advantages include reductions in costs and installation times.

PVC-O pipes are the best solution for medium and high pressure water networks for irrigation systems, potable water supply, fire extinguishing networks and pumping systems, among other applications.



PVC-O



PVC-U

PVC-O Standard We Supply

- IS 16647:2017
- ISO 16422:2014

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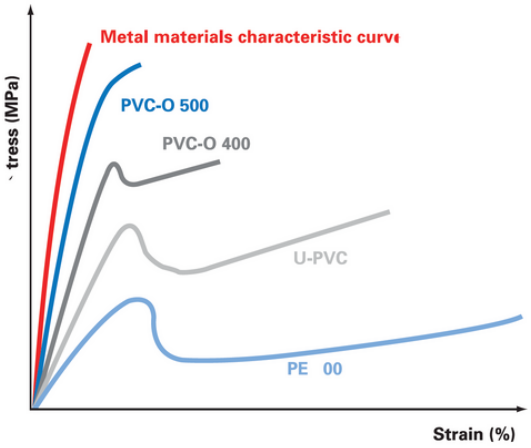
Mechanical Properties

Tensile Resistance

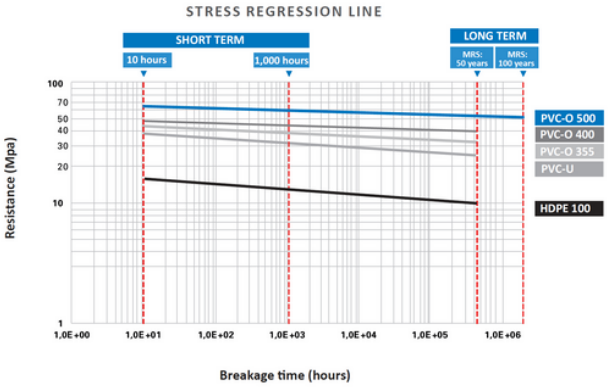
The PVC-O stress strain curve changes significantly compared to conventional plastics behaviour, coming very close to the metal ones.

Mechanical properties complete transformation of PVC-O compared to conventional PVC can only be achieved in the higher class PVC-O Class 500 pipe.

STRESS-STRAIN BEHAVIOUR



Long-term Hydrostatic Resistance



Materials lose their mechanical properties when subjected to strain for a long period of time. This characteristic, known as creep, appears to a far lesser extent in PVC-O 500 than in conventional plastics, which means better properties over the long term. Bearing in mind that PVC-O is exceptionally resistant to fatigue and has a very good chemical resistance, in common with conventional PVC.

Material Mechanical Properties Comparison

The following table summarises the technical characteristics of PVC-O pipes in comparison with other plastic pipes.

		PVC-O 500	PVC	HDPE-100	HDPE-80
Product Standard	Units	ISO 16422	ISO 1452	ISO 4427	ISO 4427
Minimum required strength (MRS)	MPa	50.0	25.0	10.0	8.0
Overal service coefficient (C)	-	1.4	2.0 (1)	1.25	1.25
Design stress (σ)	MPa	36.0	12.5	8.0	6.3
Short term elasticity modulus (E)	MPa	4000	>3,000	1100	900
Resistance to uniaxial traction	MPa	⩾48	⩾45	19	19
Resistance to hoop traction	MPa	>85	⩾45	19	19
Shore hardness D at 20 °C	-	81 - 85	70 - 85	60	65

(1) For pipes with a DN ⩾110.

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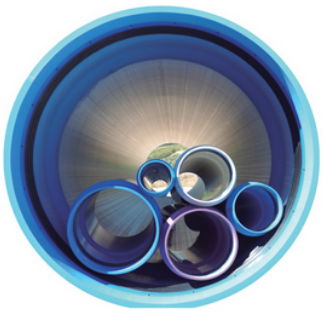
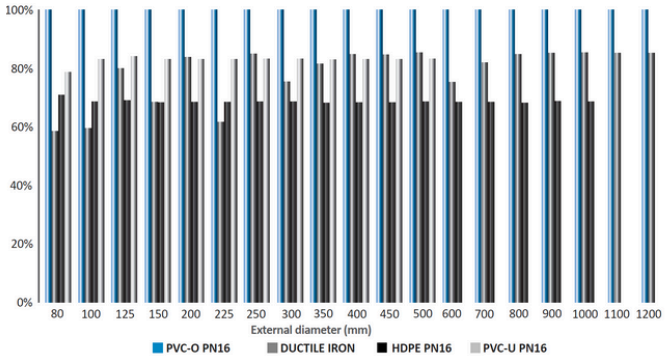
Hydraulic Properties

Hydraulic Design



Whether designing a pressurized or a gravity pipe system, the selection of the dimensions of the fit-for-purpose pipes involves calculating losses in terms of pressure, flow volume and flow speed. There are several methodologies for calculating these values. The most commonly used are the Hazen-Williams and Prandtl-Colebrook-White formulae.

Another factor to be taken into account is the load loss produced by accessories (elbows, reducers, tees etc) and valves. When determining the flow speed, economic factors must be taken into account (optimization of the investment in terms of water pumping) as well as the admissible values for water hammers. Generally, the minimum values used for avoiding sediment deposition is 0.5 m/s and the maximum values are between 2.0 to 2.5 m/s depending on the diameter of the pipe.



Hydraulic Capacity

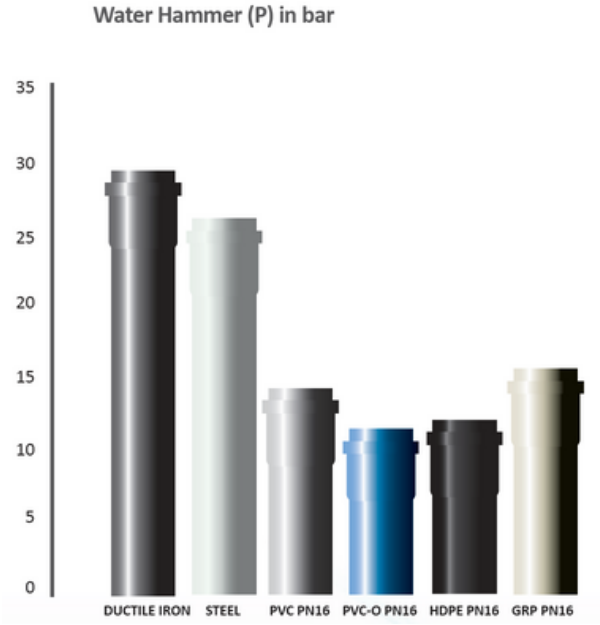
Water pipes requirements are not only related to pressure resistance; they also have to transport the highest amount of water while consuming the least energy. PVC-O pipes walls are thinner than conventional plastic ones and are on their inside smoother than metals, which means that a greater hydraulic capacity is attained.

Water Hammer

Water hammer can introduce sudden surge in pressure on the pipe working pressure and may lead to breakage, particularly when the pipe has already been damaged by impact or corrosion.

Air locks in the pipes during filling can be highly damaging when water hammer is present and can cause an excess of pressure far beyond the rated pressure ratings. PVC-O can withstand this surge in pressure better than the metallic materials. However, as a precautionary measure, it is important to observe the following recommendations:

Filling the pipe should only be carried out at low speed and at the lowest point in the pipe system.
Installing purging mechanisms at the highest points on each section of pipe.
During fitting it is important to leave open the elements capable of evacuating air and close them from bottom to top in the pipe as the pipe fills up with water.



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Dimensions of PVC-O 500 (C 1.4 Pipe)

Nominal Diameter (DN)	PN12.5	PN16	PN20	PN25
	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness
mm	mm	mm	mm	mm
63	1.2	1.5	1.8	2.3
75	1.4	1.8	2.2	2.7
90	1.7	2.1	2.6	3.3
110	2	2.6	3.2	4
125	2.3	2.9	3.6	4.5
140	2.6	3.2	4	5.1
160	2.9	3.7	4.6	5.8
180	3.3	4.2	5.2	6.5
200	3.6	4.6	5.7	7.2
225	4.1	5.2	6.4	8.1
250	4.5	5.8	7.2	9
280	5.1	6.4	8	10.1
315	5.7	7.2	9	11.4
355	6.4	8.2	10.1	12.8
400	7.2	9.2	11.4	14.4
450	8.3	10.3	12.8	16.2
500	9.2	11.4	14.2	18
560	10.3	12.8	15.9	20.2
630	11.6	14.4	17.9	22.7
710	13.1	16.2	20.2	25.6
800	14.7	18.3	22.7	28.8
900	16.5	20.6	25.5	32.4
1000	18.4	22.8	28.4	36
1200	22	27.4	34	43.2

Dimensions of PVC-O 500 (C 1.6 Pipe)

Nominal Diameter (DN)	PN10	PN12.5	PN16	PN20	PN25
	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness
mm	mm	mm	mm	mm	mm
63	1.1	1.3	1.7	2.1	2.6
75	1.3	1.6	2	2.4	3.1
90	1.5	1.9	2.4	2.9	3.7
110	1.8	2.3	2.9	3.6	4.5
125	2.1	2.6	3.3	4	5.1
140	2.3	2.9	3.6	4.5	5.7
160	2.6	3.3	4.2	5.1	6.5
180	3	3.7	4.7	5.8	7.3
200	3.3	4.1	5.2	6.4	8.1
225	3.7	4.6	5.8	7.2	9.1
250	4.1	5.1	6.5	8	10.2
280	4.6	5.7	7.2	9	11.4
315	5.1	6.4	8.1	10.1	12.8
355	5.8	7.2	9.2	11.4	14.4
400	6.5	8.1	10.3	12.8	16.2
450	7.4	9.3	11.6	14.4	18.2
500	8.2	10.4	12.9	16	20.3
560	9.2	11.6	14.4	17.9	22.7
630	10.3	13	16.2	20.1	25.5
710	11.6	14.7	18.3	22.7	28.7
800	13.1	16.5	20.6	25.5	32.4
900	14.7	18.6	23.1	28.7	36.4
1000	16.4	20.7	25.7	31.9	40.5
1200	19.6	24.8	30.8	38.3	48.5

Dimensions of PVC-O 450 (C 1.4 Pipe)

Nominal Diameter (DN)	PN10	PN12.5	PN16	PN20	PN25
	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness
mm	mm	mm	mm	mm	mm
63	1.1	1.3	1.7	2.1	2.6
75	1.3	1.6	2	2.4	3.1
90	1.5	1.9	2.4	2.9	3.7
110	1.8	2.3	2.9	3.6	4.5
125	2.1	2.6	3.3	4	5.1
140	2.3	2.9	3.6	4.5	5.7
160	2.6	3.3	4.2	5.1	6.5
180	3	3.7	4.7	5.8	7.3
200	3.3	4.1	5.2	6.4	8.1
225	3.7	4.6	5.8	7.2	9.1
250	4.1	5.1	6.5	8	10.2
280	4.6	5.7	7.2	9	11.4
315	5.1	6.4	8.1	10.1	12.8
355	5.8	7.2	9.2	11.4	14.4
400	6.5	8.1	10.3	12.8	16.2
450	7.4	9.3	11.6	14.4	18.2
500	8.2	10.4	12.9	16	20.3
560	9.2	11.6	14.4	17.9	22.7
630	10.3	13	16.2	20.1	25.5
710	11.6	14.7	18.3	22.7	28.7
800	13.1	16.5	20.6	25.5	32.4
900	14.7	18.6	23.1	28.7	36.4
1000	16.4	20.7	25.7	31.9	40.5
1200	19.6	24.8	30.8	38.3	48.5

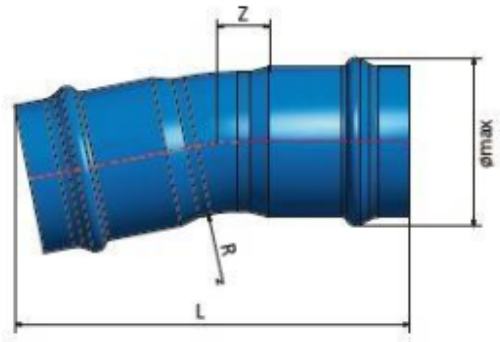
Dimensions of PVC-O 450 (C 1.6 Pipe)

Nominal Diameter (DN)	PN10	PN12.5	PN16	PN20	PN25
	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness	Wall Thickness
mm	mm	mm	mm	mm	mm
63	1.2	1.5	1.8	2.3	2.9
75	1.4	1.8	2.2	2.7	3.4
90	1.7	2.1	2.6	3.3	4.1
110	2	2.6	3.2	4	5
125	2.3	2.9	3.6	4.5	5.6
140	2.6	3.2	4	5.1	6.3
160	2.9	3.7	4.6	5.8	7.2
180	3.3	4.2	5.2	6.5	8.1
200	3.6	4.6	5.7	7.2	9
225	4.1	5.2	6.4	8.1	10.1
250	4.5	5.8	7.2	9	11.2
280	5.1	6.4	8	10.1	12.5
315	5.7	7.2	9	11.4	14.1
355	6.4	8.2	10.1	12.8	15.9
400	7.2	9.2	11.4	14.4	17.9
450	8.3	10.3	12.8	16.2	20.1
500	9.2	11.4	14.2	18	22.3
560	10.3	12.8	15.9	20.2	25
630	11.6	14.4	17.9	22.7	28.1
710	13.1	16.2	20.2	25.6	31.7
800	14.7	18.3	22.7	28.8	35.7
900	16.5	20.6	25.5	32.4	40.2
1000	18.4	22.8	28.4	36	44.6
1200	22	27.4	34	43.2	53.5

Dimensions of PVC-O Fittings

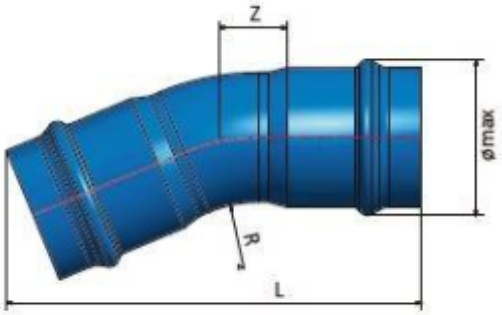
11,25° Bend

DN	∅ max	L (mm)	Z (mm)	Radius (mm)
110	140	455	55	165
160	200	535	70	240
200	245	595	80	300
250	305	690	95	375
315	375	790	115	475
400	475	925	140	600



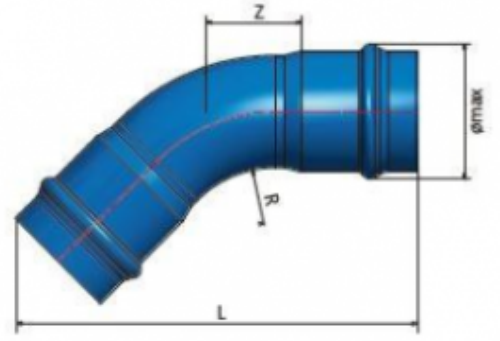
22,5° Bend

DN	∅ max	L (mm)	Z (mm)	Radius (mm)
110	140	490	70	165
160	200	585	95	240
200	245	655	110	300
250	305	765	135	375
315	375	885	160	475
400	475	1045	200	600



45° Bend

DN	∅ max	L (mm)	Z (mm)	Radius (mm)
110	140	555	105	165
160	200	680	145	240
200	245	770	175	300
250	305	910	215	375
315	375	1070	265	475
400	475	1280	330	600



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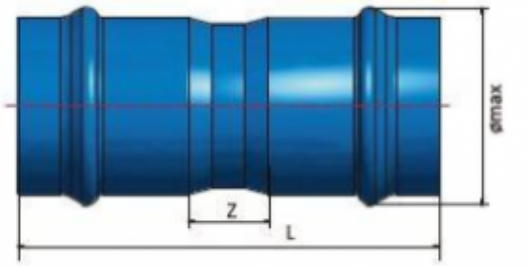
Reducer

DN	⌀ max	L (mm)	Z (mm)
110/90	140	390	60
160/110	200	485	110
160/140	200	460	65
200/160	245	530	105
250/200	305	600	130
315/250	375	695	165
400/250	475	860	290
400/315	475	810	200

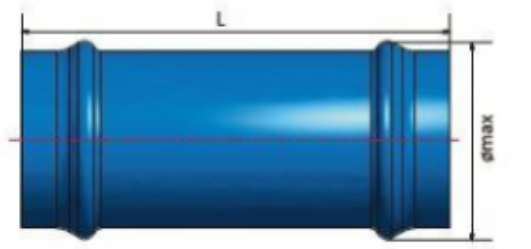
Coupler

DN	⌀ max	L (mm)	Z (mm)
110	140	425	80
160	200	495	90
200	245	535	100
250	305	630	125
315	375	720	155
400	475	850	195



Repair Coupler

DN	⌀ max	L (mm)	Z (mm)
110	140	425	-
160	200	495	-
200	245	535	-
250	305	630	-
315	375	720	-
400	475	850	-



Advantages of PVC-O

Unbeatable Impact Resistance

PVC-O pipes have a high resistance to shock. This means that are minimized breakages during installation or during on-site trials caused by dropping or by impacts from stones.

Furthermore, the orientation prevents the propagation of cracks and scratches and eliminates the risk of rapid crack behaviour. The result is a spectacular increase in the product's useful life.

Excellent Response to Water Hammers

PVC-O pipes offer lower celerity than other piping systems (four times less than ductile iron pipes), which means less water hammers caused by sudden variations in water volume and pressure. This reduces and almost eliminates the possibility of breakage during opening and closing in the water network and when pumping gets under way, protecting every component of the network.

Maximum Flexibility

It can bear big deformations of their internal diameter. When crushed, or in the event of a mechanical accident, pipes immediately go back to its original shape, thus minimising the risk of potential breakage by soil subsidence or sharp edges on rocks or machinery, for example.

Lower Cost and Easier Installation

PVC-O pipes are lighter and easier to handle than other pipes made from other materials: in most cases, handling does not require machinery. Beside this, due to the easiness of their union, flexibility and impact resistance these pipes allow higher cost effectiveness, performance and installation speed in comparison with pipes of other materials.

High short- and Long-term Hydrostatic Resistance

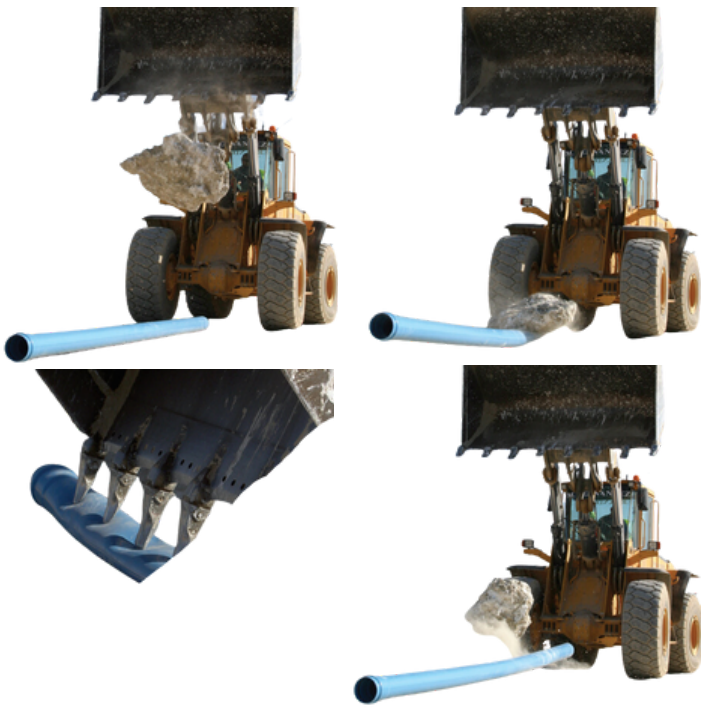
PVC-O pipes offer a resistance to internal pressure of up to two times the nominal pressure, which means that they can bear sporadic excessive pressure such as water hammers and other malfunctions in the network.
Moreover, the material creep behavior is very low, ensuring the durability of the pipe working at nominal pressure for over a hundred years.

Increased Hydraulic Capacity

PVC-O has a widen inner section of the pipe, giving pipes a higher internal diameter and greater flow section. Also, the internal surface is extremely smooth, reducing load loss and making it more difficult for deposits to be formed on the inner walls.

Completely Corrosion-Resistant

PVC-O is immune to corrosion and to natural chemical substances, as well as to aggression from micro- and macro- organisms. The pipes, therefore, are not degradable. Moreover, they do not require any type of special protection or coating, which means cost-savings.



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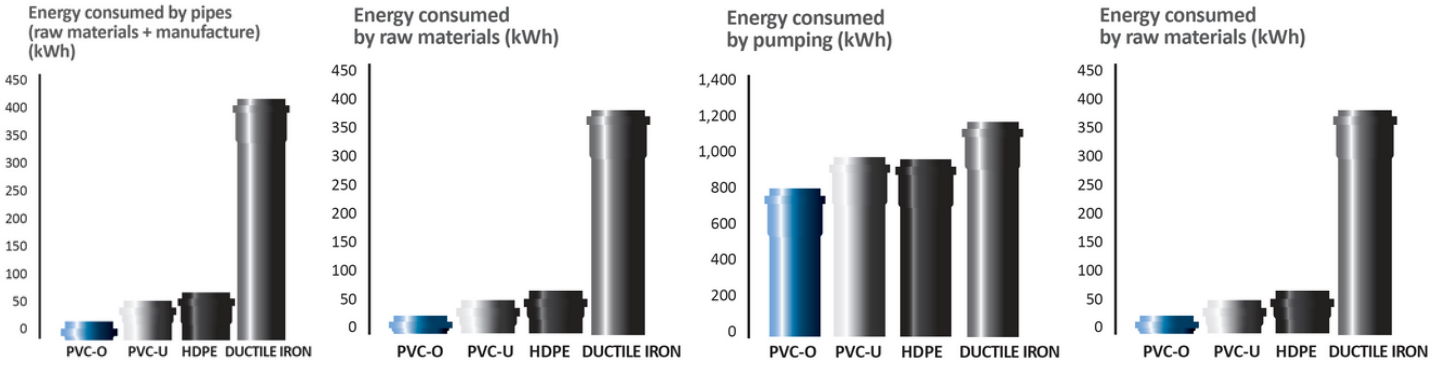
PVC-O is an Environmentally Friendly Pipe

PVC-O is the most environmentally friendly solution existing on the market, due to its best contribution to the correct sustainable development of the planet, as it has been demonstrated by different studies worldwide, since they present environmental benefits at all stages of their life cycle; thus resulting in the most efficient from the energy point of view.

Resources Efficiency

- The exceptional mechanical properties of these pipes allow considerable savings in raw materials. For the same external nominal diameter, requires less PVC.
- Only 43% of the PVC composition depends on oil. Therefore, the required consumption of this resource is lower than in other plastic solutions.
- Energy consumption is lower in all phases of the life cycle: raw material extraction, pipe manufacturing and use. Throughout its lifetime it prevents unnecessary consumption of energy resources and reduces CO2 emissions into the atmosphere.



Estimated energy consumption by PVC-O, PVC-U, HDPE and Ductile Iron piping production and use.

Optimal Use of Water Resources

Water supply networks installed with traditional materials are currently registering a leakage rate of up to 25% of channeled water and, the latter's chemical deterioration means that some water conduits are currently being replaced despite having been laid only a few years ago.

Water pipes must not only be resistant to pressure, must also carry the maximum amount of water consuming the least quantity of energy. The extreme smoothness of the inner wall of the pipe minimizes pressure loss, so the energy required for transport is lower.

Waste Efficient & Sustainable

PVC is a 100% recyclable material. PVC-O as part of the value chain of the plastics industry, shows its commitment to the environment by lower environmental impact, and incorporating the principles of the circular economy into their manufacturing.

It is a sustainable pipe, in which design it has been taken into account the preservation of the environment considering aspects such as energy saving, sustainable use of natural resources, durability of the works and environmental friendliness of the materials used.

Applications of PVC-O Pipes

1. Water Distribution
PVC-O pipes are ideal for water distribution systems due to their high strength and corrosion resistance. They can withstand high pressure, making them suitable for residential, commercial, and industrial water supply networks.

2. Irrigation
These pipes are commonly used in agricultural irrigation systems for their durability and ability to withstand harsh environmental conditions. The smooth internal surface ensures efficient water flow, making them ideal for irrigation purposes.

3. Sewage and Drainage Systems
PVC-O pipes are a reliable choice for sewage and drainage systems due to their chemical resistance and ability to handle varying temperatures. They provide a long-lasting solution for transporting wastewater efficiently.

4. Industrial Applications
In industries where corrosive substances are transported, such as chemical processing plants, PVC-O pipes offer excellent resistance to chemical degradation and abrasion, making them suitable for various industrial applications.

5. Infrastructure Projects
PVC-O pipes are commonly used in infrastructure projects like road crossings, underpasses, and bridges due to their strength and reliability. They provide a cost-effective alternative to traditional materials like steel or concrete.

6. Mining
Suitable for mining applications, PVC-O pipes offer corrosion resistance and durability, making them ideal for transporting slurries, mine drainage, and ventilation systems in harsh mining environments.

7. Telecommunication Conduits
PVC-O pipes can be used as conduits for telecommunication cables, providing protection for the cables while offering durability and ease of installation. They are an excellent choice for telecommunication infrastructure projects.

Handling and Storage

Proper Handling of Pipes

- Impact Prevention: Avoid dropping, dragging, or throwing pipes during handling. Sudden impact may cause stress fractures or joint damage.
- Lifting Guidelines: Use padded pipe tongs, wide slings, or fork protectors. Chains, hooks, or bare forks may gouge or scar the pipe surface.
- Inspection on Delivery: Check all pipes and fittings on arrival for cracks, warping, or joint-end damage due to transit or handling.

Storage of Pipes

Pipes and Fittings must be stored in a dry, shaded, and well-ventilated location. If outdoor storage is unavoidable, the following best practices must be observed to maintain product performance and installation safety:

- UV Protection: Shield from direct sunlight using UV-resistant tarpaulin or sheeting. Ensure ventilation is maintained to prevent heat buildup.
- Flat Surface Storage: Pipes must rest on a flat, stable surface. Uneven storage areas may lead to sagging, ovality, or misalignment of sockets.
- Stacking Alignment: When stacking, alternate spigot and socket ends to distribute load evenly and avoid deformation of socket geometry.
- Stacking Height Limit: Do not exceed recommended stack heights. Excessive weight can distort pipe roundness and compromise sealing surfaces.
- Rack Spacing: When using pipe racks, provide support at intervals of not more than 900 mm (3 ft) to prevent bending or bowing.
- Inspection on Delivery: Inspect all pipes and fittings immediately upon receipt. Check for any damage, deformation, or cracks—especially at the joint ends.

Note: Improper handling may affect joint integrity and project safety. Always follow local code.

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